

**Application by National Highways for
an Order granting Development
Consent for the Lower Thames
Crossing (Ref. No. TR010032)**

**Submission for Examination Deadline 7
– 17 November 2023**

**Emergency Services & Safety Partners
Steering Group (ESSP SG)**

Written Representation

Introduction

1. The Emergency Services and Safety Partners Steering Group (ESSP SG) is made up of emergency services (police, fire and rescue, and ambulance) and other safety partners (principally local authority emergency resilience teams) affected by the proposed Lower Thames Crossing (the Project). The ESSP SG members consider that they have an important role, given their extensive experience and statutory functions, in helping to ensure that if the proposal is granted a development consent order, its construction and operation will be safe and secure; and any additional burden on emergency service and safety partner resources will be minimised and mitigated as far as possible.
2. The ESSP SG has submitted its Relevant Representation to the Examining Authority (ExA) ([RR-0291](#)). In its Relevant Representation, the ESSP SG outlined its concerns regarding the Lower Thames Crossing Development Consent Order submissions made by the Applicant (National Highways). That Relevant Representation was set against the 56 Recommendations which the ESSP SG had submitted to the Applicant in September 2021, as part of the Community Impacts Consultation.
3. The 56 Recommendations of September 2021 (and hence also the ESSP SG's Relevant Representations) cover a wide range of matters. In accordance with the advice contained in the Rule 6 and Rule 8 letters issued by the ExA, the ESSP SG has been working with the Applicant to progress a Statement of Common Ground for the whole of the group covering this range of matters, with the most recent draft being submitted at Examination Deadline D6 ([REP6-060](#)). Given the proximity of the end of the Examination, this Written Submissions seeks to provide further information to the ExA regarding the ESSP SG's outstanding concerns, and to see where these matters can be discussed at the remaining relevant hearings.

Key Concerns for the ESSP SG

4. The overarching issue for the ESSP SG is the significant gap which currently exists between the 56 Recommendations made by the group, and what the Applicant has provided in the DCO submission. The ESSP SG considers that although some progress has been made on certain matters, and there has been a narrowing of the position on some issues, overall these are significantly outweighed by the number of unresolved issues despite the months and years of discussion on these issues. At Examination Deadline D6, there were 40 matters in total, of which seven matters were agreed and 33 remained under discussion.
5. The remainder of this section of this Written Representation identifies ten '**Key Concerns**' for the ESSP SG, labelled A - J. For each **Key Concern** the text seeks to expand on the content of the SoCG to set out the ESSP SG position more fully.

A Consultation and the Tunnel Design and Safety Consultation Group

(See items 2.1.1a, 2.1.1b, 2.1.9, 2.1.13, 2.1.21, 2.1.22, 2.1.23, 2.1.24, 2.1.25, 2.1.26, 2.1.29 in draft SoCG)

6. Consultation is a very important issue for the ESSP SG. The Steering Group recognises that at this point in time not all details of the Project are available for scrutiny, and that many items are intended to be the subject of subsequent development and approvals. However, running through many of the matters contained in the group SoCG is a concern that the proposals for further consultation and engagement with the ESSP SG are unsatisfactory, and/or are not secured. This concern relates to fundamental aspects of the Project through its detailed design, construction and operational phases. The detailed tunnel design should be subject to thorough consultation with the emergency services from the outset and not prior to the Secretary of State approval request, possibly identified separately in the DCO application with a dispute mechanism. A clear commitment needs to be provided – either in a control document or side agreement - setting out acceptable proposals for how and when the ESSP SG will be consulted on the detailed design of the tunnel.
7. The Project's engagement with the emergency services was previously through the Tunnel Design and Safety Consultation Group (TDSCG) from January 2018 to February 2021 when it was superseded by the ESSP SG which is a group comprising of the emergency services members.
8. As set out in the SoCG, the Applicant proposes to use the TDSCG to consult with the Emergency Services on a number of matters included in the SoCG. These matters include the detailed tunnel and road design (and its component parts); but also the development of emergency planning measures which would apply during the operational phase of the Project. Draft TDSCG terms of reference have been circulated by the Applicant and are being reviewed by the ESSP SG. The ESSP SG have some concerns related to these terms of reference, which include the following:
 - **Section 6** – we appreciate consensus is the ideal situation and should be the aim of this group, but if consensus cannot be obtained is there a voting system, majority decision or Chair casting vote or does it go straight to escalation? More clarity is needed.
 - **Section 6.1.2 g** – timeliness needs more specificity as it is too vague.

- **Section 7** – this is not satisfactory at present. Who is part of the membership of the SCRG or NSCRG and how are the TDSCG represented? Why is the escalation proposed the most appropriate – according to whom and why? Why is arbitration or use of HSE not appropriate? The escalation process should be both independent and fair and not ‘in-house’.
 - **Section 7.1.8** – this link does not work and so details cannot be reviewed for the SCRG or NSCRG. Please provide a separate document not link.
9. In addition, the ESSP SG understands that the Applicant has suggested the requirement for consultation through the TDSCG will be included within the Stakeholder Actions and Commitments Register (SACR). This recent progress has been welcomed by the ESSP SG. However, the ESSP SG are yet to have sight of the updated version of the SACR, and therefore would like to ensure there is a clear commitment to securing consultation through the TDSCG as part of the DCO and progressing the matter to a satisfactory conclusion given the current stage of the Examination. Article 61 of the dDCO only provides for the Applicant to take all reasonable steps to secure. The ESSP SG is of the view that a more absolute commitment should be provided that goes even beyond 'best endeavours'.

B - Consultation and the Security Working Group

(See items 2.1.1b, 2.1.2, 2.1.6 in draft SoCG)

10. Connected to the points at paragraphs 6 to 9 above, the ESSP SG understands that the Applicant is seeking for a Security Working Group (SWG) to be set up to engage and be consulted on matters related to the security of the Project. The ESSP SG understands that an updated version of the Terms of Reference for the SWG are due to be issued shortly in relation to this to be reviewed by the ESSP SG. Again, this recent progress has been welcomed by the ESSP SG. However, the ESSP SG are yet to have sight of these updated terms of reference, and it is not clear how this mechanism will be delivered through the DCO; it is not clear whether this will be delivered through the SACR like the TDSCG, and the ESSP SG are yet to have sight of the updated version of the SACR to consider/review.

C - Securing Rendez-Vous Points (RVP)

(See item 2.1.25 in draft SoCG)

11. Discussions between ESSP SG and the Applicant took place during the first part of 2022. This resulted in the detailed advice provided to the Applicant. RVPs are shown on the submitted General Arrangement Plans Volume B ([APP-016](#), Sheet 13 and Sheet 20) and Works Plans Volume B ([APP-019](#), Sheet 13 and Sheet 20) at the north and south tunnel portals, and referred to in the Design Principles (updated in Design Principles v3.0 (REP4-146)) as follows:

S3.20	Emergency Services Rendezvous Point (RVP)	An Emergency Services Rendezvous Point (RVP) area shall be provided. The detailed design and layout of the RVP will be developed in consultation
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		with the emergency services.
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S9.21	Emergency Services Rendezvous Point (RVP)	An Emergency Services Rendezvous Point (RVP) area shall be provided. The detailed design and layout of the RVP will be developed in consultation with the emergency services.
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12. The Project should identify and ensure suitable land for RVPs, and ensure that they are sited in appropriate locations in the vicinity of tunnel portals and elsewhere on the route (to be reviewed and then included on Emergency Response Plans) and of an appropriate size for their intended function; these should be identified in the Control Documents. The location must account for road links, availability of land, integration with emergency access routes and emergency hubs. Whilst ESSP SG welcomes additions to the submission documents, including commitments in the Design Principle, remaining concerns include;
- the proposed location of the RVP on the north side;
 - the lack of rationale for a smaller South Portal RVP; and
 - no mention in the documents of provisions for additional/alternative RVP locations.
13. Extensive discussions have taken place between the Applicant and the ESSP SG in relation to the RVP locations and requirements. As a result of these discussions, alternative locations for the northern RVP have been proposed. Specifically, an alternative location for the northern RVP has recently been proposed by the Applicant at a location adjacent to Muckingford Road with the commitment to progress discussions via the SACR and the TDSCG. This progress has been welcomed by the ESSP SG. However, the ESSP SG need to review this revised RVP proposal further and discuss with stakeholders and the Applicant to understand the detail of the proposal and the route to secure this. As things stand, the provision for alternative RVP locations and appropriate mechanisms securing this has so far not been provided for in the DCO documentation. The revised location of the RVP must be agreed within the dDCO and secured accordingly, and not later at detailed design.

D - Helicopter Landing Areas

(See item 2.1.12 in draft SoCG)

14. The Project should provide helicopter landing points at appropriate locations for use during the construction phase and tunnel portals during the operational phase. These should be referenced in the drawings or other control documents.
15. For the operational phase, ESSP SG welcomes the change to Design Principles S3.21 and S9.23 requiring consultation on the location of the helicopter landing areas. However, the ESSP SG require agreement on the broad areas where helicopters will

land, and plans showing flat, suitable locations being secured through the DCO. Design of these areas needs to be carefully integrated with the design of evacuation areas, emergency access, and response planning. It is understood that the Applicant intends to use the TDSCG for consultation on this – please see comments on this at Section A above.

16. For the construction phase, the Code of Construction Practice (CoCP) 6.9.1 ([REP5-048](#)) states that the emergency services will be consulted on contractor emergency preparedness procedures including the identification of helicopter landing areas. However, these are “Second iteration of the Environmental Management Plan (EMP2) will require” items which will not be subject to scrutiny by the Secretary of State, but will be produced by contractors and approved by National Highways.

E - Tunnel design and cross-passage spacing

(See item 2.1.14 in draft SoCG)

17. The ESSP SG maintains concerns related to the proposals in Design Principle S6.01. This has been amended during the course of the Examination, which is welcomed by ESSP SG. The most recent version is set out in Design Principles v3.0 ([REP4-146](#)):

S6.01	Spacing of tunnel cross passages	<p>The preliminary scheme design has a 150m maximum spacing between cross-passage centre lines. The spacing between tunnel cross-passages will be in accordance with DMRB CD 352 Design of road tunnels (Highways England, 2020c), and supported by risk assessment, The emergency services shall be consulted on the risk assessment and determination of cross-passage spacing.</p> <p>To support cross-passage spacing greater than 100m between centre lines, a Fixed Fire-Fighting System (FFFS) will be deployed within the tunnel bore. There shall be engagement with the emergency services on the type and specification of the FFFS.</p>
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18. The ESSP SG’s position is that up to 150m cross-passage spacing would be acceptable on the provision that a FFFS was provided. A FFFS should be an unequivocal commitment in the preliminary design (150m spacings).
19. The ESSP SG require further amendments to the design principle to enable adequate and safe design provisions if firefighters are to enter the tunnel to deal with larger and more serious fires whilst carrying out a firefighting intervention. The changes proposed by the ESSP SG to address these issues are as follows:
- a. *The spacing between cross-passages in the detailed design should be developed in accordance with DMRB CD 352 Design of Road Tunnels (Highways England 2020c) and supported by risk assessment. The emergency services should be consulted on the risk assessment and determination of cross-passage spacing.*
 - b. *To support any cross-passage spacing **greater than 100 metres, with the recommendation of 150 metres** between centre lines, a FFFS should be deployed throughout the tunnel bore to support firefighting intervention. There should be*

consultation with both the emergency services and specialist tunnel fire engineering technical advisers on the type and specification of the FFFS.

- c. *If the detailed design has cross-passages at a maximum 100m spacing and does not include a FFFS, then an increased flow of firefighting water would be required in the firefighting main. The firefighting main and hydrant system should be designed in accordance with DMRB CD 352, s8.77 – 8.100, but should incorporate hydrants, each with **double-headed outlets**, located adjacent to and between cross-passages at maximum 50m centres. The firefighting main should be maintained wet and pressurised to a running pressure of (8 ± 0.5) bar, capable of delivering a minimum total flow of 3,000 L/min with up to three outlets in use simultaneously.*
- d. *To support a safe firefighting intervention where a FFFS is not provided, a critical velocity of at least 3 m/s should be provided by the longitudinal ventilation system to protect firefighters advancing from upstream of any fire once it is confirmed the downstream is clear of all viable occupants. The ability of firefighters to operate within such fire environments greater than 5 MW HRR and less than 30MW, relies on maximum heat flux and temperature exposures at firefighter locations of 3kW/m² and 120 deg.C for 10 minutes, or 4kW/m² and 160 deg.C for 1 minute, at a distance of 20 metres from the fire. This should be modelled using CFD as part of a firefighting intervention safety risk assessment. The design of all back-up facilities, electrical power and control systems should be in accordance with DMRB CD 352 Design of Road Tunnels (Highways England 2020c) and BS 9990:2015.*

F - Mitigation funding

(See items 2.1.17 and 2.1.20 in draft SoCG)

20. The ESSP SG identified within its September 2021's 56 Recommendations a number of areas where the Project could potentially have an adverse effect on the ability of members to carry out its duties and/or present an increased burden on resources. These fall into three main areas:

- a) **funding for additional emergency service staffing and vehicles to mitigate additional burdens during the construction phase**

Essex Police have submitted a proposal and justification to the Applicant to support this funding request. The Applicant's position is that they will not provide funding from one central government-funded source to another.

- b) **reimbursement provisions for local authority and emergency service for the costs of dealing with major incidents on the LTC**

The Applicant's position is that they will not provide funding from one central government-funded source to another.

- c) **funding for a co-ordination officer and in-house officer time to ensure the ESSP SG can respond to relevant consultation on the detailed design and construction phase documentation submitted for approval**

Previously, the Applicant indicated that it would consider funding such posts as it was considered this work was not 'business as usual' for the ESSP SG members. However, the Applicant changed its position on this point, and now states that they will not provide funding from one central government-funded source to another.

21. The ESSP SG notes from the responses of the Applicant as set out in the SoCG (items 2.1.17 and 2.1.20) that they do not rule out the possibility of there being impacts on the activities of the Steering Group members, which would place an additional burden on their resources, and which might justify mitigation. Impacts and burdens on the Emergency Services and Safety Partners during the design, construction, and initial operational phases (when further monitoring and mitigation measures are to be explored) does not represent a “business as usual” situation. The ESSP SG considers that the most important point here is not how its members and the Applicant are funded from central government. Rather, it is whether the developer and ‘operator’ of the LTC should bear the costs of justifiable mitigation which is required to make the scheme acceptable, also bearing in mind that the scheme is proposed as a toll road generating income.

G - Emergency Services response times

(See item 2.1.27 in draft SoCG)

22. The ESSP SG members have been working with the Applicant on this issue to assess the potential impacts of the construction and operation of the road on the ability of the Emergency Services to achieve their targets for responding to incidents in the area around the Project. Such impacts might result from factors leading to increases in journey times, such as temporary road closures during construction or localised increases in traffic congestion during the operational phase. Response times might be adversely affected when attending incidents both on the proposed LTC itself, and incidents elsewhere within the area.
23. The ESSP SG recognises that the Project has been altered to provide emergency access roads to the tunnel portal areas and elsewhere on the route and this will assist in avoiding a deterioration in response times, particularly when attending incidents on the LTC itself. However, if nevertheless adverse impacts on Emergency Service response times are likely, then the ESSP SG will seek from the Applicant the provision of mitigation measures, though currently it is not known what form these might take.
24. The ESSP SG welcomes the Applicant’s modelling of impacts on emergency service response times. However, concerns have been expressed elsewhere - including by local authorities, some of whom are members of the ESSP SG - that such modelling may not be sufficiently fine-grained to fully identify impacts in the way that could be achieved if more local operational modelling for construction were used. ESSP SG requests that the outputs of this work are provided in a report setting out the methodology, analysis of results and conclusions. Local highway authorities may be asked to comment on the appropriateness and technical adequacy of the modelling.

H - Content of dDCO and Control Documents

(See item 2.1.1 in the draft SoCG)

25. The draft DCO should set out clearly the procedures and processes for approval of the detailed design, including those for consultation, so that there is no doubt about how it will be carried out. This requires commitments in the DCO and control documents.
26. There are links between the design process, and the ‘mitigation route map’ as one has a knock-on effect for the other. For instance, detailed design of the RVPs, emergency access roads, evacuation assembly areas and safe routes need to be carefully

integrated with proposals for emergency preparedness and response plan/procedures. All features to be provided (for example evacuation muster areas, emergency access roads, helicopter landing areas, RVPs), should have their siting/location identified on one of the preliminary scheme design drawings.

27. A clear commitment needs to be provided, setting out acceptable details of how and when the ESSP SG will be consulted and on what details. To summarise, the ESSP SG's position is that clear commitments are provided in Control Documents or side agreements setting out acceptable proposals for how and when the Emergency Services will be consulted the full range of its concerns.

I - Emergency Preparedness and Response Plans and Incident Management Plans

(See items 2.1.3, 2.1.6, 2.1.7, 2.1.13, 2.1.21, 2.1.23, 2.1.26, 2.1.29 in draft SoCG)

28. The ESSP SG acknowledges the requirement in the CoCP for contractors to prepare emergency preparedness and response plans in consultation with the Emergency Services. However, ESSP SG considers that these response plans should be contained within EMP2s and subject to approval by the Secretary of State, rather than "will require" items (see paragraph 16 above).
29. In addition, the ESSP SG is of the view that these response plans should identify protest areas and plans, as well as tunnel evacuation areas and emergency hubs.
30. The Applicant should liaise with community and protest groups in advance of construction of the Project, including identification of safe protest areas within the Order Limits if appropriate. The CoCP does not make any provision to deal with protest during the preliminary, enabling works phase. This should be addressed. Currently progress at the Security Working Group is not delivering the required assurance to emergency services. The ESSP SG recommend that a general protest area is identified, though recognises that this may need to be identified on a confidential plan.
31. The ESSP SG considers that a tunnel Emergency Response/ Incident Management Plan should be a clear requirement of the scheme, and developed alongside the preparation of the detailed design for the LTC. The tunnel Emergency Response/ Incident Management Plan must include an evacuation section, providing for the welfare of members of the public in a range of eventualities (long term and short term) showing how road users will be re-united with their vehicles and the means of transport away from the tunnels.
32. The location of tunnel evacuation assembly areas should be:
- Clearly identified in terms of their location on the preliminary scheme design
 - Included in the list of Works
 - Shown on the General Arrangement drawings
 - Include further written details to be required by the Design Principles and include safe access routes for tunnel evacuation.
33. The Project design should provide Emergency Hubs at the tunnel portals, integrated with RVPs and Forward Control Points, with consequent changes to the list of authorised

Works in Schedule 1 (and corresponding Works Plans) and the General Arrangement drawings if appropriate. Details of the Emergency Hubs should be the subject of consultation with the emergency services prior to submission to the Secretary of State for their approval. The ESSP SG has not been consulted on the preliminary design of the tunnel service buildings “to provide emergency hub facilities”. The ESSP SG also considers that the location of the north portal emergency hub is unsuitable. Revisions should be made for the north hub proposals; and a clear commitment should be provided – either in a Control Document or side agreement - setting out acceptable proposals for how and when the ESSP SG will be consulted on detailed proposals for emergency hubs.

J - Removable Barriers and Emergency Access Roads Provision and Design

(See items 2.1.4, 2.1.22 and 2.1.24 in draft SoCG)

34. Removeable barriers around the tunnel should be clearly identified in the DCO Works in Schedule 1 and on approved plans and justified in terms of their positioning and number, in relation to plans for responding to incidents, with consideration given to providing additional removeable barriers. The ESSP SG cannot identify the removable barriers on the General Arrangement drawings, and draft DCO text makes no reference to removeable barriers, including at Works 3C and 5A in schedule 1 of the dDCO; though they are shown on the Engineering Drawings and Sections. ESSP SG has not to date been consulted on the number and positioning of the removeable barriers.
35. The arrangements for emergency services to enter the emergency access roads should be designed in accordance with the advice from ESSP SG. This should form part of an approved Emergency Response/ Management Plan for the Project. All of the emergency access road provisions in the scheme should be consistently referred to in the DCO application, and labelled as such on the relevant Works, General Arrangement, Tunnel Area and other approved plans and drawings.
36. The width of the tunnel emergency access roadways should be assessed in terms of their adequacy to accommodate the movement and passage of emergency vehicles (including a review of appliance turning circles) without conflict with members of the public evacuating the tunnel. ESSP SG is satisfied with the general specification of 4m wide, with a 1m wide hard strip on either side, as shown on the submitted drawings. However, it is requested that general specifications for the emergency access roadways throughout the scheme (at the tunnel and elsewhere) are provided for in the Design Principles to include minimum and maximum gradients and width and type of any adjoining surface which might bear the weight of emergency service vehicles.