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BY ONLINE SUBMISSION ONLY

Growth, Environment & Transport

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Maidstone
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Your Reference:
TR010032

KCC Interested Party
Reference Number:
20035779

Date: 19th September
2023

Dear Rynd,

RE: Application by National Highways for an Order Granting Development Consent for the Lower Thames Crossing (LTC) - Kent County Council's Submission to Deadline 4

As outlined within the Examination Timetable (Annex A of the Rule 8 letter (PD-020), this letter is Kent County Council's Deadline 4 submission which provides the following:

- Post-event submissions, including written submissions of oral comments made at the hearings held w/c 4 and 11 September 2023

Post-event submissions, including written submissions of oral comments made at the hearings held w/c 4 and 11 September 2023

Action Points from Issue Specific Hearing 3 (ISH3) – 5th September 2023 [EV-041g]

“Action for Kent County Council: A2/M2/LTC Intersection: mainline congestion and local connections”

KCC is requested to document any remaining concerns that it might have in relation to both mainline congestion and/or congestion affecting local access from the intersection as it is proposed to be designed. Such concerns should be supported by appropriate evidence.”

KCC's response to this action is set out in two appended documents:

- Appendix A: Definitive Statement by Kent County Council on the impacts of the Lower Thames Crossing related to Community Assets / Shorne Woods Country Park. This relates to the siting of the A2/M2/LTC intersection and the impact on local access, operationally and during construction.



- Appendix B: Post Event Submission – Kent County Council’s position on the impacts of the Lower Thames Crossing related to the Strategic Road Network and Wider Network Impacts. This includes the impacts of the A2/M2/LTC intersection on the mainline and local access roads.

Issue Specific Hearing (ISH4) – Traffic and Transportation

Further to the comments made orally by KCC at ISH4, we would like to make additional submissions under item 5 of the agenda, which focused on construction traffic management.

KCC’s main concern is for robust monitoring of impacts during construction to be secured through the DCO. For example,

- It would be helpful to be able to monitor the impact of construction on local rat runs to see whether general traffic has increased to avoid the LTC construction works. If so, the Traffic Management Forum could put measures in place to reduce the impact.
- Plate 2.4 of the Outline Traffic Management Plan for Construction (oTMPfC) [REP3-120] shows the proposed monitoring locations, the objectives of which is to “*to provide a baseline and construction period monitoring at the agreed monitoring locations during the construction period for the project by construction and workforce vehicles and by other traffic rerouting as a result of the project construction works and traffic management*”. However, the plan only shows sites in Thurrock, not Kent. It would be helpful if the Applicant could produce a similar map covering monitoring of key routes, junctions and communities in Kent.
- Paragraph 2.4.21 of the oTMPfC [REP3-120] relates to “Key outcomes required from monitoring”. In KCC’s view these proposals seem adequate; however, paragraph 2.4.24 states “*Where requests for traffic measures to be modified arise during feedback from the TMF, National Highways would give due consideration to any such request, and where necessary, obtain appropriate approvals for any modifications*”. KCC is concerned this arrangement could see requests from Local Highway Authorities get refused by National Highways. Clarity needs to be provided as to how agreement would be sought on the mitigation measures to be implemented.

HGV Routing Bans

Table 4.4 of the oTMPfC [REP3-120] sets out route restrictions for HGVs and includes parts of Thong Lane and Brewers Road and all of Castle Lane, The Street and Lower Higham Road (the latter for deliveries and earthworks associated with main works). KCC has previously requested for the proposed the ban be extended to include the roads listed below; however, at the very least the below roads should be monitored for inappropriate use by LTC HGVs.

- Green Farm Lane to be prohibited for all construction related vehicles due to its unsuitability to cater for large volumes of traffic.
- Church Lane to be prohibited for all construction related vehicles due to its unsuitability to cater for large vehicles.
- Pear Tree Lane, The Ridgeway and Brewers Road between the A226 in the east and Park Pale in the west, to be prohibited for all construction related HGVs due to its

unsuitability to cater for additional large vehicles and its adverse impact on local villages.

- Sole Street to be prohibited for all construction related vehicles due to adverse impact on local villages, including increase in congestion, rat running and potential damage to rural roads.
- Wrotham Road to be prohibited for all construction related HGVs due to its unsuitability to cater for additional large vehicles and its adverse impact on local villages.
- Cobhambury Road to be prohibited for construction related HGVs due to its unsuitability to cater for an increase in HGVs.
- Lower Higham Road, east of the construction access, for all construction related trips.

Construction Workers

Construction workers should be encouraged to use strategic routes wherever possible, and only use the local road network where a strategic alternative is not possible, in order to reduce the impact on the local highway network.

- The use of Castle Lane should be prohibited for all construction worker vehicles due to its unsuitability to cater for large volumes of traffic.
- The use of Green Farm Lane should be prohibited for all construction worker vehicles due to its unsuitability to cater for large volumes of traffic.
- The use of Sole Street should be prohibited for all construction worker vehicles due to adverse impact on local villages, including increase in congestion, rat running and potential damage to rural roads.

Avoiding Peak Hours

National Highways provided KCC with GIS files to analyse construction related traffic impacts. These show there are a significant number of drivers who re-route along the rural roads during the peak hours, seeking alternatives to avoid the congestion caused by the construction works. A number of the routes are close to capacity. Whilst National Highways are proposing most works will not take place during the peak hours (they have assumed so to see the worst-case scenario), given the congestion, KCC has requested that construction related vehicles (e.g. staff and HGVs, etc) should not be permitted to access / egress from the site compounds during the network peak hours.

Traffic Management Plan / Forum

KCC welcomes the establishment of a Traffic Management Plan/Forum; however, there does not currently seem to be any allocated funding for this plan/forum. This would make it difficult to implement required mitigation measures quickly. Therefore, the Applicant should be required to allocate a sufficient amount of funding for the implementation of traffic management measures identified through the Traffic Management Plan/Forum.

Impacts of construction on existing bus services

KCC's Public Transport team are concerned about the impacts on buses during construction and want to secure funds to counter the negative impacts (£80k for mitigation during construction plus £80k for potential temporary works to be used only if required). The oTMPfC [REP3-120] fails to address the adverse impacts of construction on existing bus



services. National Highways need to ensure appropriate mitigation is provided to ensure residents who rely on local bus services are not prohibited from travelling due to the impact of constructing the LTC. Furthermore, KCC would still like to see bus priority measures where possible.

Action Points from Issue Specific Hearing 4 (ISH4) – 6th September 2023 [EV-042f]

“Action for Kent County Council: Local Road Network Impact Mitigation: Security

Consider how the DCO/Wider Network Impacts Management and Monitoring Plan could be amended to secure mitigation at the A229 Blue Bell Hill where a significant adverse impact is forecast in the Transport Assessment.”

It is KCC’s view that the A229 Blue Bell Hill is disproportionately affected by the LTC proposals. The negative impacts outlined in KCC’s Local Impact Report (REP1-241) (Transport Impact C), Written Representation (REP1-243) (Transport Impact C).

In addition, appended to this submission:

- Appendix C: ‘*Post Event Submission – Blue Bell Hill Impact Statement*’ clearly demonstrates that in the case of the A229, mitigation measures are needed prior to the opening of LTC to accommodate the increase in traffic, particularly HGVs.

The A229 already plays a vital role in allowing connectivity between the M2 and M20 and this will become even more important as new route demand from LTC will require transfer between the two motorway corridors for an increased volume of traffic.

There is no policy preventing the Applicant from contributing to KCC’s A229 Blue Bell Hill Improvement Scheme, which National Highways themselves say will “strengthen the network’s readiness” for the opening of the LTC. However National Highways’ current position on mitigation for the A229 is in contradiction to their needs and requirements elsewhere on the network.

The Examining Authority cannot currently be certain that the impacts on A299 Blue Bell Hill will be appropriately mitigated as funding from the Department for Transport (DfT) for KCC’s Large Local Major (LLM) scheme is uncertain and the Wider Network Impacts Monitoring and Management Plan (APP-545) contains no commitment to mitigate any impacts identified.

KCC has developed an improvement scheme for the A229 Blue Bell Hill to mitigate the existing situation as exacerbated by the effects of the LTC. KCC request that

- A Requirement should be added to the DCO for the Applicant to carry out these works at its own expense.
- In the alternative, the Applicant should fund KCC to carry out such works (approximately £235 million based on current programme, subject to scheme development).
- If Government does provide the Large Local Major (LLM) scheme funding for the mitigation works, then the Applicant should provide the 15% match funding (approximately £35 million based on current programme, subject to scheme development) towards those works.

Issue Specific Hearing 6 – Mitigation, Compensation and Land Requirements

KCC has no further submissions to make in addition to those made orally at ISH6. However, it is noted not all items on the agenda were discussed. Therefore, KCC would welcome the opportunity to discuss those items at subsequent Issue Specific Hearings.

Action Points from Issue Specific Hearing 6 (ISH6) – 8th September 2023 [EV-045a]

“Action for Kent County Council: Outline Landscape Ecology Management Plan (OLEMP)”

Suggest additional/altered wording within the OLEMP [REP3-106] as to how the Council considers a co-ordinated delivery of the Landscape and Ecology Management Plans (LEMPs) could be achieved, having particular regard to the likelihood that the LEMPs will be produced and then delivered by multiple contractors.”

KCC’s suggested wording within the OLEMP for the detailed LEMPS is as follows (additional wording has been underlined):

(1) Each part of the authorised development must be landscaped in accordance with a LEMP which sets out details of all proposed hard and soft landscaping works for that part and which has been submitted to and approved in writing by the Secretary of State prior to the opening of that part, following consultation by the undertaker with [the bodies listed in [] of the outline LEMP] on matters related to their respective functions.

(2) A LEMP prepared under sub-paragraph (1) must be substantially in accordance with the outline LEMP and must— (a) reflect the design principles document and the mitigation measures set out in the REAC; (b) be based on the environmental masterplan annexed to the environmental statement; and (c) include details of (i) location, number, species mix, size and planting density of any proposed planting; (ii) cultivation, importing of materials and other operations to ensure plant establishment; (iii) existing trees and vegetation to be retained, with measures for their protection during the construction period; (iv) proposed finished ground levels; (v) implementation timetables for landscaping works; (vi) commitments to aftercare, monitoring and maintenance activities relating to the landscaping and ecological features; and (vii) measures for the replacement, in the first available planting season, of any tree or shrub planted as part of the LEMP that, within a period of 5 years or such period as may be specified in the LEMP after the completion of the part of the authorised development to which the relevant LEMP relates, dies, becomes seriously diseased or is seriously damaged in the construction of the authorised development. (d): demonstrate that the LEMPS prepared for other areas within the North/South of the Thames have been reviewed and correspond with the requirements within those approved (submitted to and approved by the LPA as a requirement) or prepared (produced but not yet submitted to the LPA as a requirement) LEMPS. The submitted information must include a plan showing the areas where LEMPS have been produced and reviewed, and where relevant, include the local planning authority planning application number.

(3) All landscaping works must be carried out to a reasonable standard in accordance with the relevant recommendations of appropriate British Standards or other recognised codes of good practice

(4) Details must be provided as to how the LEMP will be funded in the interim and long term.

In addition to the proposed wording above, it should also be noted that review of the LEMPs should cover the whole of the LTC area (both south or north of the Thames), it should not just be the adjacent management areas. This will ensure the management is being considered on a landscape scale.

KCC would also suggest a further condition and/or requirement is included which requires a review and update of the LEMPS to be undertaken prior to the opening of the LTC. This would enable the LEMPs to be consolidated in to fewer documents which focus solely on the relevant management areas (e.g. one area for National Highways management/KCC Highways management/Shorne Woods Country Park management). Suggested wording for this is as follows:

“Prior to the operational phase of the development a review and update of all the LEMPS must be produced and submitted to the LPA for written approval. The review and update must consolidate the LEMPS to create only one management plan for each management area to ensure that the management requirements do not cover more than one management plan. The management plan must include the following:

- *Preliminary ecological appraisal assessing the habitats within the site and identifying the LEMPS have met their aims and objectives.*
- *Details of any species specific surveys required*
- *Review of the LEMPS identifying any changes /amendments/remediation required.*
- *Overview of the management required*
- *Management timetable setting out all management requirements - capable of being a 5 year rolling plan*
- *Plans showing the management areas*
- *Details of on going habitat and species monitoring*
- *Details of who will be carrying out the management and relevant agreement to demonstrate that they will be carrying out the management*
- *Details of funding to carry out the management*
- *Plan showing the management plan areas for the wider site.*

The plan must be implemented as approved.

In addition, prior to the submission of the finalised LEMPS, a plan must be submitted demonstrating the boundaries of the management plan areas and details of who will be responsible for carrying out the management.”

Issue Specific Hearing 7 – draft Development Consent Order

KCC has no further submissions to make in addition to those made orally at ISH7.

Action Points from Issue Specific Hearing 7 (ISH7) – 11th September 2023 [EV-046e]



“Action for Applicant and Local Highways Authorities: Commuted sums

Provide examples from made DCOs where commuted sums have been paid to Local Highways Authorities in respect of the maintenance of new structures.”

“Action for Local Highways Authorities: Article 10 of the dDCO

Provide submissions in respect of the wording of Article 10 of the dDCO and to what extent this could/should include the verges/landscaping. Provide clarity on ownership responsibilities between National Highways and the LHA.”

KCC notes the above two actions for Local Highway Authorities following ISH7. These actions were published by the ExA on the 14th September which has not allowed KCC sufficient time to prepare a response in time for Deadline 4 on 19th September. Therefore, KCC will submit a response to these actions at Deadline 5 on 3rd October.

Yours sincerely,

Simon Jones

Corporate Director – Growth, Environment & Transport

Enclosed:

- Appendix A: Definitive Statement by Kent County Council on the impacts of the Lower Thames Crossing related to Community Assets / Shorne Woods Country Park
- Appendix B: Post Event Submission – Kent County Council’s position on the impacts of the Lower Thames Crossing related to the Strategic Road Network and Wider Network Impacts
- Appendix C: Post Event Submission – Blue Bell Hill Impact Statement



A122 LOWER THAMES CROSSING

Appendix A: Definitive Statement by Kent County Council on the impacts of the Lower Thames Crossing related to Community Assets / Shorne Woods Country Park

**Produced by Kent County Council
(Interested Party Reference Number: 20035779)**

19th September 2023

1. Introduction

- 1.1. Shorne Woods Country Park is mentioned related to the following impacts discussed in Kent County Council's (KCC) Local Impact Report [REP1-241] and Written Representation [REP1-243]
- Biodiversity Impact H: Loss of Ancient Woodland
 - Heritage Conservation Impact G: Registered Parks and Gardens
 - Heritage Conservation Impact H: Historic Landscapes
 - Community Assets Impact A: Loss of revenue at Shorne Woods Country Park
 - Community Assets Impact B: Tree removal and replanting at Shorne Woods Country Park
 - Community Assets Impact C: Proposed Car Park at Thong Lane
 - Community Assets Impact D: Blighted Property Woodlands Cottage, Thong Lane
- 1.2. This note focuses on providing a Definitive Statement on KCC's views on Community Assets Impacts A, B and C.

2. Impacts on Community Assets

Community Assets Impact A: Loss of revenue at Shorne Woods Country Park

- 2.1. KCC considers Shorne Woods Country Park (SWCP) to be Kent's flagship Country Park. SWCP provides a multitude of facilities and is an important educational hub used by school groups and the public to learn about the environment and nature. The commercial facilities and SWCP itself are an important employer in the area and employees rely upon the continued success of the park and the wider parks estate.
- 2.2. The character and fabric of SWCP is of utmost importance to the local and the wider community in Kent. SWCP seeks to deliver amenity, education and woodland interpretation for the wider benefit of the community and aims to help improve both the mental and physical health of the community. It is of utmost importance that this community facility is protected so that it can continue to provide these critical services.
- 2.3. The revenue SWCP generates allows the park to be financially self-sufficient. However, the LTC will result in an adverse impact on the following revenue streams, all of which are worthy of assessment for compensation:
- Car park income
 - Café income
 - Team building
 - Conferences/venue hire
 - Events
 - Education visits
 - Training
 - Log and kindling sales
 - Shop sales

- 2.4. KCC can provide evidence of the income generated from the above revenue streams in previous years to ensure compensation is reasonable. KCC also requests assistance to rebuild our customer base post construction, as the associated loss of income may last longer than the LTC construction period.
- 2.5. Furthermore, the impact of lengthy diversions, congestion and the loss of trees and their replacement will impact on whether people visit or book SWCP. In addition, the closure of Brewers Road Bridge for any period would be significant for the country park and have a large impact on visitor numbers, as well as increasing traffic along local country lanes and through Shorne village.

Community Assets Impact B: Tree removal and replanting at Shorne Woods Country Park

- 2.6. With reference to Community Assets Impact B within our Local Impact Report, it is clear the proposed utility diversions will have an adverse impact on SWCP regarding tree removal and temporary loss of land.
- 2.7. KCC welcomes the mitigation planting that has been offered by the Applicant but would request that as part of this mitigation, members of the SWCP team lead on the planting and maintenance of the new woodland. This will help manage existing Ancient Woodland and the integration of a new habitat.

Community Assets Impact C: Proposed Car Park at Thong Lane

- 2.8. KCC had some initial discussions with the Applicant regarding the potential for long term legacy of the LTC construction compounds. The possibility of utilising part of the A2 construction compound as an additional car parking facility for access to the wider countryside including Chalk Park, Jeskyns, Ashenbank and SWCP, once construction of the LTC is complete, was discussed between KCC and National Highways.
- 2.9. KCC supports the idea in principle, as it is hoped such a car park could help leave a legacy for the country park and wider area, whilst also meeting the demands for additional parking capacity at SWCP. Furthermore, National Highways could install electric charging points at the car park to support the transition to electric and ultra-low emission vehicles. However, the new car park must be a financially self-sufficient project and we would not take on ownership and management if that is not the case.
- 2.10. KCC regards the car park as a separate issue to the loss of revenue and it should not be considered as a form of compensation. As it stands, KCC is not committed to taking on the management/ownership of the proposed car park unless the facility has a sustainable business case with sufficient income generation potential to cover the ongoing management costs. If the car park does not generate enough income to cover the costs of its long term management then it would be a liability to the country park and KCC would not be willing to take on the management of it.
- 2.11. In the current plans the footpath that connects the proposed car park into the existing Darnley Trail results in a loss of land on the SSSI which includes future veteran Oak trees. KCC would recommend this path is put on the other side of Thong Lane which

is not protected land. This can then tie into the existing Darnley Trail entrance to the park from Thong Lane.

Community Assets Impact D: Blighted Property Woodlands Cottage, Thong Lane

- 2.12. With reference to Community Assets Impact D within our Local Impact Report, Woodlands Cottage is a KCC owned property and there is a fair chance that KCC will be in a position to offer the property for sale in the lead up to or during implementation of the scheme itself.
- 2.13. However, as the property is within close proximity to the Order Limits of the LTC, there is a high probability that the property will be blighted as a result of the Project. The County Council should therefore reserve its statutory right to serve a blight notice in such circumstances.

Summary of KCC's Requested Mitigation for Community Assets Impacts

- A commitment from the Applicant to reimburse KCC for its demonstrable loss of income before, during and after construction of the LTC. To protect cash flow and to mitigate against compounded losses, this should be assessed and paid on an annual basis ensuring that Shorne Woods Country Park (SWCP) is left in no worse of position than it would have otherwise been before the scheme.
- A commitment from the Applicant to fund a community engagement programme and to collaborate with KCC to produce a campaign to help highlight what SWCP has to offer. The aim of this will be to inform and promote the SWCP from an educational and environmental standpoint. We consider this will go some of the way to help mitigate some of the negative impacts that will be caused by the LTC.
- 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.
- A Requirement on the Applicant to provide a sustainable business case (which is approved by KCC) in advance of any agreement to transfer/manage the new car park facility.
- A commitment to minimise the loss of SSSI land by designing the path around the proposed car park to be on the other side of Thong Lane resulting in no loss of SSSI land on the Thong Lane side of the park.
- A commitment from the applicant to work in collaboration with KCC to minimise the impacts to Woodlands Cottage. If suitable solutions cannot be agreed upon for any reason, then a blight notice may need to be served.
- KCC will seek to secure these matters through Requirements or agreements, to the extent that they cannot otherwise be agreed and secured by agreement with National Highways.



A122 LOWER THAMES CROSSING

Appendix B: Post Event Submission Kent County Council's position on the impacts of the Lower Thames Crossing related to the Strategic Road Network and Wider Network Impacts

**Produced by Kent County Council
(Interested Party Reference Number: 20035779)**

19th September 2023

1. Introduction

- 1.1. Traffic and transportation impacts of the Lower Thames Crossing (LTC) scheme are set out in Kent County Council's (KCC) Local Impact Report (LIR) [REP1-241] and Written Representation (WR) [REP1-243]
- 1.2. This note focuses on providing a definitive statement on KCC's position on the impacts of LTC on the Strategic Road Network (identified as Transport Impact A in KCC's Local Impact Report [REP1-241]) and Wider Network Impacts (Transport Impact B in KCC's Local Impact Report [REP1-241]) following the discussions during the ISH3, ISH4 and subsequent additional information provided by the Applicant.
- 1.3. A separate note has been provided relating to Blue Bell Hill (Transport Impact C) and should be considered alongside this document.

2. Impacts on Strategic Road Network (SRN) – Transport Impact A

2.1. Capacity constraints – A122/A2 junction

- 2.1.1. KCC's Local Impact Report identified a capacity issue at the new junction of the LTC with the A2. National Highways has provided further information relating specifically to the nodes identified within the new junction showing that these nodes are not over capacity. KCC is now satisfied that the new A122/A2 junction, specifically the slip roads connecting the A122 with the A2, is not over capacity, given the technical explanation provided. However, some of the local access roads connecting directly to the A122/A2 junction are approaching or over capacity.
- 2.1.2. Therefore, all other statements relating to Transport Impact A (KCC's Local Impact Report [REP1-241] and Written Representation [REP1-243]) remain current and our mitigation requests remain unchanged.
- 2.1.3. To summarise our previous statements, KCC's proprietary Kent Transport Model (KTM) identified the following SRN junctions where implementation of the LTC leads to an increase in traffic volume to capacity ratio, with the road links or junctions acting at or over capacity:
 - M25 J2 (A2/A282)
 - A2 Pepper Hill (Hall Road)
 - A2/A227 (Tollgate)
 - A2 Gravesend East (Valley Drive)
 - M2 J2 (A228)
 - M2 J3 (A229)
 - M20 J6 (A229)
- 2.1.4. There are no mitigation plans for any SRN junctions impacted by the LTC; nor do they feature in the next Road Investment Strategy (RIS) programme. All SRN junctions listed above have been included in the Wider Network Impacts Management and Monitoring Plan (WNIMMP) (APP-545) for the project, except for M25 Junction 2 (M25/A2/A282), which KCC have previously requested to be added.

2.1.5. KCC remains concerned that there is no commitment to fund or deliver mitigations for any LTC impacts identified.

2.2. Specific comments relating to ISH3 and ISH4

2.2.1. A2 Mainline reduction to two lanes

KCC previously raised concern that reducing the A2/M2 eastbound carriageway from four to two lanes from the Gravesend East junction to just past the LTC junction could cause capacity issues for both users of the LTC and M2/A2 corridor. National Highways has provided additional static model visualisations that indicate that the volume of traffic using these two lanes will be within capacity (Localised Traffic Modelling Appendix H [REP1-194]). KCC is happy to accept National Highways modelling assessment of this route as the Highway Authority for the SRN.

2.2.2. Further to this, KCC notes that there will be two new additional parallel lanes in both direction which will be utilised by some of the existing local traffic (joining and leaving the A2/M2 from the A289 and A2 (non-trunk)). The KTM model also does not indicate capacity issues on this section of the M2/A2 corridor.

2.2.3. Gravesend East/Valley Drive Junction

KCC remains concerned about the operation of the Gravesend East (Valley Drive) junction following the opening of LTC.

2.2.4. In the latest KTM model runs, the junction is forecast to exceed capacity in Opening Year 2030 AM Peak, with the Volume to Capacity (V/C) ratio for the Valley Drive southbound approach increasing from 90% without LTC to 101% with LTC. In the PM Peak the V/C ratio for the Hever Court Road eastbound approach to Valley Drive increases from 82% without LTC to 96% with LTC. Similar impacts are forecast for Design Year 2045 AM and PM Peaks.

2.2.5. National Highways provided a brief summary of their microsimulation outputs for this junction in Localised Traffic Modelling Appendix H [REP1-194] and whilst this modelling forecasts the junction traffic condition to be free flowing, KCC notes significant queues on the Valley Drive approach arm to the junction in both the AM and PM peak. Queues of 196m and 104m do not seem to correspond with the average delay on this arm which is forecast as 5 seconds and 6 seconds respectively. KCC notes that the V/C ratio has been provided on the signalised junctions; however, the level of service has not been provided on the non-signalised arms.

2.2.6. KCC has requested additional information relating to this junction to provide clarity on how the junction will function at peak times. In particular, KCC has requested more information regarding Arm B (Valley Drive arm) of Junction 2.2 and Arm C (Hever Court Road) of Junction 2.1; the latter of these junctions features a 32 second delay, which would appear to correlate with a Level of Service D based on Highway Capacity Manual guidance. Specifically, KCC request information relating to the circulatory queues at the Gravesend East Junction and a vehicle simulation video for the junction. Further to this, KCC has requested a response from National Highways

relating to Remark 1, 4, 8 and 10 of Appendix H [REP1-194] which comment on capacity constraints within the junction design.

- 2.2.7. The operation of the Gravesend East junction must be effectively monitored and, should significant negative consequences be observed, mitigation should be put in place and funded by the Applicant.

2.3. Other

KCC have accepted the necessary removal of the existing A2 on-slip to the east of Gravesend. This is necessary to ensure the scheme can be delivered and that safety standards are met.

3. Wider Network Impacts – Transport Impact B

- 3.1. With reference to Transport Impact B in our Local Impact Report [REP1-241], mitigation for the negative impacts of the LTC on the Local Road Network (LRN) continue to be identified with National Highways through the Wider Network Impact (WNI) Study. The WNI Study is working to identify mitigation for the following key corridors of negative impacts identified in the earlier work:

- The A2 between Springhead and Gravesend East junctions (including the Springhead Road, Wrotham Road and Valley Drive Corridors)
- The A227 between the A2 and the M20
- The A228 between the M2 and the M20
- Cycleway corridors on the A226. (Please note the cycleway adjacent to the A229 is now being considered as part of the Blue Bell Hill scheme).

- 3.2. KCC's position on this impact remains unchanged from our LIR [REP1-241] and WR [REP1-243].

3.3. Specific comments relating to ISH3 and ISH4

- 3.3.1. Regarding monitoring and mitigation, KCC's position as outlined in the Issue Specific Hearings is as follows.

- 3.3.2. Uncertainty is inherent in transport modelling. This is clearly outlined in Web TAG Unit M4. National Highways' transport assessment [REP3-112] for LTC accepts this uncertainty (for example, Paragraph 5.7.19 and 5.7.20). Since there is modelling uncertainty, pre- and post- operational monitoring is required. It is KCC's position that it is essential that the DCO also makes provision for the mitigation of these measured impacts.

- 3.3.3. KCC's Written Representation referred to the draft revised National Policy Statement for National networks (NPSNN). It remains uncertain whether the existing NPSNN will be replaced during the Examination of the LTC DCO or before any decision is taken by the Secretary of State. Specific reference was made to paragraphs 1.17 and 5.280 of the draft revised NPSNN within our Written Representation. The draft revised NPSNN introduces the notion that it may be appropriate to fund mitigation outside of the development line boundary.

- 3.3.4. The overriding theme of the WNIMMP (APP-545) and the complementary DCO document 7.9 Transport Assessment Appendix F Wider Network Impacts Management and Monitoring Policy Compliance (APP-535) is that the adverse impacts of the project are acceptable in policy terms. However, KCC considers that failure to mitigate these adverse impacts would reduce the benefits realised by the Project. Whilst we acknowledge the benefits in having access to the monitoring data, there is still no commitment to fund any schemes where it is demonstrated that the LTC causes unacceptable impacts. This includes on the Strategic Road Network where the existing network management duty is referenced but pipeline schemes in the RIS programme are not yet guaranteed or funded.
- 3.3.5. There is no legal or policy exemption for National Highways regarding mitigating the impacts of its schemes. KCC is not satisfied that National Highways and consequently other highway authorities will be dependent on uncertain, external future funding sources to mitigate the impacts of LTC. Adding to this, National Highways does require developers of other projects to fund improvements to National Highway's SRN (for example, M25 Junction 28 Improvements).
- 3.3.6. KCC would fully support the adoption of the type of approach for monitoring and mitigation adopted by the Silvertown Tunnel DCO. It is noted that the Silvertown Tunnel DCO mitigated for known impacts; it is KCC's position that this should also be the case for the LTC DCO. KCC's Written Representation [REP1-243] provided draft requirements for the DCO covering our requests relating to wider network monitoring and mitigation. However, requirements are also needed for the unknown impacts as previously put forward.
- 3.3.7. For avoidance of doubt, whilst all other Wider Network Impacts within Kent may be funded and mitigated post operation of LTC, A229 Blue Bell Hill must be addressed prior to the operation of Lower Thames Crossing. More information on this has been provided in "*Appendix C: Post Event Submission – A229 Blue Bell Hill Impact Statement.*"

A122 LOWER THAMES CROSSING

Appendix C: Post Event Submission A229 Blue Bell Hill Impact Statement

**Produced by Kent County Council
(Interested Party Reference Number: 20035779)**

19th September 2023

1. Introduction

- 1.1. The A229 Blue Bell Hill is a strategically important link providing the shortest and most direct route between the M2 (at Junction 3) and M20 (at Junction 6), critical for interchange between the motorways, for accessing and serving the Channel portals, and for connecting the County Town of Maidstone and the conurbation of Medway.
- 1.2. Existing traffic conditions at M2 Junction 3 and M20 Junction 6 are poor at peak times with queues and delays experienced by all road users. Traffic on the A229 is forecast to increase significantly from the 2019 Department for Transport (DfT) manual count¹ of 69,336 annual average daily traffic (AADT) with local growth and once the Lower Thames Crossing (LTC) is opened.
- 1.3. The key impacts on A229 Blue Bell Hill have been defined in Kent County Council's (KCC) Local Impact Report (LIR) (REP1-241) and Written Representations (WR) (REP1-243) and are further explored in this document providing additional information and expanding on the wider impacts resulting from traffic from the LTC.

2. A229 Blue Bell Hill Improvement Scheme

- 2.1. An improvement scheme for the A229 and its associated junctions at M2 J3 and M20 J6 has been developed by KCC to address current congestion issues as well as the proposals for local growth and the additional traffic generated as a result of the opening of the LTC.
- 2.2. A Strategic Outline Business Case (SOBC) was submitted to the Department for Transport (DfT) in December 2020 as part of the Large Local Majors (LLM) funding programme. Following submission, KCC provided responses to a number of queries and also carried out additional work requested by DfT. KCC was advised by DfT that it had all of the information it required in April 2023 and is currently awaiting a decision by Government on whether the scheme can move forward to the next stage of business case development – Outline Business Case (OBC). In an update to the timescale provided in KCC's LIR (REP1-241 paragraph 8.36), DfT did not provide a response as indicated and has now not been able to give a timescale for when a decision could be expected.
- 2.3. Only on completion of OBC will Government then make a decision on funding for scheme delivery. If the funding is agreed, DfT will contribute 85% of the scheme costs leaving match funding of approximately £35m unfunded.
- 2.4. Historically a number of proposals have been put forward to alleviate the congestion on the A229, particularly at M2 J3, but none have been of sufficient magnitude to make an impact. Large Local Majors (LLM) funding provides a unique opportunity to provide improvements to A229 Blue Bell Hill that have not previously been possible and is also unlikely to present itself again.

¹ <https://roadtraffic.dft.gov.uk/manualcountpoints/46829>

2.5. The results of the modelling and economic appraisal for A229 Blue Bell Hill Improvement Scheme indicates that the project has a Benefit Cost Ratio (BCR) of 2.2 (Based on modelling using Kent Transport Model (KTM) at SOBC stage in February 2022). This shows that the scheme offers value for money and will provide benefit to both the local and wider economies.

3. Lower Thames Crossing Option C Variant

- 3.1. LTC has historically recognised the impact that the project will have on A229 Blue Bell Hill. The DfT consultation on route corridor options for a new crossing of the Lower Thames in 2013 included for the Option C variant which provided free flow slip lanes between the M20 and A229 and M2 and A229. The inclusion of the A229 as part of the option consideration for the Project indicates that there was a concern about the impact of increasing traffic on A229 Blue Bell Hill from the early stages of the Project.
- 3.2. The Option C variant provided an ideal solution with free flow slips to facilitate LTC users heading to and from the M20. The cost of the variant was identified at £1.7bn.
- 3.3. The 2013 Option Review concluded in paragraph 7.21 that the “*costs of the additional Option C variant infrastructure outweighed nearly all of the additional benefits, implying that the economic case for Option C does not rely on it being delivered in conjunction with the variant*”. This finding together with concerns over the deliverability due to the engineering challenges presented by the structures needed for the M2 and M20 junctions, meant that the business case for Option C would not be materially improved by extending the route south to the M20. The variant was subsequently removed from consideration.
- 3.4. KCC are not aware of any review at this point of any smaller scale schemes which would be deliverable from an engineering perspective, provide benefit to Option C and allow for mitigation of the stated impacts to A229 Blue Bell Hill and its associated junctions.
- 3.5. Further consultations noted that improvements to A229 Blue Bell Hill would be considered by National Highways as part of the Road Investment Strategy (RIS) process, but KCC is not aware that it has been included to date. KCC has requested at every possible opportunity that mitigation measures for the impacts on A229 Blue Bell Hill are included in LTC.

4. National Highways Liaison

4.1. A229 Blue Bell Hill Improvement Scheme Development

- National Highways worked with KCC on the development of the A229 Blue Bell Hill scheme objectives and attended optioneering workshops to provide input on mitigation options. They were a stakeholder in the Autumn 2020 consultation process on the options developed for the SOBC. Overall, National Highways’ position was that they

were supportive of the proposals to make improvements to the A229 and its junctions with the M2 and M20 and hoped that the LLM funding bid would be successful.

- National Highways have provided a response to DfT's request for comments on the KCC SOBC which requested further modelling work and option development work on the scenario without LTC.

4.2. LTC WNI Discussions

- The LTC team have held regular conversations with KCC on the wider network impacts. A229 Blue Bell Hill has formed part of some of these discussions, although it was excluded from the Wider Network Impact (WNI) study as it was already subject of a funding bid with a developed SOBC. As part of the SOBC for A229 Blue Bell Hill Improvement Scheme, DfT in discussion with LTC, asked KCC to provide a comparison of the modelling with and without LTC and a design option that did not include LTC. The modelling assessment was paid for by LTC via an amended Planning Performance Agreement (PPA). KCC funded the development of the scheme design for the scenario without LTC traffic.

4.3. Coordination Approach

- In view of the significant impacts any construction work will have on the A229 route and its junctions, the KCC team has worked with a number of parties to try to incorporate any future development and safety proposals, particularly at the M2 and M20 junctions, into the A229 Blue Bell Hill scheme to prevent multiple occurrences of roadworks. National Highways has also been involved with these discussions.
- Some of the development sites under discussion have had very small impacts on the junctions, but National Highways have demanded mitigation and in some instances are not prepared to wait for the Blue Bell Hill scheme to come forward and are requesting interim solutions. An example of this is a development site in Aylesford for which National Highways is requiring mitigation to the M20 J6 Running Horse Roundabout (Tonbridge and Malling Borough Council planning application reference TM/21/03066/OA)².
- National Highways are adamant that they are not required to provide any mitigation for the increased traffic on the A229 route and its junctions as a result of LTC, but at the same time are demanding mitigation for far smaller impacts from other developments. It is an inconsistent and contradictory approach that suggests that if far smaller impacts are unacceptable and require mitigation, then LTC impacts should also be considered unacceptable and require mitigation.
- KCC would normally impose the requirement for highway improvements on developments impacting negatively on the Local Road Network. As noted above, National Highways also do the same for the Strategic Road Network. Given the scale of

² https://publicaccess2.tmbc.gov.uk/online-applications/files/EBF6C40FAD9B44985034E31389052FB8/pdf/21_03066_OA-NATIONAL_HIGHWAYS-1468146.pdf

the impact of LTC on A229 Blue Bell Hill, and the need for it to operate successfully for LTC to achieve its objectives, National Highways should contribute to the improvement of the route in order to be consistent with its own requirements.

4.4. Trunking

- KCC has been in dialogue with National Highways regarding potential trunking of A229 Blue Bell Hill. National Highways have recently undertaken a comprehensive assessment of Road Investment Strategy 3 (RIS3) candidate trunking/de-trunking locations over the past 18 months and have shared their findings and recommendations with the DfT. National Highways have confirmed to KCC their recommendation that the A229 (from M2 J3 Chatham to M20 J6 Maidstone) should proceed to detailed development for consideration for trunking in RIS3.
- The strategic importance of the A229 has been highlighted by the data included in Annex C of The Strategic Road Network Extents Review RIS3: Trunking / De-trunking Candidates Executive Summary summarised in Table 1. The table shows that over 90% of journeys using A229 Blue Bell Hill are over 10km (6 miles) and around half are over 25km (15 miles).

Table 1 - Journey lengths on A229 Blue Bell Hill

Journey length	Percentage of Journeys						
	1 to 5km	5 to 10km	10 to 25km	25 to 50km	50 to 100km	100km to 200km	>200km
Northbound							
AM Peak	0	7	44	23	18	5	3
Inter Peak	0	10	44	18	17	7	3
PM Peak	0	7	42	24	20	5	2
Southbound							
AM Peak	0	5	44	22	20	6	3
Inter Peak	0	4	42	17	21	10	6
PM Peak	0	9	48	22	18	2	1

- The Executive Summary also highlights a number of concerns about the A229 Blue Bell Hill, including:
 - Safety - *“Safety performance is significantly worse than SRN average for dual carriageway. Accident hotspots located at junctions at the northern and southern ends of the route.”*
 - Fast and Reliable Journeys - *“Potential congestion and journey time impacts on the A229 mainline due to high traffic volumes. Traffic flows not optimised for movements between the A229 and M2 – improving this could involve significant capital works and associated land take.”*
 - Route Standard – *“Some localised junction/accesses may warrant further consideration. The A229 link to the M2 is not optimised for traffic flows, with lower speed limit, signalised junctions a pedestrian crossing.”*

- *Route Summary – “Primary route linking Maidstone and Chatham & Gillingham. Improves network resilience between the M2 and M20 for movements towards Dover.*

Traffic flows are higher than annual average daily flow on SRN dual carriageway indicating significant journey demand. Likely to see traffic flow increases following opening of Lower Thames Crossing project.

Opportunity to address key policy areas around safety, congestion and the environment. Safety performance (accident and casualty rates) is significantly worse than SRN average for dual carriageway. Key accident hotspots requiring mitigation are as follows; Lords Lees Roundabout and A229 slips; A229/Common Road junction; Cobtree Roundabout and Running Horse Roundabout.”

- National Highways’ aspiration is to make recommendations for routes to be transitioned into the SRN in RIS3 2025 – 30.
- It is clear from the Executive Summary that National Highways have concerns around the existing safety and congestions issues at A229 Blue Bell Hill which impact on the ability of the route to meet the demands of additional traffic as a result of LTC.

5. LTC impacts

5.1. Existing Traffic Conditions

- Existing traffic conditions at M2 Junction 3 and M20 Junction 6 are poor at peak times with queues and delays experienced by all road users. Traffic on the A229 is forecast to increase significantly from the 2019 DfT manual count of 69,336 annual average daily traffic (AADT) with local growth and once the Lower Thames Crossing is opened.
- KCC’s LIR (REP1-241 paragraph 8.34) identified that APP-529 Transport Assessment showed that A229 Blue Bell Hill already takes almost as much traffic as parts of the M2 and M20, despite being only 2 lanes in the southbound direction and 2 lanes increasing to 3 in the northbound direction. This is also supported by the data from DfT count sites:
 - Traffic Count Site 36010 East of M2 J3 2019 AADT 81,328 (3 lanes in each direction)
 - Traffic Count Site 99203 East of M20 J7 2019 AADT 72,737 (3 lanes in each direction)
- The route also ranks highly in terms of crashes. In analysis work undertaken for the SOBC for the A229 Blue Bell Hill Improvement Scheme, although there was a spread of crashes across the route, two key hot spots were identified – at the Running Horse Roundabout and at the northbound off slip from A229 to the Lord Lees roundabout.
- The capacity of A229 is constrained by its geography particularly in the northbound direction. The average gradient of the top section of the hill is approximately 5.2% which is above the desirable minimum (4%) quoted in the CD109 of the Design Manual for Roads and Bridges for an All-purpose dual carriageway and often results in slow moving

large and heavy vehicles which causes a point of conflict due to the layout of the off slip for the Lord Lees Roundabout at the top of the hill.

5.2. Traffic Impacts

- The AADT in the 2019 DfT manual count, was 69,336 vehicles. KCC undertook a calculation of the expected AADT in 2037 using the Kent Transport Model (KTM) which indicated that AADT will increase to 95,304 vehicles with LTC. This is an increase of 25,968 or 37%.
- A Select Link Analysis (SLA) of traffic on Blue Bell Hill has identified the levels of traffic also using the Dartford Crossing and the Lower Thames Crossing. The results in Table 2 show that the level of traffic on Blue Bell Hill (without LTC) also using the Dartford River Crossing is very low. With LTC open to traffic, the traffic on Blue Bell Hill also using Dartford drops to almost nothing, but there is a significant amount of traffic demand for LTC. The SLA shows that in the AM Peak between 18 and almost 26% of traffic on Blue Bell Hill in each direction will also be using LTC, thus demonstrating that the LTC is a key driver of demand for the A229 Blue Bell Hill.

Table 2 - SLA using LTAM on traffic using A229 Blue Bell Hill and also using LTC or Dartford Crossing

	Flow on A229 BBH	Flow using LTC	% of BBH traffic using LTC	Flow Using Dartford Crossing	% of BBH traffic using Dartford Crossing
2045 Without LTC					
AM Peak LTAM NB	3558	-	-	42	1.2%
AM Peak LTAM SB	4143	-	-	58	1.4%
2045 with LTC					
AM Peak LTAM NB	4041	998	25.7%	9	0.2%
AM Peak LTAM SB	4131	752	18.2%	0	0%
Cross River Traffic on A229 without LTC				100	
Cross River Traffic on A229 with LTC				1759	
Increase in cross river traffic using A229 Blue Bell Hill				1659	

- In the 2045 AM scenario without LTC, 100 vehicles also use the Dartford crossing. River crossing numbers change significantly with LTC in place, to 1,750 vehicles on A229 Blue Bell Hill also using LTC and only 9 also using Dartford.
- The general increase in traffic is lower than the increase in traffic on A229 also using LTC. LTC is drawing traffic onto A229, and it appears that the increased strategic traffic is suppressing other local journeys which will have an impact on other parts of the Local Road Network and may lead to inappropriate rat running.

- The check figures of an SLA on LTC (Table 3) show a slight discrepancy in numbers using LTC and Blue Bell Hill, but show the proportion of LTC traffic that will also use A229 Blue Bell Hill traffic at around 20% and 23% in each direction.

Table 3 – SLA using LTAM on traffic using LTC and also Blue Bell Hill

2045 with LTC	Flow on LTC	Flow using A229 BBH	% of LTC traffic using BBH	Difference from BBH SLA
AM Peak LTAM NB	4510	1038	23.0%	+100
AM Peak LTAM SB	3347	663	19.8%	-89

- From the SLA data it can be seen that A229 Blue Bell Hill is intrinsically linked with LTC routing and LTC creates significant traffic on A229 Blue Bell Hill. The SLA on A229 Blue Bell Hill also shows the percentage of Blue Bell Hill traffic that also uses M2 increasing by around 10% with LTC open.
- This increase in traffic is a direct result of LTC creating a new route. The current choices for routing to Dover and Eurotunnel are unlikely to involve the use of the A229 as vehicles are either coming from the West and are already on the M20 or will come from the north across the Dartford crossing and will make the choice of the M20 or M2 at the junctions with the M25. This changes with LTC (as noted in REP1-241 KCC's LIR Transport Impact C paragraph 8.38) and A229 will provide the access route for vehicles using LTC to reach the M20 as the shortest and most direct route. Vehicles heading north from Dover are likely to choose the M20 and A229 to reach the M2 and LTC, rather than negotiate the A2 from Dover.
- A Government research briefing³ in 2016 noted that up to 70% of traffic heading to Dover will use the M20 because the M2/A2 is inferior standard. The National Highways Kent Corridors to M25 Route Strategy Initial Overview report published May 2023 also notes that "*the A2 is an unsuitable alternative primary route for cross-Channel traffic*".
- Eurotunnel already carries 3.55 million vehicles (passenger vehicles and freight vehicles) a year in 2022 and the Port of Dover approximately 3.3 million vehicles (tourist cars, coaches and freight vehicles) in 2022. Both portals have ambitious plans for growth. With LTC open, A229 Blue Bell Hill will clearly play a vital role for vehicles to access the Channel portals.

5.3. Network Resilience

- Kent is greatly affected by the impacts of hosting key border crossing points. The resilience of the Strategic and Local highways networks is tested on a regular basis by incidents on the networks as well as disruption at Dover and Eurotunnel. The requirements of Operation Brock often dictate the use of the M20 route for traffic heading to the portals.
- The Kent County Council Intelligent Transport Systems team has noted that when Operation Brock is in place to manage port traffic on the M20, there are more than usual numbers of HGVs using M2J3 which impacts on the operation of the Urban Traffic

³ <https://commonslibrary.parliament.uk/research-briefings/cdp-2016-0156/>

Control system. Generally, increasing the volume of lorries reduces capacity, increases congestion and instances of exit blocking at junctions.

- National Highways Kent Corridors to M25 Route report⁴ has a stated route objective to improve resilience of routes from Dover to the M25 (page 95), which includes provision of “*safe, suitable and efficient routes to further improve resilience between the M20/A20 and M2/A2 corridor improving journey time reliability and reducing impact on the Local Road Network*”.
- The Report (page 27) also states “*There are high levels of planned housing and employment development within the region, including those identified in Local Plans prepared by local planning authorities, setting out the vision for future development in the Borough. Notable growth areas are around Dartford, Ebbsfleet, Gravesend, Tilbury, Maidstone, Sittingbourne, Canterbury, Ashford and Dover. This means that the route will need to support both the projected growth of freight and tourism entering the UK, as well as housing and employment growth.*”
- The report also states on page 74 that “*There is a lack of technology across the route. The route serves as one of the most important trading routes for the UK. An essential component of a resilient network is the ability to effectively divert traffic. There is a lack of alternative routes to Dover and Tilbury that are suitable for freight, and some diversion routes are less suitable for high volumes of freight or general traffic. This is particularly notable on the A2 due to route inconsistencies (variable route standard and number of lanes) and on the A249 and A229, which are used as informal links between the M20 and M2. A lack of technology to inform drivers of the best routes to use, and a lack of alternative routes to and from Dover and Tilbury, can result in secondary impacts such as increased congestion, reduced air quality and greater noise for local communities.*”
- The report clearly indicates that there is concern about the capacity of A229 Blue Bell Hill and recognises that improvements are needed to ensure that the route can support the SRN in providing a resilient network.

5.4. Journey Time Reliability

- There is currently a wide variability in journey times using A229 and the LTAM cordon model journey times do not seem to provide a realistic result given the proposed increases in traffic and HGVs in particular. It is anticipated that journey times would be greater than the results given and there would also be significant journey time variability. To demonstrate this, the tables below (Tables 4 and 5) show the results for journey times predicted by the LTAM cordon model in comparison with 2023 journey times taken from Google together with the proposed traffic increase from 2019 (Table 6).

⁴ https://nationalhighways.co.uk/media/jbgh5ham/r14-kent-corridors-to-m25_acc.pdf

Table 4 - Travel times between A229 Marconi Way Gyratory (Horsted) to Invicta Park roundabout on A229 Royal Engineers Road (not using M20 J6 or M2 J3)

	2023 Car (Google data)	2023 Bus (timetable information)	LTAM 2045 With LTC
NB AM	7-12	13-14	6.9
SB AM	10-20	15	8.1
NB PM	10-18	21	7.1
SB PM	9-16	19-20	6.9

Notes:

1. Journey times given in minutes.
2. Journey distance is 5.6 miles.
2. Google data collected on 1 June 2023 for 7.45am and 5pm on a typical Wednesday.
3. Bus data provided as the route coincides with Arrive route 101 bus stop locations.

Table 5 - Travel times between M20 J7 and M2 J2 (using M20 J6 and M2 J3)

Route Description	2023 AM Typical traffic	2023 PM Typical traffic	LTAM 2045 AM			LTAM 2045 PM		
			Without LTC	With LTC	Increase in Journey Time with LTC	Without LTC	With LTC	Increase in Journey Time with LTC
From start of on slip at M20 J7 to end of off slip at M2 J2	10 - 16	12 - 24	15.2	18.3	3.0	14.5	17.6	3.2
From start of on slip at M2 J2 to end of off slip at M20 J7	12 - 24	12 - 24	16.2	18.7	2.5	17.1	20.4	3.3

Notes:

1. Journey times given in minutes.
2. Journey distance is 9.1 miles
3. Typical traffic is Google data collected on 16 June 2023 for 7.45am and 5pm on a typical Wednesday.

- Table 4 shows that all of the LTAM 2045 travel times are less than Google is currently giving as typical journey times. Table 5 shows journey times using the A229 including M20 J6 and M2 J3 generally are within current typical times. It also shows a clear indication of increase in journey times with LTC in comparison to the scenario without LTC.
- With the increased levels of traffic expected by 2045, shown in Table 6, it seems likely that travel times will increase rather than decrease (as suggested in Table 5) and are likely to be higher than suggested for Table 5.

Table 6 - Predicted increase in traffic on A229 by 2045 with LTC

		Northbound	Southbound
2019 without LTC	AM Peak	2715	3674
2045 with LTC	AM Peak	4041	4131
Increase in vehicles		+1326	+457
% increase		49%	12%
2019 without LTC	PM Peak	3897	2529
2045 with LTC	PM Peak	4731	3859
Increase in vehicles		+834	+1330
% increase		21%	52%
Notes			
1. 2019 traffic taken from DfT count site 46829 raw manual count data.			
2. 2045 data is taken from LTAM Cordon model provided to KCC			
3. AM peak is 7 – 8 AM and the PM peak 5 – 6 PM			

- Journey times on and around A229 Blue Bell Hill are significantly impacted by incidents – breakdowns, crashes, roadworks etc. Consequences of these impacts were demonstrated in Autumn/Winter 2022 when capacity of the route was constrained by two out of three northbound lanes being closed for emergency gas works which lasted for several weeks. The resulting impacts included congestion and long journey times on A229, inappropriate rat running, significant congestion leading to and on alternative routes (including the SRN) and significant driver and resident frustration. This highlights how important the A229 is as a key strategic route in Kent.

5.5. HGVs

- There are significant increases in the volumes of HGVs as a result of LTC that have been highlighted in the LIR (REP1-241) Transport Impact C which are not proportionate to the general increase in traffic. As noted in paragraph 5.3.2, increasing proportions of HGVs cause capacity reduction, increased congestion and increased instances of exit blocking at junctions. On the A229 northbound the impact on capacity is more pronounced as the HGVs negotiate the steep hill.
- The LTAM results for 2045 suggest an increase in HGVs of up to 350%. The results included in the LIR (REP1-241 paragraph 8.38) also show increased proportions of HGVs as part of the general traffic flow (the proportion of HGVs is just under double with LTC open to traffic) indicating that LTC provides a specific draw for HGV traffic onto the A229 Blue Bell Hill and the associated junctions.
- Further modelling work using KTM has provided a comparison of the difference in HGV trips between 2030 (opening year) with LTC vs 2030 without LTC in the AM and PM Peaks. As a result of LTC, there is a reduction in HGV trips going via Dartford Crossing – M25 – M20 and a mirrored increase in HGV trips going via LTC – A2/M2 and the primary switch onto the A2/M2 is between the LTC connection and M2 Junction 3 only, indicating most vehicles use A229 to switch back onto the M20 for their southbound journey to Dover. The same patterns are present in the reverse direction and therefore

there is very little increase (if any) in HGV trips along the entire length of the M2/A2 into Dover itself.

- Increasing levels of HGVs has specific impacts in addition to the congestion and capacity issues already stated. HGVs have a significant impact on the life of a road, requiring increased maintenance and earlier reconstruction. Reconstruction will also need a deeper construction make up to accommodate the additional loading.
- Lorry parking is also a significant consideration. The proposed increase in HGV traffic on Blue Bell Hill will add pressure for local lorry parking. Currently the only appropriate parking around the A229 is on old Chatham Road (on the northbound approach to the Rochester Road junction adjacent to the Lower Bell pub). There have needed to be numerous measures over the last decade to manage inappropriate parking in locations including the closed slip road (from Blue Bell Hill village) and on Old Chatham Road south of the Cossington service area. There is no HGV parking available at the services north or southbound on the A229.
- The Strategic Road Network Initial Report⁵ published by National Highways for RIS3 notes greater provision for alternative HGV parking and freight facilities for the M2 and M20 as part of its emerging region specific needs (pg38). This recognises the increasing numbers of HGVs using the routes for access to the ports.

5.6. Modelling

- It is problematic to rely on the strategic LTAM model for an accurate assessment of the A229 Blue Bell Hill junction impacts. APP-545 WNIMMP in paragraph 4.2.9 states that *“As a change in flow is not directly correlated with network performance and may not result in a noticeable change in network performance (an increase in flow if the link is operating well below capacity will not affect journey times), the volume to capacity measure was used to assess the impact of traffic flow changes on the performance of the network.”* However, the V/C measure is not an appropriate measure for assessing the impacts on junctions. The V/C provides an assessment of the link approaching the junction, but does not provide any indicator on junction operation. It can however be reasonably stated that junctions with high V/C ratios on the approaching links are likely to be congested.
- The Volume to Capacity ratio (V/C) results for 2045 referred to in the LIR (REP1-241 Transport Impact C paragraph 8.34) suggest that the already poor operation of the M20 J6 and M2 J3 will be worsened by the levels of traffic. This is also shown by the Scale of Impacts plates 7.28 to 7.30 in APP-529 Transport Assessment which shows minor, moderate and major adverse impacts to A229 Blue Bell Hill and the associated junctions as a result of the increased V/C ratios due to LTC.
- On three occasions (response to the Statutory Consultation 2018, response to the Supplementary Consultation 2020 and response to the Community Impacts Consultation 2021) KCC requested microsimulation modelling was undertaken by National Highways to ensure that the junction impacts could be properly understood. This information has not been provided to KCC

⁵ https://nationalhighways.co.uk/media/mjzibdr/cre22_0102-srn-initial-report-2025-2030_vn.pdf

6. Additional Impacts

6.1. Safety

- The A229 Blue Bell Hill is ranked as one of the worst sections of the Major Road Network (MRN) in the county for collisions. As referred to in paragraph 4.4.3, National Highways has also recognised that “*safety performance is significantly worse than SRN average for dual carriageway*”.
- The Blue Bell Hill Improvement Scheme SOBC included a detailed safety analysis of the collisions that occurred in the vicinity of the scheme during a six-year period. The report concluded that A229 safety issues are in part caused by the congestion and delay along the route. The data showed inconsistent traffic speed as one of the most common factors. The collision hot spots identified as the A229 northbound off-slip to Lord Less roundabout (M2 J3) and at the Running Horse roundabout (west side) (M20 J6) are decision points and found to be caused principally by inconsistent traffic speeds and conflicting vehicle movements leading to shunts and side-swipe type collisions.
- Running Horse Roundabout (M20 J6) has featured in the top ten crash sites in the county for a significant number of years principally due to the geometry of the west side of the roundabout.
- KCC’s LIR (REP1-241 Transport Impact D paragraph 8.40) identifies that there will be a negative impact on road safety on the A229, with APP-529 Transport Assessment plate 9.3 indicating that the existing crash hotspots will be particularly badly impacted by an increase in crashes.

6.2. Active Travel and Public Rights of Way (PROW)

- The A229 Blue Bell Hill Improvement Scheme SOBC identified Cycle Route 17 (Pilgrims Cycle Trail), the North Downs Way, and Public Footpaths MR442, MR52 and MR613 as all immediately adjacent to the A229 Blue Bell Hill as well as a signed cycle route and footway alongside Lord Lees Roundabout. These facilities are in addition to the area identified under Transport Impact C (Local Impact Report REP1-241) at M20 J6 (Running Horse Roundabout) which is identified in plate 7.42 the Transport Assessment (APP-529).
- The Transport Assessment notes the cycle route at A229 at the M20 J6 being subject to traffic severance and meeting the criteria for Stage 1 (increased traffic). APP-525 Combined Modelling and Appraisal Report, Appendix D - Distributional Impact Appraisal Report paragraph 7.10.8 notes that only roads likely to be crossed at grade were included in the assessment, which excludes all but the junctions of the A229 and as a result, there appears to have been no general consideration of the impact on PROW routes directly adjacent to roads where increasing traffic and more particularly, significant increases in HGV traffic, combined with the national speed limit on A229 and 40/50mph on M2 and M20 junctions, are likely to become a major deterrent to access and use.

- In addition to the increased unattractiveness of the routes, pedestrians and cyclists who travel along or near the A229 will be subjected to higher levels of traffic-induced air pollution and may experience safety risks.

6.3. Public Transport

- Over recent years, bus services serving local communities on A229 Blue Bell Hill have been removed because the bus companies no longer felt it was safe to stop at the bus stop on the southbound A229. The route also suffers from unreliable journey times, reducing the attractiveness of using the local buses. The additional traffic as a result of LTC will make opportunities to make bus journeys more attractive even more difficult and impact on the journey time and reliability of the existing Arriva 101 service.
- As noted in KCC's Written Representation (REP1-243 paragraph 4.33), the Arriva 101 service was not included in the bus journey time impacts, despite there being a clear impact to its route. Journey time data given in APP-529 Transport Assessment Tables 7.11 to 7.13 show increases in journey times on A229 of up to 2 mins in the AM peak and 3 mins in the PM peak. With the additional reduction in journey time reliability as a result of increased Volume to Capacity ratios that results from LTC, travel using the 101 service will become less attractive and may cause operational issues for Arriva requiring either additional buses or a reduction in the number of services provided.

6.4. Local Growth

- Local Authorities in Kent are under significant pressure to deliver additional housing and jobs. LTC impacts on the capacity of the local highway network to accommodate local growth and development without significant intervention.
- Local Plans for several authorities around Blue Bell Hill are currently in preparation or in examination. Not mitigating LTC impacts of additional traffic will pass on an over capacity highway network to the local authorities to manage as part of their plans. However, highway improvements of the size needed for Blue Bell Hill are unlikely to be possible through s106 agreements due to affordability issues and therefore, growth will be stifled and impact on the local authorities' ability to meet government targets.

7. Project Objectives

- 7.1. APP-140 Environmental Statement Chapter 2 Project Description Table 2.1 states the LTC objectives. However, the adverse impacts detailed in Transport Impact C of KCC's LIR, WR and this Impact Statement mean that LTC cannot fully meet its Transport Objectives:

- *Transport Objective – To relieve the congested Dartford Crossing and the approach roads and improve their performance by providing free-flowing north-south capacity.*

North-south capacity should include access to the M20 from LTC as it has already been identified by Government and National Highways that the M2/A2 corridor is not suitable for freight traffic. LTC does not provide a link to the M20 and without

mitigation, the A229 Blue Bell Hill will become a weak link in the LTC route to the Channel portals.

- *Transport Objective – To improve the reliance of the Thames crossings and the major road network.*

The A229 Blue Bell Hill is part of the Major Road Network and key for the transfer of traffic between the M20 and M2 corridors to allow access to/from LTC. As identified by the Applicants DCO documents, National Highways reports, KCC's LIR (REP1-241) and WR (REP1-243) and this Impact Statement, the resilience of this route will be significantly compromised by the increasing traffic, congestion and unreliable journey times. As identified in paragraph 6.1.4, incidents on the route are due to increase which will have knock-on impacts on the SRN and surrounding LRN. Mitigation to A229 Blue Bell Hill is required to ensure this objective can be met.

8. A229 Mitigation

- 8.1. The Wider Network Impacts Management and Monitoring Plan (WNIMMP) (APP-545) provides details that A229 will be monitored before and after the opening of LTC, and data will be made available to local highway authorities as evidence to inform their intervention case making. There is no commitment in the WNIMMP (APP-545) to mitigate any impacts identified, but instead puts the onus on to others to bid for funding through competitive funding streams identified in Section 6, some of which have already expired.
- 8.2. National Highways suggests that suitable mitigation for the impacts on Blue Bell is for KCC to "*develop more advanced business cases over the course of the next 10 years through existing processes*". However, there is no certainty that funding streams for a project of the size of the A229 Blue Bell Hill Improvement Scheme will be available in the future should the scheme not be delivered through the Large Local Majors (LLM) funding programme.
- 8.3. The Applicant's DCO submission, KCC's LIR (REP1-241), WR (REP1-243) and this Impact Statement all show that there is a disproportionate adverse impact to A229 Blue Bell Hill including major adverse impacts (APP-529 Transport Assessment plates 7.28 to 7.30) as a result of LTC. The impacts should be mitigated prior to LTC opening rather than waiting for a period of monitoring to be undertaken once the project is opened to traffic. Leaving mitigation of A229 until after LTC is open is not an acceptable approach when the need for intervention has already been so clearly identified.
- 8.4. The Applicant stated in Issue Specific Hearing 4 (EV-042e ISH 4 Traffic and Transportation Transcript Page 67 lines 6 – 12) that "*providing additional interventions across the regional highways network would be disproportionate and unreasonable*". There is no differentiation in this approach for the scale of the impact and all the adversely affected sections of the network are treated in the same broad-brush manner. It is clear from the Transport Assessment (APP-529) that there are varying levels of adverse impact which could and should be approached differently in terms of how they are managed.

- 8.5. National Highways have funded a KCC led Wider Networks Impact (WNI) study, but this did not cover Blue Bell Hill (other than the previously noted modelling comparison) as KCC were already progressing a scheme independently under the Large Local Majors (LLM) funding programme and this is already developed to SOBC level.
- 8.6. KCC does not agree with the National Highways LTC team that the impacts on A229 Blue Bell Hill are acceptable or that providing mitigation would be disproportionate or unreasonable. It has also been shown in this Impact Statement that other parts of National Highways have concerns about A229 Blue Bell Hill and its associated junctions which do not correspond with the LTC approach.
- 8.7. The LTC assertion that “*the benefits on the road network outweigh the adverse transport impacts, and this is reflected in the positive economic benefit of the Project within Kent*” is not helpful in the discussion around mitigating impacts on A229 Blue Bell Hill. The statement provides no reason why mitigation should not be included in the DCO and the LTC position on wider network impacts mitigation is confusing given the impact A229 Blue Bell Hill has on the successful operation of LTC.
- 8.8. There is no policy to suggest that overall benefit of a project outweighs the requirement to mitigate adverse impacts. In addition, as was raised in Issue Specific Hearing 4 by KCC, there is no policy which excludes National Highways from contributing to or fully funding mitigation measures such as A229 Blue Bell Hill Improvement Scheme.
- 8.9. A229 Blue Bell Hill Scheme has a Benefit Cost Ratio (BCR) of 2.2 which provides ‘high’ Value for Money (VfM); however, funding is yet to be secured to ensure the project can be progressed. There has been no evidence that the LTC project could not afford to contribute to improvements to the Local Road Network. As highlighted by KCC in Issue Specific Hearing 4 (EV-042e ISH 4 Traffic and Transportation Transcript Page 75 lines 24 -34 and page 76 lines 1 and 2), contribution from National Highways towards the A229 Blue Bell Hill Improvement Scheme would be a tiny fraction of the projects £5.2 - £9 billion budget, which, as stated in the Funding Statement (APP-063) is fully funded to the upper end of the range.
- 8.10. KCC has developed proposals which will mitigate the impacts of LTC as well as local growth and is clear that it is critical that the solution is delivered before LTC opens to traffic and the well-defined impacts become a reality.
- 8.11. The level of traffic already using A229 Blue Bell Hill will already make construction of the Improvement Scheme challenging, but it is proposed to be managed within the LTC programme when forecast traffic levels are likely to be lower as a result of the LTC construction impacts on the A2.
- 8.12. Construction of the A229 Improvement Scheme with higher traffic levels after LTC is open would add increased complexity to the delivery of the project (which will have cost and time impacts). It will also impact on the ability of LTC to meet its objectives as the 2-year construction programme will affect route choices and have knock-on impacts on other sections of the SRN and Local Road Network. There is also the potential for reputational risk for both KCC and National Highways in this scenario.
- 8.13. Early construction of A229 Blue Bell Hill Improvement Scheme will benefit LTC. However, success in the delivery of the Improvement Scheme relies not only on a

positive response from DfT, but also, and more critically, certainty of the match funding element. Without a positive DfT decision and the match funding, the project will not be able to go ahead as KCC are not in a position to provide any further funding for the project.

9. Concluding Comments

- 9.1. The A229 already plays a vital role in allowing interchange between the M2 and M20 and this will become even more important as new route demand from LTC will require transfer between the motorways for an increased volume of traffic.
- 9.2. The A229 is disproportionately affected by the LTC proposals. The negative impacts provided in the LIR (REP1-241 Transport Impact C), the WR (REP1-243 Transport Impact C) and this Impact Statement clearly demonstrate that mitigation measures are needed prior to the opening of LTC to accommodate the increase in traffic on A229, particularly HGVs.
- 9.3. There is no policy preventing National Highways from contributing to KCC's A229 Blue Bell Hill Improvement Scheme which will "*strengthen the network's readiness*" for the opening of the LTC and the current position is in contradiction to their needs and requirements elsewhere.
- 9.4. The Examining Authority cannot currently be certain that the impacts on A229 Blue Bell Hill will be appropriately mitigated as funding for KCC's LLM scheme is uncertain and the Wider Network Impacts Monitoring and Management Plan (APP-545) contains no commitment to mitigate any impacts identified.
- 9.5. KCC has developed an improvement scheme for the A229 Blue Bell Hill to mitigate the existing situation as exacerbated by the effects of the LTC. KCC request that:
 - A Requirement should be added to the DCO for the Applicant to carry out these works at its own expense.
 - In the alternative, the Applicant should fund KCC to carry out such works (approximately £235 million based on current programme, subject to scheme development).
 - If Government does provide the Large Local Major (LLM) scheme funding for the mitigation works, then the Applicant should provide the 15% match funding (approximately £35 million based on current programme, subject to scheme development) towards those works.