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2ND APRIL 2020

Dear Sir/Madam,

Lower Thames Crossing Development Consent Order Supplementary Consultation 2020

Response from Kent County Council

This is Kent County Council's (KCC) officer response to the supplementary consultation by Highways England on the latest proposals for a new Lower Thames Crossing.

For many years, KCC has made the case for the urgent need for a new Lower Thames Crossing (LTC) that will cater for current and future demands as well as relieving the significant, daily congestion experienced at Dartford and providing greater connectivity north and south of the Thames Estuary to boost both local and national economic productivity. KCC therefore welcomes the proposed LTC and the investment in additional road capacity that will unlock new opportunities for Kent, the South East and the wider UK.

However, as we have said many times previously, it must be understood that the LTC is only the first section of a new strategic route from Dover to the Midlands and the North which is desperately needed, given the anticipated growth in cross-channel traffic forecast at the Channel ports and the significant level of planned housing and economic growth in Kent over the coming years.

A phased programme of wider network improvements delivered alongside the new LTC is vital to ensuring the success of the new Crossing. This includes the need for enhancements to the links between the M2/A2 and M20/A20 via the A229 and A249, and along the M2/A2 corridor, including dualling of the A2 from Lydden to Dover and improvements to M2 Junction 7 (Brenley Corner). All of these improvements are outlined as key strategic transport priorities within KCC's Local Transport Plan 4.

The traffic modelling shows that the wider network to the east of the new LTC, both local and strategic, will be put under increased pressure as a result of the new Crossing. Unless these roads and junctions receive capacity upgrades to relieve existing congestion and background growth, the induced and transferred traffic

resulting from the LTC will constrain economic growth in the county. As a result, Highways England must develop the necessary wider network improvements in the next Road Investment Strategy (RIS) period (RIS2 - 2020-25) ready for delivery in RIS 3 (2025-30), as recently announced by the Department for Transport (DfT) for A2 Brenley Corner and A2 Dover Access as RIS 3 pipeline schemes. However, other essential wider network improvements, including the A229 connection from the M2 at Junction 3 to the M20 at Junction 6, originally part of the DfT's Option C 'variant' for the LTC, have no commitment for development in RIS2 or RIS3. This is wholly unacceptable and must be reconsidered by DfT and Highways England. KCC is currently working up a bid for some local road improvements to the A229 to be delivered through the Major Road Network (MRN) and Large Local Major (LLM) scheme programmes, therefore it is essential that Highways England assist KCC in making the case to Government for this funding.

It is imperative wider network improvements are delivered alongside the new crossing to also minimise the impact on more local roads such as the A226, A227 and the A228. Use of these routes by strategic traffic 'rat' running should be prohibited as much as possible in order to limit the adverse impacts on local communities. Consideration should also be given to the impact six years of construction will have on Kent's local roads, not only by construction vehicles but also by other traffic using unsuitable local roads to avoid roadworks.

The challenge of balancing the pressure of growth against the impacts on our environment and health is now more important than ever before. Road transport emissions are a significant source of both carbon emissions and the main cause for poor air quality across Kent and Medway. Whilst KCC remains supportive of the Lower Thames Crossing, it is imperative that a road building scheme of this size does not disbenefit the efforts of local authorities and central government to improve air quality and achieve net-zero carbon. KCC fully encourages Highways England to maximise the opportunities from this scheme, not only to reduce congestion but to also encourage the transition to ultra-low emission vehicles. Essential to this is to have infrastructure that is fit for the future in terms of electric vehicle charging and suitable walking, cycling and public transport provision as part of the scheme.

In terms of the design changes currently being consulted on, KCC is in support of the extension of the tunnel portal 350m further south, the wider green bridge at Thong Lane, and a direct connection for local residents from Gravesend East onto the A2/M2 eastbound.

However, KCC strongly objects to the proposed utilities diversions due to the environmental impact this will have on Shorne Woods Country Park and the surrounding area's other ancient woodlands and Sites of Special Scientific Interest (SSSI) which contain species of international importance. We insist that Highways England work with us over the coming months, and prior to the submission of the Development Consent Order (DCO), in developing alternative proposals for the utilities diversions in order to limit the impact on this environmentally sensitive area.

We also have concerns regarding the removal of a rest and service area. Inappropriate lorry parking is already a significant issue in Kent and the complete omission of any rest and service facilities will only further exacerbate the issue. Inappropriate parking is not only a nuisance but can often result in antisocial

behaviour. Therefore, along with urging Highways England to reconsider the inclusion of a rest and service area, we would also insist government provides Highways England and KCC with the necessary enforcement powers to tackle cases of inappropriate lorry parking that will increase as a result of the new crossing.

Whilst we remain supportive of the project, the attached response to the consultation questionnaire sets out KCC's concerns on several issues arising from the proposed Crossing, including the impact on the local area in terms of both environmental and traffic impacts, and highlights the need for appropriate mitigation measures and equitable compensation for those properties and businesses affected.

Yours sincerely

Barbara Cooper

Corporate Director for Growth, Environment & Transport

Kent County Council's Response to the Lower Thames Crossing Supplementary Consultation Questionnaire

1. Changes to the route

South of the river in Kent

Q1a. Do you support or oppose the proposed changes south of the river? Please refer to chapter 3 of the guide.

Strongly support

Support

Neutral

Oppose

Strongly oppose

Don't know

Q1b. Please let us know the reasons for your response to Q1a and any other comments you have on the proposed changes south of the river.

Widening of the A2/M2 carriageway

In response to the 2018 statutory consultation, Kent County Council (KCC) raised concerns regarding the potential significant impact on Shorne Woods Country Park from widening the A2 from M2 Junction 1 to the junction with the Lower Thames Crossing (LTC). Any impact on the Country Park would be unacceptable so we are pleased the widening of the A2 as far as M2 Junction 1 has been possible within the existing highway boundary and utilising the central reservation. KCC also welcomes the slip roads being aligned to reduce the overall footprint of the scheme.

However, KCC would urge Highways England to reassess the traffic model to determine the impact of reducing the A2/M2 eastbound carriageway from four to two lanes from the Gravesend East junction to just past the LTC junction (and to a lesser extent the westbound carriageway which is reduced from four lanes to three). This part of the network is heavily used during peak hours and already suffers congestion with four lanes. Reducing the number of lanes could potentially cause gridlock for both users of the LTC and M2/A2 corridor.

New connection providing local access from Valley Drive in Gravesend on to the A2 eastbound where LTC joins

Previous proposals for the Gravesend East junction removed direct access to the A2/M2 eastbound and the suggested connection was convoluted and posed a significant impact in terms of additional traffic on Henhurst Road and the proposed new roundabouts on the new link road. KCC had previously asked Highways England to review reinstating this link and the County Council is pleased this has been possible and welcomes the provision of a direct connection from Valley Drive to the A2/M2 eastbound within the latest proposals. This enables local residents to not only benefit from the new LTC route but maintain their existing community connections with less pressure on the local road network.

However, it is disappointing that the Gravesend East junction does not have direct access to the A289/A2(Strood) and Brewers Road junction does not have direct access to the M2 eastbound. We acknowledge that such a link would require a departure from standards given the close proximity of the junctions on this section of the A2; however, the previously proposed design included a link between the connector road and the M2 eastbound, just before M2 Junction 1. KCC would urge Highways England to review the possibility of connecting the link road from Valley Drive (Gravesend East) to the LTC slip road to the A2/A289 (instead of the M2), and to retain the previously-planned link from the A2/A289 eastbound to the M2 at Junction 1. This would provide direct connectivity to both the A2/A289 eastbound and the M2 for traffic from Valley Drive (Gravesend East) and from the Brewers Road junction.

Modifying the Gravesend East junction, Henhurst Road roundabout and local link roads to reduce congestion

KCC previously had concerns regarding the local junction arrangement which displayed a tight bend when exiting the parallel connector roads travelling westbound to access the Gravesend East junction. The tight radius of the bend posed a safety risk, further exacerbated during peak times when congestion occurs. KCC welcomes the modification of the proposed local junction arrangement to remove the tight bend within the design.

Extension of the southern tunnel entrance

KCC has continued to make the case for the tunnel portal to be as close to the LTC/A2 as technically feasible. The extension of the tunnel portal another 350m further south is very much welcomed as not only does this help to reduce any adverse impact on the Thames Estuary and Marshes Ramsar site, but also on the village of Chalk. Extension of the tunnel portal has also allowed for the removal of the high level bridge which was originally proposed to maintain the

Public Right of Way (PRoW). This has allowed for the route to be diverted around the tunnel portal and remove any safety concerns associated with the high level bridge.

KCC had asked Highways England to review the possibility of covering the section of route closest to urban Gravesend at Riverview Park in order to minimise severance, noise and visual impact for those residents as well as providing greater opportunity for environmental mitigation. Although we recognise this section of the route is in deep cutting at this point, and the Thong Lane Green Bridge has been widened, it is disappointing that providing additional areas of 'cut and cover' does not seem to have been considered as part of the latest proposals.

Thong Lane Green Bridge

In response to the 2018 consultation, KCC asked for the width of the Thong Lane green bridge to be widened by 10 to 100 metres on either side to help reduce the impact of the road on local communities. KCC welcomes the widening of the green bridge from 60 metres to 84 metres with a segregated route for walkers, cyclists and horse riders, but would ask Highways England to assess the possibility of widening the bridge even more to provide further mitigation to the residential areas of Thong and Riverview Park.

Heritage

The changes to the route provide some potential reductions in impacts to the historic environment (e.g. moving the tunnel and cutting further south from known archaeological cropmarks south of the A226, greater distance from St Mary's Church at Chalk etc.) but they create some new or additional impacts (e.g. the tunnel portal would lie over the former RAF Gravesend perimeter track). The potential for impacts to heritage assets does not appear to have been considered in detail at this stage, in part it is assumed because the desk-based assessment and surveys, such as the detailed evaluation trenching, have not yet been undertaken or completed. Our comments on issues of potential new impacts that would result directly from the route changes are listed in the notes below under the section on Environmental Impacts.

Southern Portal Substation

Sheet 6 of the general arrangement plans proposes two potential locations for a substation for the southern tunnel portal. KCC would ask Highways England for the location of a substation to be as far away as possible from residential

areas and to consider screening of the substation either by landscaping or trees to mitigate the visual impact on the environment.

Previously proposed Tilbury junction

Q1c. Do you support or oppose the removal of a dedicated rest and service area and maintenance depot for the Lower Thames Crossing, the junction at Tilbury and changes that result from this? Please refer to chapter 3 of the guide.

Strongly support

Support

Neutral

Oppose

Strongly oppose

Don't know

Q1d. Please let us know the reasons for your response to Q1c and any other comments you have on the removal of a dedicated rest and service area and maintenance depot for the Lower Thames Crossing, the junction at Tilbury and the changes that result from this.

Removal of the rest and service area

KCC has previously expressed its full support for the inclusion of a Rest and Service Area (RSA) as part of the Lower Thames Crossing. HGV drivers are required by law to take both daily driving breaks and overnight rests and the proposed facilities would allow them to take these mandated breaks whilst providing adequate welfare facilities. Likewise, it is recommended that all other drivers take regular rest breaks to reduce fatigue and therefore reduce the likelihood of an incident or collision.

Looking specifically at lorry facilities, there is a severe shortfall of official lorry parking spaces across the country with an even greater need in Essex, Thurrock and Kent. The lack of adequate lorry parking facilities leads to inappropriate and in some cases dangerous parking. KCC has undertaken overnight parking surveys in 2017 and 2018 within Kent which have found over 900 HGVs parked on-highway and in inappropriate locations each night. The negative impacts of this

parking are lorry related crime/thefts, road safety, damage to roads, kerbs and verges, environmental health issues (including human waste), litter and noise disturbances, especially when close to residential areas.

The DfT quantified the need for overnight lorry parking nationally by commissioning AECOM in 2018 to undertake the 'National Survey of Lorry Parking'. This report concluded that the South East region had the greatest demand for overnight parking spaces. Further to this, KCC has undertaken work to quantify the demand for overnight lorry parking in the county. On the M2/A2 corridor, this work found that there is a current excess demand for 400 spaces, and a further 180 spaces along the M20/A20 corridor.

KCC is therefore very disappointed with the proposal to completely omit the provision of an RSA as part of the scheme. Inappropriate HGV parking is already an issue along this section of the A2, with Thong Lane, Henhurst Road and other local roads being at further risk of inappropriate parking as a result of the scheme. There needs to be a clear strategy for dealing with unwanted HGV parking including both legislation and physical restrictions or there will be a legacy of anti-social behaviour and parking.

The County Council would urge Highways England to review possible locations for an RSA within the scheme to accommodate the increased demand for HGV parking as a result of the new road. As outlined within our response to the 2018 consultation, additional lorry parking capacity is desperately needed in this locality both north and south of the river and is not currently being delivered to the required level by the private sector. The LTC scheme provides a great opportunity to bring forward the provision of overnight lorry parking for long-distance drivers as part of a larger service area that is self-contained, located away from residential areas and directly accessed from the strategic road network.

Furthermore, KCC encourages Highways England to maximise opportunities from the Lower Thames Crossing, and use innovative ways to achieve environmental benefits alongside delivering a vital piece of transport infrastructure. Road transport emissions are the main cause for poor air quality across both Kent and Medway. The Lower Thames Crossing should not only attempt to improve air quality by reducing congestion at the existing Dartford crossing, but also encourage the transition to ultra-low emission vehicles. A rest and service area provides this opportunity if fast electric charging stations are provided within the facility. This would also help to contribute towards achieving net-zero carbon (assuming electricity is generated from renewable sources).

Removal of Tilbury junction

Similarly, KCC had previously supported the Tilbury junction and is disappointed by the removal of the junction within the latest proposals. As per our response to the 2018 statutory consultation, local connections are vital to ensure that the forecast economic and regeneration benefits are experienced in Kent, Thurrock and Essex. One of the scheme objectives is “to support sustainable local development and regional economic growth in the medium to long term.” In 2010, KCC commissioned consultants from KPMG to produce a high-level assessment of the economic benefits of a new crossing, based on an opening year of 2021. This showed that a new crossing (in the location chosen) could potentially contribute £12.7 billion to the local economy, mainly through job creation.

The new crossing and road between the A2 and M25 will also provide a new strategic link between the Channel Ports and the Midlands and North. This will improve journey times and reliability, as well as reducing operating costs for the logistics sector. These improvements will make Essex, Thurrock and Kent more attractive places to do business, but these benefits can only be realised by the inclusion of local connections (both north and south of the crossing). A significant economic opportunity is being missed by these important local connections not being provided. KCC would urge Highways England to review the inclusion of the Tilbury junction and the added economic and social benefits that could be realised if this junction is included as part of the scheme.

The removal of the Tilbury junction also means that there are no turnaround facilities for drivers who have crossed the river by mistake from Kent into Thurrock. Leaving the LTC at the A13 junction requires a long diversion (see response to the next question) to get back onto the LTC southbound and return to Kent if the LTC was taken by mistake from the A2 – a high probability given the complex nature of the new junction.

A13/A1089 junction

Q1e. Do you support or oppose the proposed changes in the area around the A13/A1089 junction? Please refer to chapter 3 of the guide.

Strongly support

Support

Neutral

Oppose

Strongly oppose

Don't know

Q1f. Please let us know the reasons for your response to Q1e and any other comments you have on the proposed changes in the area around the A13/A1089 junction.

For the details of junctions and structures proposed north of the river, we defer to the views of those Local Authorities directly affected and who may adopt such new infrastructure. However, KCC made a number of general comments about these connections as part of our response to the 2018 consultation and would like to reiterate these comments.

The new crossing will attract traffic between Kent, the Channel Ports and East Anglia. Therefore, the connection from the south with the A13 eastbound is vital to support these flows and divert traffic from the existing Dartford crossing. The connection from the north will provide some resilience for the A127. However, the junction is not an all movements junction, with notable omissions being the ability to join the A13 westbound from either direction on the LTC. There is also not the option to leave the LTC to use the A1089. Together, and with no proposed Tilbury junction, this leaves Thurrock residents with the ability to join LTC but not to leave it and similarly restricts movements from Kent into Thurrock.

Whilst we acknowledge these movements could be catered for by joining the A13 eastbound and using the Manorway Roundabout (either leaving there to join the A1013 or turning back westbound on the A13), this is not providing an efficient local connection to achieve the economic benefits that have been forecast. This also places increasing

pressure on the Manorway roundabout for both local and strategic traffic, as traffic for the Port of Tilbury will be forced to make this U-turn manoeuvre.

KCC also has concerns for motorists who take the LTC by mistake. Removing the Tilbury junction and the limited movements available at the A13/A1089 junction means those travelling from Kent and accidentally take the LTC have to continue up to the A13 junction and use the Manorway roundabout to turn around and travel back using the LTC, a diversion in excess of 20 miles.

Lower Thames Crossing and its junction with the M25

Q1g. Do you support or oppose the proposed changes in the area around the Lower Thames Crossing and its junction with the M25? Please refer to chapter 3 of the guide.

Strongly support

Support

Neutral

Oppose

Strongly oppose

Don't know

Q1h. Please let us know the reasons for your response to Q1g and any other comments on the proposed changes in the area around the Lower Thames Crossing and its junction with the M25.

The local authorities in this area are best placed to assess the impacts of the proposed junction between the Lower Thames Crossing and the M25. KCC would defer to their opinions on this occasion.

M25 junction 29

Q1i. Do you support or oppose the proposed changes in the area around the M25 junction 29? Please refer to chapter 3 of the guide.

Strongly support

Support

Neutral

Oppose

Strongly oppose

Don't know

Q1j. Please let us know the reasons for your response to Q1i and any other comments on the proposed changes in the area around the M25 junction 29.

The local authorities in this area are best placed to assess the impacts of the proposed changes in the area around the M25 junction 29. KCC would defer to their opinions on this occasion.

2. Revised development boundary

Q2a. Do you support or oppose the changes to the proposed area of land that would be required to build the Lower Thames Crossing?

Strongly support

Support

Neutral

Oppose

Strongly oppose

Don't know

Q2b. Please let us know the reasons for your response to Q2a and any other comments you have on the proposed changes to land that would be required to build the Lower Thames Crossing. This includes feedback on the impact the project would have on any land that you own or have another legal interest in.

Heritage

The revised development boundary increases the extent of the impact of the scheme on the historic environment and the number of heritage assets that require detailed assessment and evaluation, and for which detailed mitigation strategies will need to be agreed. This means that there are known heritage assets which will need to be considered and there is an increased area which requires appropriate assessment and evaluation for presently unidentified heritage assets, particularly those with archaeological interest, both below ground and as standing earthworks and structures. The evaluation trial trenching Written Schemes of Investigation (WSI) being prepared for LTC by Oxford Cotswold Archaeology (JV) are set to the revised development boundary and at the time of writing three WSIs for areas T, U and V, south of the A226 have been agreed with KCC Heritage Conservation. The results of the trial trenching along with data from assessments and other surveys (e.g. for military heritage, geophysics, field walking, metal detecting etc.) are needed to inform the detailed design and construction methodology and to allow detailed mitigation strategies to be agreed. This information is not available to us at this stage to inform our comments on the proposals put before us in this Supplementary Consultation.

There are number of buildings which are proposed for demolition (north Thong and adjacent to the M2/A2) which will require appropriate assessment of their significance and in the case of Thong, the relationship to the Thong Conservation Area. The Homes for Heroes within Thong Conservation Area form a distinct group and the scheme should be designed to enable preservation of the group and its setting. Detailed mitigation will need to be agreed.

Impact on Property

The development boundary must minimise the number of buildings affected, both partially, and those requiring full demolition. This applies to both residential and business property/land as there are several long-established businesses which will either be forced to relocate or will likely be put out of business if the nature of the businesses is location specific. This effect is likely to apply even if premises are only affected temporarily during the construction phase as businesses may no longer be viable with years of disruption. Where impact on property is unavoidable, a generous compensation package for property and landowners should be offered. As stated in KCC's response to the previous

statutory consultation, it is essential that affected property owners, including those outside of the development boundary who have already been blighted by the proposal, are fully compensated for the loss of property value and inability to now sell if they need or want to move. KCC would ask for enhanced payments to be agreed now so that unnecessary distress can be eased. This proposal has already caused considerable distress in the local community and there needs to be an open dialogue with those affected, both within the development boundary and those in close proximity to it.

A2 Corridor

The development boundary around the section of the A2 that is required for utilities diversions to enable the widening of the A2 from M2 Junction 1 to the Lower Thames Crossing (LTC) junction requires temporary possession of land but permanent acquisition of rights north and south of the existing A2 boundary. KCC is strongly opposed to the land required for the diversion of utilities encroaching the boundary of Shorne Woods Country Park, Brewers Wood (which includes tree species of international importance), Ashenbank Wood and other areas of ancient woodland adjacent to the A2. KCC has previously stated in response to the statutory consultation that the temporary use of this land for the construction of the road widening or for the diversion of utilities must not involve the destruction of any woodland as this area is protected as a Site of Special Scientific Interest (SSSI) and is within the Kent Downs Area of Outstanding Natural Beauty (AONB). The loss of any woodland in this area, temporarily or otherwise, is unacceptable to KCC. The County Council would urge Highways England to utilise National Planning Policy Framework (NPPF) guidance on ancient woodlands to assess, appropriately mitigate and fully compensate the environmental impacts.

Shorne Woods Country Park is owned by KCC, therefore any loss of ancient woodland, severance of footpaths, cycleways and bridleway trails, and negative impact on access to the park will have a material effect on a KCC asset and an impact on its revenue stream. We will therefore be seeking financial compensation in addition to environmental mitigation and compensation.

The revised development boundary now also includes a long strip of land to the north of the A2 extending from the LTC junction to the 'Gravesend Central' junction running along the alignment of the old A2 through what is now the Cyclopark. Although this is only temporary, the acquisition of rights is permanent. Significant investment has gone into the Cyclopark and it is an important leisure amenity and a lasting legacy benefit of the previous A2 widening/relocation around 10 to 15 years ago. The acquisition of rights over this land for utilities diversion must not adversely impact this park, and KCC would ask for enhancements to the existing facility or appropriate compensation to be given to ensure this facility remains.

LTC/A2 Junction

The development boundary around the LTC/A2 junction has expanded significantly requiring a lot of land take to the south of the A2 for the diversion of utilities. The amount of land take within Ashenbank Woods SSSI is unacceptable, especially the land which requires permanent acquisition of rights as this will have a significant impact on this environmentally protected area and is wholly unacceptable to KCC.

Temporary use of land and permanent acquisition of rights over land for the diversion of utilities also impacts on ancient woodland within Claylane Wood. The loss of ancient woodland must be minimised but if this is unavoidable, habitat compensation must be provided.

A2/Gravesend East Junction

Around the existing A2 junction (Gravesend East) a lot of land for temporary use is required which includes local highways. As Local Highway Authority, KCC expects these roads to be made suitable by Highways England for its construction traffic to access the construction site and the main construction compound accessed from Valley Drive. This construction compound is on the site of the former HGV park and surrounding land. Given the severe shortage of lorry parking facilities in this area, likely to worsen once the LTC is open, an ideal legacy benefit would be the provision of an enhanced lorry park at this, or a more suitable location in the vicinity. A much larger construction compound to the north-east of the proposed LTC junction for temporary use extends as far as the village of Thong. This needs to be reduced to minimise the construction impacts on Thong. Where this is not possible, appropriate screening must be put in place to reduce visual, noise and dust pollution.

Thong Lane

Environmental mitigation around the residential areas of Thong and Riverview Park is welcomed provided that it is appropriate to the character of the landscape.

A226

Temporary possession of the A226, presumably for construction traffic, must be done in liaison with KCC Highways and must include measures to mitigate the adverse impact on local traffic and residential properties, especially in terms of noise and dust, as well the increased wear on the road surface.

Tunnel Portal

The development boundary around the tunnel portal extends across a huge area, some of which is for environmental mitigation, but a significant area is for use as a construction compound and will be permanently acquired. It is essential that the land required for construction is minimised to reduce the impact on St Mary's Church and other properties along the A226 in Chalk. Where this is not possible, appropriate screening must be put in place to reduce visual, noise and dust pollution.

Permanent acquisition of land for environmental mitigation also comes with loss of the Southern Valley Golf Club, and while this is unavoidable for the route and environmental mitigation around the new road is welcomed, the loss of leisure amenities should also be compensated with new facilities provided nearby. Likewise, where community assets/facilities are affected then suitable compensation should be arranged to offset the impact. The addition of a new park, Chalk Park, is welcomed, provided that it is in keeping with the landscape and environmental characteristics of the area and developed in partnership with the local community, KCC, Gravesham Borough Council, and Parish Councils. Depending upon who is deemed responsible for the future ownership and maintenance of the Park, it is expected an appropriate financial dowry is provided to ensure local authorities are not burdened with the cost of maintaining a new large park.

General

Overall, land included within the development line boundary for temporary use must be returned to its original use after construction or to an enhanced state so long as it is in keeping with the character of the landscape. There is an opportunity for legacy benefits in terms of improved Public Rights of Way (PRoW) and 'green corridors' to connect urban Gravesend and the surrounding villages to Shorne Woods Country Park, other woodlands and green space, thus enhancing the amenity value of the area. KCC is happy to work with Highways England and Gravesham Borough Council to plan lasting legacy benefits with and for the community.

3. Walkers, cyclists and horse riders

Q3a. Do you support or oppose our proposals for walkers, cyclists and horse riders?

Strongly support

Support

Neutral

Oppose

Strongly oppose

Don't know

Q3b. Please let us know the reasons for your response to Q3a and any other comments you have on our proposals for walkers, cyclists and horse riders.

The Public Rights of Way (PRoW) network provides significant opportunities for outdoor recreation and active travel across the region. It is therefore imperative that the Lower Thames Crossing (LTC) does not deter use of these paths through noise, air quality, drainage or landscape impacts. Where modifications to existing path alignments are required to enable the development to proceed, appropriate diversion routes should be discussed with KCC's PRoW and Access service in advance and processed using the relevant legislative procedures.

Assessing impacts on the PRoW network

In order to monitor path use before, during and after the construction phase of the project, it is requested that people counters are installed on PRoWs at key gateway locations as soon as possible. Data obtained from these counters can be used to monitor existing path use, influence the design of the LTC and assess the long-term impacts of the project. It is recommended that electronic people counter sensors are installed (instead of manual surveys), as these will be able to operate 24 hours a day and capture sporadic path users.

The impacts of the project on quiet rural lanes remain a concern, during both the construction and operational phase of the LTC project. These roads provide useful connections for pedestrians, equestrians and cyclists travelling between PRoW routes. The project could potentially deter public use of the PRoW network if these road links are designated as haulage routes or for vehicular traffic, substantially increasing vehicular traffic along the lanes as a consequence of the LTC. Highways England should therefore clarify the measures that will be taken to minimise these impacts.

Changes to the PRow Network

The latest proposals for the LTC would have a significant impact on the existing PRow network, with Public Footpaths NG7, NG8, NS169, NS167 and NS367 directly obstructed by the new road layout. On a positive note, our previous comments appear to have been taken into consideration by Highways England, who have proposed diversions and the creation of new path links. These proposals should help to retain network connectivity and minimise disruption for path users.

The proposal maps highlight changes to the existing PRow network and the creation of new recreational routes, but the plans do not distinguish between those routes that are being diverted, and those that are being created. For clarity, it is requested that a separate PRow plan is submitted, which clearly identifies the diverted PRow and the new routes that are being proposed. This revised plan should also confirm the status and classification of each route.

It is requested that existing PRow within the application site, proposed diversion routes and new path links are dedicated as Public Bridleways. This classification would enable walkers, cyclists and horse-riders to use the paths, creating extensive opportunities for outdoor recreation and active travel. Consideration will also need to be given to the upgrading of routes abutting the application site boundary, to ensure onward connectivity.

The proposals include upgrades to existing paths, but it is not clear what these improvements will entail. Enhancements to these routes are likely to be welcomed and supported, though further details and clarification of the works are required to ensure the most appropriate enhancements are chosen. It should be expected that appropriate and durable surfacing treatments are applied to PRow across the site. The design of these paths will need to be agreed with the KCC PRow and Access Service in due course.

It is understood that NCR177 will be diverted along the southern side of the A2, with the plans showing a diverted PRow passing along this alignment. This proposal may help maintain east-west connectivity for Non-Motorised Users (NMUs), but the 'PRow diversion' route appears to be dissected by new roads, which would introduce safety concerns for path users.

The introduction of at-grade road crossings for NMUs should be avoided, as these could introduce safety issues for NMUs and deter public use of the route, which would have serious implications for connectivity. If this is not possible, an

assessment of each road crossing should be made to determine the type of infrastructure that is required to assist users crossing the carriageway. Revised plans should then be submitted, which include safe and secure road crossing facilities for NMUs.

Recreational routes around the tunnel entrance are proposed and cycle route NCR 177 would be re-routed. These would appear to all be within the revised development boundary and detailed mitigation will need to be agreed following appropriate assessment and evaluation. There are opportunities for information/apps etc. to inform the public about the heritage of the area and a strategy for future information should be considered at this early stage.

Green Bridges

The proposals include green bridges for walkers, cyclists and horse riders, with existing structures being widened to improve access for NMUs. While these proposals are welcomed, the design and layout of these new bridges is not clear at this stage. It is requested that Highways England confirms access arrangements across these bridges, with NMU routes segregated from vehicular traffic.

Chalk Park

The latest proposals include the creation of a chalk park by the southern tunnel entrance. This proposed chalk park may provide new opportunities for outdoor recreation and improve PRoW network connectivity, but details are lacking at this stage. It is requested that further details of the proposed chalk park are provided, so that the impacts on the PRoW network can be fully assessed.

The proposed Chalk Park (which as proposed would include significant landscaping using excavated material) needs to be assessed in detail for its potential impacts on the historic environment. These impacts will range from individual areas of below-ground archaeological remains (about which we will know more after the trial trenching is reported) to a wider consideration of the historic landscape and the setting of designated and un-designated heritage assets. The scope for meaningful preservation in situ of significant below ground archaeological remains in the area south of the A226 should be a factor in the design of Chalk Park as well as for decision-making about the location of features such as sub-stations for the tunnel. The design of Chalk Park should be informed by a detailed consideration of the evolution of the surrounding landscape, information for which will need to be set out in the desk-based assessment and Environmental Statement.

Temporary PRow closures

It is understood that PRow will be affected during the construction phase of the LTC. It is requested that Highways England discuss these plans with the PRow & Access service at an early stage of the planning process, to ensure that disruption for path users is kept to a minimum. The applicant is reminded that efforts should be made to minimise path closures and retain popular routes during the project. Where temporary closures are required, convenient diversion routes should be provided to reduce disruption to path users. Robust information boards and digital communications plan explaining temporary access restrictions should be considered for paths that will be closed for long periods.

Summary of Section 3

The LTC project could have a significant impact on the PRow network and cause disruption to a high number of path users, but with careful planning and appropriate mitigation, it is hoped that any negative impacts can be identified early and addressed.

The latest plans have acknowledged the existence of the PRow network, identified potential impacts and considered appropriate mitigation works that may be required to retain connectivity. While these initial efforts are appreciated, the PRow & Access service requests further engagement with Highways England to decide how PRow will be integrated within the LTC site and consider NMU access improvements that could be delivered through the project, to enhance the legacy of the LTC.

Comments are made in reference to the following planning policy;

- National Planning Policy Framework, Paragraph 98.
- States that planning policies and decisions should protect and enhance public rights of way and access, including taking opportunities to provide better facilities for users, for example by adding links to existing rights of way networks including National Trails.
- National Policy Statement for National Networks (NPSNN).
- DEFRA Rights of Way Circular (1/09).
-

Environmental impacts and how we plan to reduce them

Q4a. Do you support or oppose the change to the environmental impacts of the Lower Thames Crossing?

Strongly support

Support

Neutral

Oppose

Strongly oppose

Don't know

Q4b. Please let us know the reasons for your response to Q4a and any other comments you have on the environmental impacts of the changes to the Lower Thames Crossing.

The information provided within the Environmental Update is very limited and provides no detail of any updated surveys to assess the impact (particularly within the utilities area). The document also fails to outline the proposed mitigation and compensation. As the utilities area is within the SSSI/Ancient Woodland we only refer to compensation as the loss of Ancient Woodland cannot be mitigated. KCC is frustrated by the lack of information provided as this does not allow stakeholders the opportunity to fully assess and comment on the proposed impacts and mitigation measures.

Heritage

There is insufficient technical detail at this stage to allow detailed comments to be made about the environmental impacts that would result from the proposed changes. KCC's focus has therefore been to reiterate the need for appropriate assessment and evaluation to inform design and mitigation strategies and to raise awareness of potentially significant aspects of the historic environment that now come within the revised development boundary or would be subject to potential impacts as a result of the changes that have been made to the scheme since the Statutory Consultation phase. See Appendix 1 and 2 for detailed comments.

Drainage

In regard to drainage, KCC as the Lead Local Flood Authority has concerns about the lack of information in relation to the change in the tunnel portal location. Movement of the southern portal further south, though it removes issues in

relation to ground water intrusion, may need additional consideration of surface water drainage discharge. Information has previously been provided relating to the sizing and location of ponds for surface water management yet there has been no indication as to what the surface water management proposals are now that the tunnel portal has been moved further south.

It is presumed that drainage from the changes proposed to the road network, carriageway and other highway associated surfaces will be managed by similar methods and assumed for the previous planned routes. This will be assessed for each location with consideration of local drainage assets, capacities and any existing local flood risk which may need to be resolved.

Section 5 of the Lower Thames Crossing Environmental Impacts Update 2020 includes a discussion of the environmental impacts avoided and does not address the surface water drainage and water quality mitigation which will be required to manage water pumped to the surface from the tunnel. Indicative photos of the portal entrance indicate a proposal for a series of cascaded surface water ponds; however, KCC is not able to provide any comments in relation to the impact of these proposed changes as no information has been provided for consultation.

Chalk Park

The report details that the proposed creation of the chalk park may have a beneficial effect. KCC does not disagree with this conclusion in theory but it would ultimately depend on how the park will be created and managed in the long term. This is not clearly demonstrated throughout the consultation material. Furthermore, KCC would also suggest the best way to demonstrate if the proposal will have a benefit is to use the [Net Gain Metric](#)

Shorne Woods Country Park Mitigation Options

Soundproof fencing and environmental bund

The 2018 statutory consultation proposed an area of soundproof fencing and environmental bund which ran from the Inn on the Lake to Brewers Road bridge. This was originally referenced in the 2018 design plans but it is not clear within the latest drawings whether the proposed mitigation remains. Shorne Woods Country Park (SWCP) Outdoor Education Centre is immediately adjacent to this area and the utilities work is likely to mean there is no possibility of replanting which could act as a sound barrier. If there is no barrier it is likely the Outdoor Education Centre will be negatively

impacted and have to be relocated to another area of the park, requiring permission from Natural England for another area of the park to be designated.

Connecting areas

There is scope to use the proposed utility route as a linking path from Great Crabbles Wood, into the proposed receptor site for ancient woodland mitigation in the Area of Outstanding Natural Beauty (AONB) then along the foot of Puckle Hill to meet up with the existing shared user route at the bottom of Brewers Wood. This will take all non-motorised traffic off Park Pale, making a much safer connecting route.

There is opportunity at the Thong Lane pedestrian crossing where the footpath meets the road to add a small permissive link path into Shorne Woods on the opposite side of the crossing. This would connect to the park's existing shared user route and Darnley Trail (a 10km route linking SWCP, Jeskyns, Ashenbank, Cobham Woods and Ranscombe), and so connect all the LTC mitigation woodlands to Shorne Woods for little additional cost. It would improve connectivity of the PROW and internal permissive network of paths inside the park.

There is also potential with the habitat mitigation areas to create footpaths linking into the Country Park, a shared user route that connects with Shorne-Ifield Road to provide better connectivity to Higham and Shorne for multiple users.

Habitat enhancement and connectivity

With the habitat mitigation areas immediately adjacent to the woodland at Shorne and Brummel Hill Wood, which is all part of the Shorne and Ashenbank SSSI, it is important that any mitigation extends this habitat. It is a mixed habitat of high forest, wood pasture and coppice so it is important that a woodland ride (up to 30m wide with dormouse corridors every 100m) ideally on an East-West orientation and glade system (minimum 0.25ha) are integrated with grassland seeding with interspaced open planted trees alongside the denser woodland areas. This can double up as footpaths ideally with a 5m wide hard standing as the centre of the ride that acts as the hotspot for wildlife and is open at all times. This can be integrated with the 4km existing network within the country park to create excellent wildlife connectivity across to the new Chalk Park area and Clay Lane Woods. The rides could then be extended down Brewers Wood to meet the connecting utility route that then leads up to the ancient woodland mitigation area by Great Crabbles Wood.

Green Bridges

The inclusion of an 85-meter-wide green bridge across the LTC is a valuable asset. It would be ideal to have the Brewers Road and Thong Lane bridges with a wildlife corridor of at least 20 metres to incorporate dormouse corridors alongside the grass verges.

4. Building the Lower Thames Crossing

Q5a. Do you support or oppose our revised proposals for how we plan to build the Lower Thames Crossing?

Strongly support

Support

Neutral

Oppose

Strongly oppose

Don't know

Q5b. Please let us know the reasons for your response to Q5a and any other comments you have on our revised plans for how to build the Lower Thames Crossing.

The construction phase of Lower Thames Crossing (LTC) is scheduled to take six years to complete, therefore communication with both KCC and local communities is extremely important. The proposed Code of Construction Practice (CoCP) will allow KCC in conjunction with other local authorities to positively influence the traffic management, environmental mitigation and wider community impacts.

Construction hours

The proposed construction hours have changed since the previous consultation in 2018. The table below outlines the changes in proposed construction hours for the scheme.

Proposed construction hours	2018 Consultation	2020 Consultation
Mid-week	8am – 6pm	7am – 7pm*
Saturdays	8am – 4pm	7am – 4pm
Sundays	N/A	N/A

* During the summer months it is proposed that to take advantage of the extended daylight hours, that earthworks could be undertaken between 7am – 10pm.

KCC would encourage Highways England to undertake full assessment of the impact of construction traffic on the network, especially during peak hours. The County Council would recommend that Gravesham Borough Council's Environmental Health Team are also consulted in relation to noise impacts of these revised construction hours.

HGV movements

KCC welcome the reduction in proposed HGV movements in and out of construction 'Area A' and 'Area B south'. The number of movements has been cut dramatically due to material being re-used for landscaping and being stored onsite for transshipment once the construction has been completed.

KCC requests details on how the number of HGV movements will be monitored during construction and which authority will be the monitoring/enforcement body.

Roads to the construction sites

KCC is supportive of the creation of a construction route directly off the M2/A2, to allow construction traffic direct access onto the Strategic Road Network.

However, KCC is concerned that Lower Higham Road is being proposed as a 'main construction route'. Lower Higham Road is a residential road with on-street car parking and is not suitable for HGV movements of any kind. KCC asks that a new construction route/haul road is created from the A226 northwards to allow HGV access without the need for HGVs to use Lower Higham Road.

Thong Lane is being proposed as a 'secondary construction route'. The road has an existing 2.0m width restriction. Thong Lane should only be used by HGV traffic along the very southern section of Thong Lane (from Gravel Hill Wood, southwards). Swept path analysis needs to be undertaken to show that two HGVs can pass safely on this section. If this is not the case, then adequate widening of Thong Lane is required before it can be used as a 'secondary construction route'.

KCC also has major concerns over vehicle movements both during and after construction along the A227 Wrotham Road, not only from construction traffic but also from road users diverting to avoid roadworks. The A227 has already been highlighted as being impacted from the recent Smart Motorway Project on the M20, therefore KCC would ask Highways England to thoroughly assess the impact of construction on the local road network.

Ground Preparation Tunnel

The plan to build a 5.8 metre diameter ground preparation tunnel is a major operation and will create significant disturbance and spoil extraction. KCC needs to understand the potential impact this could have on the Marshes Ramsar site and groundwater.

Heritage

This section includes summary information about construction methods including the location of compounds. Construction impacts are recognised in the 'compound' areas but there is an urgency to carry out archaeological field evaluation to inform decisions about the extent and construction methods for these compounds to ensure that significant heritage assets are either protected/preserved in situ, or where this cannot be achieved, fully recorded in advance of compound creation/development. LTC will need to ensure that this is explicit in any contract tenders.

Section 7 of the Supplementary Consultation includes information about the proposed Preparation Tunnel. This element of the scheme includes areas of construction which need to be archaeologically evaluated in order to understand archaeological interest, the significance of any heritage assets identified and to allow appropriate mitigation to be agreed.

Closure of Brewers Road bridge

The latest construction proposals include a long term, high risk, high impact closure of Brewers Road bridge. The closure of this bridge will potentially cause a significant impact on visitor numbers to Shorne Woods Country Park. Shorne Woods Country Park currently has 350,000 visitors per year, with the vast majority coming from the A2 by car and using the pay and display car park. Income from the car park and café forms the core budget of maintaining and providing the country park. Therefore, the impact of a prolonged bridge closure will be significantly detrimental and KCC urges that Highways England review whether there are alternative construction methodologies that reduce the length of time that it is closed.

Further to the car park and café, Shorne Woods Country Park also attracts visits from 3,500 school children per year, mostly on buses that cannot access the site from anywhere other than the A2 due to height and width restrictions. The income generated from Shorne Woods helps subsidise a further eight Country Parks so a dramatic loss of income will impact on the funding of the whole service for those given years, with compensation only claimable after construction and where evidence can be provided. Given the significance of the impacts on Shorne Woods Country Park, KCC requires greater assurance on mitigation and compensation.

The park is not signed through the village of Shorne or from the A226 to protect the villages of Thong and Shorne from excess traffic, signage to the park is located solely on the A2. KCC asks Highways England to ensure that appropriate diversion routes are put in place and signed to prevent diverted traffic using inappropriate routes. The park is busy all year round with high volumes on weekends. Including autumn and winter, the car park will be full every weekend and on weekdays in the school holidays, so any closures of the slip roads once the bridge has gone would ideally be avoided at these times.

Shorne Woods Country Park

The location of the CA2 compound lends itself to being left as an additional car park facility as a legacy of the project. Currently the car parks at Shorne Woods Country Park, Ashenbank Wood and Jeskyns Community Woodland are at capacity on busy days. These three sites are connected by the 10km Darnley Trail permissive shared user route that runs next to the Inn on the Lake. A car park situated here would be ideal for basing cyclists and equestrian visitors to the area. There could also be a small catering provision for people travelling from Gravesend on the new proposed footpath and people using the Darnley Trail circular route.

Utilities

Q6a. Do you support or oppose our revised proposals for the utility works required to build the Lower Thames Crossing?

Strongly support

Support

Neutral

Oppose

Strongly oppose

Don't know

Q6b. Please let us know the reasons for your response to Q6a and any other comments you have on changes to the utility works proposed for the Lower Thames Crossing. When responding to this question, please identify the section of utility works you are referring to.

KCC is strongly opposed to the proposed utility works for the crossing and has significant concerns regarding the environmental impacts. As a result the County Council would ask Highways England to work closely with local authorities on this matter to propose an alternative solution which seeks to limit the considerable adverse impacts of the current proposals.

A2 Junction and Corridor

KCC is opposed to the underground multi-utilities alignment proposed in Ashenbank Wood SSSI as this will cause damage to a protected site.

KCC is strongly opposed to the underground gas alignment through Claylane Wood, Shorne Woods Country Park SSSI and Brewers Wood. This will result in loss of land at KCC's Country Park and destruction of ancient woodland, which is of particular value in Brewers Wood with a rare species of sweet veteran chestnut trees which have preservation orders and are internationally important. As stated in response to the development boundary, this will have consequences not only in terms of loss of ancient woodland but also require diversion of several trails within the park.

Whilst KCC appreciates the difficulty of diverting utilities along the A2 corridor due to the environmental constraints and the high speed railway line (HS1) running alongside the A2, the proposals must demonstrate how loss of protected areas is a last resort after all other options have been exhausted. Further exploration of the option of containing the gas main within the highway boundary of the eastbound collector road for the A2 using trenchless technology should be undertaken to demonstrate that loss of ancient woodland is unavoidable. Where it is unavoidable, the loss must be minimised, impacts mitigated and thereafter compensation provided.

Brewers Wood

The new proposal will significantly impact on Brewers Wood which is part of the SSSI. The large area now within the development boundary, if developed, would sever the explorer trail (a 6km permissive circular route within the park), the shared user route (3.5km internal route and 1km family friendly surfaced section in Brewers Wood) and the Darnley Trail 10km shared user route, completely affecting public access to the SSSI.

This area is home to 10 recorded Veteran Sweet Chestnut trees that are protected by a Tree Preservation Order (TPO). These trees are internationally important and there are a further set of trees that are future veteran trees to replace these when they collapse. This area is deemed by the Ancient Tree Forum to have an internationally important collection of veteran trees so it should be a priority to protect this where possible.

This wood was purchased with Heritage Lottery Fund (HLF) money in 2001 and some may have to be repaid if lost to development.

The area of Brewers Wood highlighted within the development boundary for utilities diversions is a sand and gravel hill which sits above the existing pipeline. Excavating this area to access and divert the utility pipeline would involve substantial digging out of the slope as its approximately 10 meters above the existing pipe level.

KCC urges that disturbance in this area to be kept to a minimum, and to carry out works either between the A2 slip road and Park Pale Road or in the fields before the pipeline enters the woodlands near the Harlex. Undertaking the works within these areas of lower gradient would result in the environmental impact being significantly reduced and no permissive paths would be severed.

Claylane Wood and Thong Lane

The utilities diversions, especially overhead electricity cables that cross the LTC link road at the new Thong Lane green bridge, must be done in a way that does not detract from the green bridge and its purpose of shielding the local community from the new road and providing an amenity and ecological benefit. The diversion through Claylane Wood must also minimise the loss of woodland.

Heritage

A range of new areas creating potentially significant impacts to the historic environment are created by the proposed options for routes for utilities, particularly immediately north and south of the M2/A2, south of the A226 and in areas of woodland and parkland. The key issues are listed in Appendices 1 and 2 below.

Our community archaeologist who has been working with the park for a decade has made the following observations about the impact on archaeology of the utility line:

Working east to west:

Brewers Wood: This area is mainly clays, gravels and sands (hence the old extraction pit). There is a potential for lithic scatters on the gravels and sands (as shown across the Park and over the road at Ranscombe).

The base map for Brewers Wood is also wrong, as the OS have consistently misdrawn the size of the extraction pit compared to the LiDAR imagery.

Shorne Woods: It can be seen from the LiDAR and ground truthing photo within Appendix 3 that the topography along the southern edge of the park includes a significant clay pit (see 1947 aerial). Applying the development boundary to the LiDAR suggests we will lose half the clay pit reservoir, the concrete access road, the clay pit air raid shelter, the two RAF camp air raid shelters, three Nissen hut bases and associated RAF camp structures (toilet blocks). Much of the material from this site is ancient woodland soil.

Ecology

In addition to the archaeology, the shelters are home to hibernating Natterer and Brown Long Eared bats as well as moths and butterflies. These have been surveyed annually by the local bat group for the last five years with bats

present at all autumn and winter visits. The bat group suggested that any bat mitigation would need to replicate these shelters and gave an example of one called the Yonseas bunker that has successfully proved to have been used by bats once the other one was destroyed, (Yonseas bunker (TQ987448) adjacent to HS1). These would need Natural England's consent before construction, and they have designs available.

The utility route also goes through an area known to be habitat for dormice and two were found there in recent surveys in 2019, so mitigation for loss of dormouse habitat will be required and relocation works done.

Southern Tunnels Entrance

The siting of the electricity substation must minimise its impact on the landscape and the local community. Option 2 near the tunnel portal with access to the A226 via the new service road would therefore seem to be the best option as it is furthest away from residential properties and St Mary's Church. However, appropriate screening should still be provided.

Roadworks

KCC's Streetworks team will continue to work towards assisting utility companies to deliver any works in and around the affected boundary of the Lower Thames Crossing prior to construction commencing. Any works during the construction phases will be reduced to new connections and emergencies only. In order to accommodate the utility works required as part of the Lower Thames Crossing scheme, KCC will look to enforce an embargo on sections of carriageway that will be affected by additional works vehicles or potential displacement of vehicles with increased works in and around the A2 during the construction phase. This will include the A226 and A227.

5. Using the crossing

Q7a. Taking into account the updated traffic information included within the supplementary consultation, do you support or oppose the view that the Lower Thames Crossing would improve traffic conditions on the surrounding road network?

Strongly support

Support

Neutral

Oppose

Strongly oppose

Don't know

Q7b. Please let us know the reasons for the response to Q7a and any other comments on how the changes to the Lower Thames Crossing would affect traffic conditions on the surrounding road network.

Traffic conditions as a result of the Lower Thames Crossing (LTC) remain a major concern for KCC. The LTC will inevitably induce traffic for the new route, as well as attracting new traffic at the Dartford Crossing as capacity is released. Whilst we agree that the LTC is much-needed strategic infrastructure (improving the route via the M2 to the Midlands and North as well as providing resilience for the Dartford Crossing) the project's modelling nevertheless shows that there will be impacts for the Local Road Network. These impacts must be identified, and mitigation put in place to prevent them from occurring, such as improved signage, any necessary traffic restrictions, in-vehicle technology, and junction upgrades. If appropriate mitigation is not implemented, then Kent's road network is at risk of further gridlock.

KCC commissioned consultants Stantec (previously PBA) to review the 2018 version of the LTAM traffic model. This report was circulated to Highways England through the Lower Thames Crossing Traffic Modelling Working Group and identified some key areas of concern which are discussed below. The Traffic Modelling Update as part of this consultation provides little detail as to the latest proposed impacts on the Local Road Network and until KCC has access to a cordon of the updated model and Forecasting Report, it is difficult to determine the true extent of the impacts on Kent's roads.

General comments on the modelling

As per our response to the 2018 consultation, the model uses an AM peak of 0700 – 0800 and a PM peak hour of 1700 – 1800 based on the analysis of DART charge data. Although this allows the impact on the Dartford Crossing to be reviewed and the Strategic Road Network (SRN) within the wider area, it does not correspond with the peak hours on the Local Road Network.

The model does not have enough validation points on the Local Road Network, which makes it unsuitable to reasonably assess impacts on local roads, especially Dartford and Gravesend urban areas. Significant increases in traffic flows on local roads can also be identified from the Traffic Modelling Update, but some of these roads are narrow country lanes with traffic calming measures and the SATURN model does not take these characteristics into account when assessing the impacts.

KCC still believes further validation with traffic counts on the Local Road Network should be undertaken. A micro-simulation model should be developed that is detailed enough to assess the impacts of the LTC on the local road network and the key junctions along the A2/M2, including M2 Junction 3 (for the A229).

The Traffic Modelling Update identifies an 13% increase in forecasted traffic flows using the new crossing in the design year. However, what remains unclear is the dominant flow of traffic across the LTC in the AM and PM peaks, whether this be travelling from Kent to Essex or vice versa.

A282 Dartford Crossing – HGV Traffic

Table 4.2 of the Traffic Modelling Update demonstrates the percentage of HGVs forecasted to use the Dartford Crossing and the new crossing. It can be seen there is now predicted to be an increase in HGVs using the existing Dartford Crossing since the statutory consultation, and a decrease in HGVs using the new Lower Thames Crossing. This questions whether the transition of HGVs from the new crossing to the existing crossing is because of the removal of the Tilbury junction or because of an increase in development within the Dartford area. An increase in the number of HGVs continuing to use the existing crossing could limit the ability to reduce congestion at Dartford.

M2 and A2 corridors

The M2 being wholly east of the new crossing, is forecast to experience an increase in flows, particularly between junctions 1 and 3 and for HGV traffic. Assessment of the 2018 traffic model identifies significant impacts on Junctions 1,

2 and 3 of the M2. This is to be expected given the opening up of the M2/A2 corridor as a new route for strategic traffic heading from the Midlands/North to the Port of Dover but it is imperative that Highways England reviews these junctions and ensures appropriate mitigation is provided. Whilst KCC welcomes the DfT announcement that in Road Investment Strategy 2 (RIS2) (2020-25) schemes will be developed for a RIS3 (2025-30) pipeline for some improvements to the M2/A2 corridor – namely A2 Brenley Corner and A2 Access to Dover, the corridor as a whole must be considered in response to the changing traffic flows resulting from the LTC. The omission of any improvements in RIS2 or RIS3 pipeline to M2 junctions 1, 2 and 3, which have been identified by the traffic model as being significantly affected by the LTC, is wholly unacceptable and must be revisited.

A227 corridor

There remains serious concern that traffic will use the A227 through Meopham as an alternative route to get to and from the LTC, especially when transferring from the M20 and/or M25 corridors. In terms of general two-way traffic flows, the A227 is expected to experience increases mainly during the AM and Inter Peak period. This road, together with connecting roads through Sole Street and other villages, is completely unsuitable for HGVs and strategic traffic, therefore traffic needs to be actively discouraged from using the A227. Improved signage that routes strategic traffic onto more suitable routes and, more importantly, improvements to those other routes, would discourage traffic from using the A227 and other unsuitable local roads when transferring from the M20 to the A2 to access the LTC.

The 2018 consultation demonstrated HGV flows on the A227 corridor were expected to increase substantially in 2026, particularly on Wrotham Road (north of New House Lane). However, the Traffic Modelling Update as part of this consultation does not highlight the latest HGV flows so it is not possible to determine whether the increase in HGV traffic using the A227 remains the same. Although all links are forecast to work within their capacity in all scenarios, KCC is concerned about the increase in traffic (particularly HGV traffic) that will need to be managed to ensure that strategic traffic uses only the Strategic Road Network and not this unsuitable local rural road.

A228 corridor

The introduction of the LTC is forecast to significantly increase two-way traffic flows along the A228. Furthermore, the impact of increased HGV flows is expected to be more significant on this corridor, notably on the section of route between M2 and M20 corridors. This increase in traffic flow and number of HGVs has the effect of increasing the volume to capacity ratio.

KCC is concerned that the model has not been validated on the A228 route and that the peak periods modelled do not necessarily correspond to the Local Road Network peaks. Therefore, the resulting forecasts may not be an accurate representation of likely future flows with the LTC open. The A228 is unsuitable as a primary connection between the M20 and M2 and steps should be taken to discourage strategic traffic from using this route by improving the more suitable alternatives, i.e. the A229.

A229 corridor

The introduction of the LTC is forecast to increase traffic flows on this corridor during both peak hours, particularly between Maidstone and the M2. As would be expected, because the A229 is the most direct link between the M20 and M2, HGV flows are also substantially increased in the AM and PM peaks. This increase in traffic places more pressure on the capacity of the A229 at Blue Bell Hill. However, the data hides the problems with the junctions at either end (M20 Junction 6 and M2 Junction 3) that cause delays and blockages on the network, causing queues and congestion. These junctions must be included in a future micro-simulation model so that the full extent of the impact of the LTC on the wider SRN and Local Road Network can be assessed.

As with the A228, the peak periods modelled do not correspond with the peak on the Local Road Network. KCC is concerned that the traffic volumes on this route are underestimated, and that as the shortest and most direct connection between the M2 and M20, this route (especially the Blue Bell Hill section), will experience significant congestion as a result of the LTC. Figures 4.14 and 4.18 of the Traffic Modelling Update demonstrate the traffic volumes as percentage of road capacity. The A229 already suffers extensive capacity issues at both M2 Junction 3 and M20 Junction 6 during peak hours. Additional traffic flows from LTC will only further exacerbate the existing problems and risk causing complete gridlock.

It remains disappointing that network improvements (including the 'Option C Variant' from the original LTC proposals) are not part of this scheme. We would expect improvements to M2 Junction 3 and M20 Junction 6, and/or alternatives to the A229 to connect the M2 and M20 and keep traffic on the SRN, to be delivered by Highways England through the Roads Investment Strategy (RIS). Improvements to these junctions that enable the A229 to connect the two motorways were not set out in the DfT's next RIS (RIS 2 – 2020-25) or RIS3 (2025-30) pipeline and this is wholly unacceptable. DfT and Highways England must reconsider this and work with KCC to develop the business case for local road improvements to the A229 through the Major Road Network (MRN) and Large Local Major (LLM) scheme programmes.

A249 corridor

As with the A229 corridor, being a key route between the two motorway corridors means that two-way traffic flows are expected to increase on the A249. The Traffic Modelling Update provides little detail on the latest impacts on the A249. In the 2018 consultation, HGV flows were expected to generally decrease on the A249, albeit in very small absolute numbers (up to 3 HGVs in the AM peak and 6 in the PM peak by 2041). KCC would seek clarification on whether this decrease is because HGVs are either re-routing completely to the M2/A2 corridor further east or using the A229 and A228 as shorter routes between the motorways.

Local traffic impacts

KCC is extremely concerned over the potential impact of the scheme generating extra traffic and creating 'rat runs' on local roads, particularly in the vicinity of the A2 junction (for example, Lion Roundabout, town centre ring road). In our response to the 2018 consultation we asked for further micro-simulation work to be undertaken to be clearer on the local impacts and reduce any negative impacts on local residents. The Traffic Modelling Update provides no detail as to whether this has been undertaken.

KCC has particular concerns regarding the impact of the scheme on narrow local roads such as Thong Lane, Pear Tree Lane/The Ridgeway/Brewers Road, Henhurst Road, Jeskyns Road, Halfpence Lane/The Street (Cobham)/Sole Street/Camer Road/Green Lane and Valley Drive which all have the potential to become 'rat-runs', especially during times of disruption. The figures within the Traffic Modelling Update show these routes as being impacted. KCC is keen to work in close partnership with Highways England to ensure the design of the scheme discourages 'rat running' where possible and eliminates any adverse impacts on the local road network.

Future engagement

KCC will continue to work with Highways England post-consultation and throughout the scheme development to ensure that significant impacts on the Local Road Network are avoided and suitable mitigation can be put in place. We will also continue to make the case to Highways England and the Department for Transport (DfT) for the wider improvements needed on the Strategic Road Network as a result of the changes to traffic flows once the LTC is opened. These should be addressed as a priority in the RIS programme.

6. Other comments

Q8. We would welcome any other comments you would like to make about the Lower Thames Crossing.

Heritage

Highways England needs to ensure sufficient consideration has been given to allow for significant pre-construction mitigation archaeological excavation and recording. This is an aspect of the development project that must be included in the Environmental Statement and Development Control Order documentation to demonstrate that sufficient time is available within the scheme for archaeological mitigation, including open area excavation, which could in certain areas take months to complete.

7. The consultation

Q9. Please let us know your views on the quality of our supplementary consultation materials, our events, the way in which we have notified people about our plans, and anything else related to this consultation.

	Very good	Good	Average	Poor	Very Poor	Not applicable
Q9a. Was the information presented clearly and easy to understand?				X		
Q9b. Were the events of good quality?						X
Q9c. Were the events suitably located?			X			
Q9d. Was the consultation promoted well and to the right people?		X				

Q9e. Please let us know the reasons for your responses to Q9a-Q9d and any other comments you have on the delivery of this consultation

KCC was presented with a draft approach to the supplementary consultation. It was disappointing this did not seem to build on lessons learnt from the previous ten-week statutory consultation, but nevertheless KCC welcomed the opportunity to be engaged with the preparations for the supplementary consultation.

There has been a significant lack of information and detail provided throughout the supplementary consultation. This has prevented respondents to be able to make detailed comments on the latest proposals, especially in areas such as the environmental impacts and traffic modelling impacts.

Despite the limited information, the eight-week consultation period has proven difficult for local authorities to digest the detailed maps and significant changes to the design along with meeting internal governance procedures and engaging local Councillors within the time available.

KCC remains disappointed there has not been a full consultation report published following the statutory consultation in 2018. It is understood the intention is for all consultation reports to be made available as part of the DCO application, but given the timescales for submission have slipped considerably, KCC would ask for a consultation report to be published separately to ensure local authorities and the public can be informed of the outcome of the consultation.

As a statutory consultee, the County Council looks forward to continuing working with Highways England as the DCO application progresses and will continue to review further documentation submitted as part of the process.

Appendix 1:

Section 6 detailed comments

Environmental Impacts Update document – the numbering that we use below follows that used in the Supplementary Consultation Environmental Impacts Updates document.

Section 1 - Introduction

The introduction to the document acknowledges that assessment and measures to reduce impacts are ongoing and that the work for the Environmental Impact Assessment (EIA) process will be reported in the Environmental Statement

(ES) which will be submitted as part of the Development Control Order (DCO). The comments below are offered to help in the process of developing a design which maximises benefits and minimises environmental impacts. However, it must be noted that it is difficult to comment in detail on the proposed changes where there is a lack of data on the historic environment.

Preservation *in situ* of heritage assets (individually and collectively as components of the historic landscape) must be kept as an option whilst we wait for the results of evaluation trial trenching and the subsequent comprehensive consideration of significance, impacts and mitigation options. The impact on the historic environment is now greater as a result of the increased land take, especially that needed to allow for utilities diversions and environmental mitigation measures such as woodland planting. All woodland planting options (and especially any advanced planting) must take into account the results of archaeological evaluation and allow for options for mitigation by landscape design, preservation *in situ* (e.g. areas of wood pasture) and mitigation by archaeological recording, including open area excavation.

It should be noted that none of the areas listed below has yet been subject to detailed assessment as the DBA and a range of critical surveys, including field evaluation of these areas, are not yet complete or in some cases not yet started.

Section 2 – Changes to the route

1 – Narrowing of M2/A2 corridor – there is no information presented on archaeological impacts. Appropriate assessment and evaluation are required to demonstrate if there will be potential benefits for the historic environment and where field evaluation and mitigation by recording will be required. The Cultural Heritage section at present focusses on the setting of designated heritage assets and views, but these now need to be reconsidered in light of the proposed changes, in particular to the revised development boundary.

2 – LTC M2/A2 junction – For construction impacts it is stated that 'there would be no change to the impact on archaeological remains'. It is not clear how this conclusion has been reached. It is stated that 'mitigation to archaeological remains is as described in the PEIR'. The process for further assessment and decision-making about mitigation and the options for mitigation should be described for each area being discussed in this Environmental Impacts Update document to take account of the comments that were fed back from KCC Heritage Conservation at the PEIR consultation stage.

3 – A2 and local connections to Gravesend East is assessed as being an area of low archaeological impact due to previous development. This may be the case but will need to be demonstrated with evidence from the assessment and evaluation process.

4 – Creation of Chalk Park. It is recognised that the creation of Chalk Park will increase the area of impact on archaeological remains and it is stated that mitigation of impacts to archaeological remains will be as set out in the PEIR. However, there is no detail presented about the design of Chalk Park and we would wish to ensure that options are kept open for potential meaningful and accessible preservation *in situ* of significant archaeological remains in the area south of the A226. Detailed design of Chalk Park should continue after the results of archaeological evaluation and consideration of significance of all identified heritage assets, that would be affected, is available. The design of Chalk Park should be informed by a detailed consideration of the evolution of the surrounding landscape, information for which will need to be set out in the desk-based assessment and Environmental Statement.

5 – Relocation of tunnel entrance 350m south – This offers the potential to move some impacts away from St Mary's church and undesignated archaeological remains. The Supplementary Consultation document states that mitigation would be as set out in PEIR (as noted above it would have been useful if what is meant by 'mitigation' had been summarised in the consultation documentation). It is noted that details are to be set out in the ES but for this process to be successful continued dialogue with stakeholders and a realistic awareness of the time needed to agreed mitigation options will be vital.

We have not yet been consulted on the assessment of the military archaeology, including RAF Gravesend and therefore it is difficult for us to comment in detail at this stage on the appropriateness of these changes when we do not have a detailed assessment of the significance of related heritage assets. The Southern tunnel entrance maintenance road will be wider and further from Chalk, but a detailed understanding of the potential impact of these works on archaeological remains will only be possible when the results of evaluation trial trenching are available, so some flexibility in detailed design should be allowed for in the process up to DCO.

6 – Thong Lane over LTC green bridge – There is some increase in potential impacts to archaeology and on the village of Thong (including loss of buildings), This is described as being dealt with as per PEIR and set out in ES, but the buildings on the west side of Thong that are proposed for demolition are within the Thong Conservation Area and are part of the group of WW1 Homes for Heroes. The Homes for Heroes within Thong Conservation Area form a distinct

group and the scheme should be designed to enable preservation of the group and its setting. Detailed mitigation will need to be agreed.

7 – Ground preparation tunnel - This will have impacts at the Kent entry points. This new (post PEIR) impact is acknowledged and it is noted that geoarchaeological and Palaeolithic assessment is being undertaken. This work will have its own WSI and will be covered by the work of LTC geo-archaeologists and Palaeolithic specialists. The area within and immediately adjacent to the wetland is an area of very high archaeological potential. Changes to the hydrology of the wetlands, such as pollution, saline intrusion or fluctuations in the water table could potentially have very severe negative impacts on any wetland archaeology, some of which (e.g. trackways or boats) could potentially be nationally important.

Utilities - Environmental Impacts

1 – A2 junction and corridor – There is a recognised increase in impacts within the designated park of Cobham Hall, including to the scheduled bowl barrow. It is also recognised that there will be adverse effects on any archaeological remains within the footprint of the proposed works. It is stated that mitigation of impacts will follow PEIR methodology and detailed assessment reported in ES.

We do not consider this to be an appropriate approach if it does not allow for mitigation by preservation *in situ* of physical heritage assets and/or elements of the setting of heritage assets.

The proposed utilities diversions in Ashenbank Wood affect a range of heritage assets and lie close to the scheduled Bowl Barrow south of Cobham Reservoir. We recommend that the diversion to the south of the barrow should be moved further away but further archaeological assessment and evaluation will be needed first to check where it would be suitable to place it as there may be other significant remains in the area. Construction methods should be detailed and as limited in extent as possible.

The DBA needs to be updated and appropriate assessment and field evaluation undertaken. This should include walk over survey, LiDAR interpretation, geophysical survey and trial trenching. Unpublished archaeological material is being made available for use in this process and will be communicated to the LTC team (see additional notes in Appendix 2 below).

2 – Utilities at southern tunnel entrance (temporary and permanent). Potential impacts to below ground archaeological remains can only be considered in detail once we have the trial trench evaluation data.

Marine Works

1 – Mitigation of impacts to follow methods in PEIR. There is little detail in this section and as noted above it would be useful to summarise what mitigation is proposed and what evidence this is based on. Is an MMO licence required?

Appendix 2

Notes on historic environment potential in areas included within the revised development boundary.

General comment

A number of areas have been brought into the scheme as a result of the revised development boundary. A number of these areas have been subject to community archaeology projects and research with the results of the studies not yet formally published or on the Kent Historic Environment Record. These areas will require detailed survey and assessment, as well as a review of existing information to inform mitigation strategies, including design and layout options. The information set out below will be shared with the LTC and their heritage consultants and contractors:

- 1)** Area south of **Shorne** and north of M2 and Higham Road. Aerial photographs for this area indicate possible crop marks.
- 2) Brewers Wood** – An area along the north side of M2. This area has potential for earthworks and below ground archaeological remains, including early prehistoric lithic scatters. Accurate mapping is required to inform design and layout options.
- 3) Shorne Woods Country Park** west of Brewers Road. The area within the revised boundary has archaeological interest with LiDAR and ground truthing recording complex topography. For example, there is a significant clay pit edge with a drop into the pit which can be seen on a 1947 aerial photograph. Applying the revised development boundary to the LiDAR suggests that half the clay pit reservoir, the concrete access road, the clay pit air raid shelter, the two RAF camp air raid shelters, three Nissen hut bases and associated RAF camp

structures (toilet blocks etc) will be impacted. This area needs urgent detailed assessment and evaluation to inform options.

- 4) **Inn on the Lake:** Cartographic evidence indicates that the RAF camp site extends into the Inn on the Lake area within the revised development boundary. Heritage assets could include the bases of buildings, earthworks and artefacts. Assessment and evaluation are required to understand significance and options for mitigation.
- 5) **Cobham Hall Park** – land south of HS1. This strip is within Cobham Hall Park designated area. There is HS1 archaeological evidence for Bronze Age archaeology in the central area south of Brewers Wood and east of the Romano-British villa site. There are linear earthworks and other features which survive in this area which need assessment and evaluation to understand their date, function and significance. There is the risk of cutting across Brewers Ponds, which are active fishing lakes and which once supplied Cobham Hall with water. There is a range of post medieval water engineering structures along the southern side of the ponds.
- 6) **Cobham Hall Park to Ashenbank Wood** – There is a risk of potentially significant utilities construction impacts in this area. Alternative route options need to be considered, for example along the dry valley and away from the scheduled barrow on the ridge, although this could then lead to impacts to the RAF camp. The northern ‘spoke’ cuts across a range of woodland archaeology features. LiDAR, walkover survey and intrusive field evaluation may be required to map the extent of, and relationship between, heritage assets. Detailed mitigation options will need to be agreed.
- 7) Land between **Hever Court Farm** and **Jeskyns** (south of Church Road, west of Henhurst Road). Research in this area (e.g. by Canterbury Archaeological Trust) using geophysical and fieldwalking surveys has identified late prehistoric and Romano-British activity including enclosures and evidence for metal working. There is a need for further evaluation and assessment to inform mitigation options, which will then need to be agreed.
- 8) **Claylane Wood** is an area of potentially significant below ground archaeological remains. The HER includes a series of records for an Early Medieval burial ground discovered in the early 19th century. The description of significant quantities of human remains, weapons and material such as leather, suggest a possible battle burial ground but it could represent a settlement cemetery site. The area will be subject to field evaluation under WSI V. Detailed mitigation options will need to be agreed.

- 9) Utility works comprising a pipeline are proposed north of Chalk which links with a water course and outflow at the Thames. The line of the pipeline will need evaluation as it cuts across part of the SSSI wetland edge. This area is likely to have high archaeological potential within any wetland deposits. Detailed mitigation options will need to be agreed. We would like to see more information about the location of any proposed ventilation shafts and related tunnel infrastructure, related to changes in the extension of the tunnel portal to the south.

Appendix 3 – Shorne Country Park Lidar Map

