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**To:** Environment, Highways & Waste Cabinet Committee

**Date:** 19 June 2013

**Subject:** DfT Consultation on options for a new Lower Thames Crossing

**Classification:** Unrestricted

**Summary:** This report summarises details of the Department for Transport's (DfT) current consultation on the corridor options for a new Lower Thames Crossing and presents evidence on the benefits and impacts of each option.

**Recommendation(s):** The Cabinet Committee is asked to receive and note the content of this report and appendices which summarise the current Department for Transport consultation on corridor options for a new Lower Thames Crossing.

## **1. Introduction**

1.1 On 21 May 2013, the Department for Transport (DfT) launched a consultation on the need for, and options for, a third Lower Thames Crossing. The consultation closes on 16 July 2013. In arriving at the decision that a new crossing option is required and the three corridor options, the DfT has drawn on a considerable number of studies that have been undertaken over the last few years as well as seeking advice from a Stakeholder Advisory Panel. KCC has been represented at director level on this Stakeholder Advisory Panel and has fully engaged throughout the early scheme feasibility stage with the prime objective of seeking the delivery of this project at the earliest opportunity. This paper summarises the considerable evidence issued as part of the consultation. The County Council's Cabinet will be discussing a response to the DfT's consultation at their meeting on 15 July 2013.

## **2. Financial Implications**

2.1 This report and any resulting decisions will have no impact on the Council's capital and revenue budgets and spending plans as this project will be promoted by Government with a public, private or public/private

partnership funding model. The public sector funding would come from Government as this project is recognised as a nationally significant one.

### **3. Bold Steps for Kent and Policy Framework**

- 3.1 A decision to support a particular corridor option will fully support the Council's Medium Term Plan (Bold Steps for Kent) and will directly contribute to two of the three overarching objectives: growing Kent's economy and tackling disadvantage.
- 3.2 A decision to support a particular corridor option will also contribute to a key objective of Growth without Gridlock, the Council's 20 year transport delivery plan, as well as to the Local Transport Plan 2011-16, Kent's statutory transport plan.

### **4. The need for a new crossing**

- 4.1 The existing Dartford-Thurrock crossing is the only river crossing to the east of London. It has provided a vital north-south connection since the west tunnel opened in 1963 and is a key link for journeys to and from Europe, within London and the south east and to/from the rest of the UK. It is also located in the Thames Gateway area where major redevelopment is planned on a nationally significant scale.
- 4.2 Government is clear that the existing Dartford – Thurrock Crossing is over capacity. It is also clear that even after the introduction of free-flow tolling in October 2014, traffic volumes and delays will continue to increase both at the crossing and its approaches, and that the cost to the UK economy in terms of reduced productivity and constrained growth will be exacerbated. Section 2 of the annex to this report sets out the evidence supporting this position and can be summarised as:
  - The existing crossing is over capacity and this will only get worse as traffic continues to grow
  - Delays and journey times will continue to increase over the crossing
  - Network resilience and the impact of incidents causing severe delay are likely to worsen
  - the increasing cost of congestion to business will mean productivity declines and economic growth is stifled
  - The considerable growth agenda for the Thames Gateway will not be realised
  - Air quality issues and the resultant negative impact on health will continue to rise for those living in close proximity to the existing crossing and its approaches.
- 4.3 All of these would still occur, even once free-flow charging is introduced.

## **5. The crossing options**

5.1 The DfT therefore launched a consultation on three potential corridor options with one of the options having a suggested variation. These are illustrated in Appendix A. In summary these options are:

- Option A: This option would provide additional long-term capacity at Dartford through the delivery of a new crossing while retaining all existing infrastructure (bridge and tunnels). This offers the shortest crossing route among the options and links the M25 J31 and M25 J1, and therefore directly ties in with the strategic road network.
- Option B: This option would provide a new crossing in the vicinity of the Swanscombe peninsula. It would connect the A2 to the south in the vicinity of Dartford, to the A1089 to the north in the vicinity of Tilbury Docks.
- Option C: This option comprises the provision of a new crossing to the east of Gravesend and Thurrock. It would need to link the M25 with the M2 and thus form a major new piece of infrastructure in the strategic road network. It would potentially provide a direct route for longer distance movements using the north-east section of the M25 and the M2 as well as providing some relief to the existing crossing.
- Option C variant: Option C with an additional link to the M20 for long distance traffic, which has been assumed would take the form of widening the A229 linking the M2 and M20.

5.2 Each option will provide two lanes for traffic in each direction and could be one of three structure types: bridge, immersed tunnel or bored tunnel. An immersed tunnel involves excavating a trench on the riverbed and dropping a tube structure into it. A bored tunnel is literally a circular tunnel bored at depth below the riverbed without removing the ground above it.

## **6. Option assessment**

6.1 The following assessment presents an overview of the benefits and impacts likely to arise from each of the corridor options. Considerably more detail is presented in Appendix B of this report which considers the likely effects in relation to:

- a) contribution to the national economy
- b) congestion, resilience and strategic road network
- c) contribution to reducing greenhouse gas emissions
- d) impacts on environmentally sensitive areas and quality of life
- e) costs and value for money.

6.2 Overall, each option is deemed feasible to build and connect into the existing road network. In addition, Government have clarified that for

option B they will ensure it would not preclude the proposed Paramount Park Resort from proceeding. Each option is likely to offer benefits in excess of the costs and each option is likely to deliver the following, albeit to varying extents:

- Increase traffic levels crossing the lower Thames;
- Reduce congestion and improve journey times on the existing crossing;
- Provide large benefits to business users;
- Increase the population experiencing noise; and,
- Lead to some relocation of jobs eastwards from London.

6.3 Table 8 of Appendix B (pages 22-24) is an extract from the DfT consultation report and considers the likely impacts across each of the corridor options. It provides a summary across a wide range of indicators of how each option performs.

6.4 The table below provides a comparison of the cost and value for money of each option. All monetary values are expressed in 2010 prices and values. The range of values presented for each location option reflects the differences between the costs and benefits of the three engineering solutions.

6.5 It can be seen that the bridge structure for Option A (BCR of 2.4) and each structure possibility for Option C potentially offer the greatest value for money. However, as the DfT consultation acknowledges, if Option A is pursued, it is highly likely that significant improvements would be needed at J30 and J2 of the M25. In this case, the cost of option A could reasonably be increased by £0.5-1 billion meaning its cost benefit assessment figure will be reduced.

Comparison of costs and value for money				
	Option A	Option B	Option C	Option C <sub>variant</sub>
Estimated capital cost range	£1.2bn – £1.6bn	£1.8bn – £2.2bn	£3.1bn – £3.2bn	£4.9bn – £5.0bn
Indicative BCR without wider impacts	1.0 – 1.8	0.5 – 0.8	1.2 – 1.3	1.2
Indicative BCR with wider impacts	1.4 – 2.4	1.1 – 1.7	1.9 – 2.0	1.7

## 7. Conclusions

7.1 The relative merits and disbenefits of each corridor option can be summarised as set out in Table 3 below.

Table 3	Relative Merit	Relative Disbenefit
Option A	<ul style="list-style-type: none"> <li>• Performs best in alleviating congestion on existing crossing</li> <li>• Modest reduction in greenhouse</li> </ul>	<ul style="list-style-type: none"> <li>• Does not improve connectivity of strategic road network</li> <li>• Stimulates limited economic</li> </ul>

	<p>gas emissions</p> <ul style="list-style-type: none"> <li>Least overall impact on natural environment of all options reviewed</li> </ul>	<p>growth</p> <ul style="list-style-type: none"> <li>May impact on planned developments in Dartford and Thurrock</li> <li>Potential for greater congestion around M25 Junctions 30 and 2</li> </ul>
<b>Option B</b>	<ul style="list-style-type: none"> <li>Alleviates congestion at existing crossing, although to lesser extent than Option A</li> <li>Improves connectivity and therefore supports economic activity in the local area</li> </ul>	<ul style="list-style-type: none"> <li>Adds delay to A2, and A13 east of Basildon</li> <li>Forecast increase in greenhouse gas emissions</li> <li>May impact development sites north of A2 in Swanscombe Peninsula</li> <li>Crosses area of nationally important heritage and archaeological value</li> </ul>
<b>Option C</b>	<ul style="list-style-type: none"> <li>Alleviates congestion at existing crossing although to lesser extent than Option A</li> <li>Greatest journey time savings of all options for new crossing</li> <li>Greatest economic benefit of all options</li> <li>Large decrease in greenhouse gas emissions</li> </ul>	<ul style="list-style-type: none"> <li>Passes through Green Belt land</li> <li>Greatest impacts on environmentally sensitive areas, passing through Kent Downs AONB, ancient woodland and the Thames Marshes Ramsar site.</li> </ul>

7.2 From the above assessment it can be seen that while Option A is more likely to relieve congestion on the existing crossing and cause the least environmental impact, it does little in terms of network resilience hence continued misery for users of the crossing, misses a vital opportunity to create a new strategic route and would result in the least economic growth. In addition, it is likely that significant additional network improvements (M25 J30 and J2) would be required with this option which have not been costed or considered in the cost benefit assessment.

7.3 Option B provides better connectivity between the north and south elements of the Thames Gateway but again misses a vital opportunity to create a new strategic link, is likely to have large adverse environmental impact and is shown to offer a lower cost benefit ratio and hence poorer value for money.

7.4 Option C, while the most expensive option and likely to cause the largest adverse environmental impact, will provide the greatest economic growth along with a new strategic transport route and the greatest reduction in greenhouse gas emissions.

## 8. Recommendations

**Recommendation(s):** The Cabinet Committee is asked to receive and note the content of this report and appendices which summarise the current Department for Transport consultation on corridor options for a new Lower Thames Crossing.

## 9. Background Documents

9.1 Review of lower Thames Crossing Options: Final Report, Department for Transport/Aecom April 2013

<https://www.gov.uk/government/consultations/options-for-a-new-lower-thames-crossing>

9.2 Third Thames Crossing Regeneration Impact Assessment, URS, May 2012 and Addendum Report December 2012

*\* This report is currently not available online although copies can be made available by contacting the author of this report (Ann Carruthers)*

9.3 Review of Environmental Impacts of Lower Thames Crossing Options, Mouchel, November 2012

*\* This report is currently not available online although copies can be made available by contacting the author of this report (Ann Carruthers)*

9.4 The Dartford River Crossing study into capacity requirements. Parsons Brinckerhoff on behalf of the Department for Transport (2009)

<http://webarchive.nationalarchives.gov.uk/+http://www.dft.gov.uk/about/strategy/capacityrequirements/dartfordrivercrossing/>

9.5 Growth without Gridlock, A transport delivery plan for Kent, KCC, December 2010

[http://www.kent.gov.uk/roads\\_and\\_transport/highway\\_improvements/our\\_transport\\_vision/local\\_transport\\_plan.aspx](http://www.kent.gov.uk/roads_and_transport/highway_improvements/our_transport_vision/local_transport_plan.aspx)

9.6 Local Transport Plan for Kent 2011-16, KCC, April 2011

[http://www.kent.gov.uk/roads\\_and\\_transport/highway\\_improvements/our\\_transport\\_vision/local\\_transport\\_plan.aspx](http://www.kent.gov.uk/roads_and_transport/highway_improvements/our_transport_vision/local_transport_plan.aspx)

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