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<b>Project:</b>	A13 Widening		
<b>Our reference:</b>	388522-CG-001-A	<b>Your reference:</b>	
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<b>Subject:</b>	Updated Economic Assessments		

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## 1 Introduction

A full Business Case was produced for the A13 widening scheme in 2017 and was subsequently awarded funding by the DfT.

Since being awarded funding the scheme costs have increased and the opening of the scheme has been delayed. The economic assessments that were carried out in 2017 have therefore been updated to reflect the subsequent changes in costs and scheme openings in order to test whether the scheme would still have been considered to be Value for Money in 2017 with this information.

This note provides the updated economic assessment. Full details of the traffic modelling and economic assessment assumptions used, which remain unchanged from the 2017 Business Case submission, are contained in A13 widening Economic Case dated 19/01/17.

## 2 Scheme Costs

The scheme costs in the 2017 Business Case submission are shown in Table 2.1. These costs included 3% optimism bias. A third-party contribution of £7.8m in outturn prices was included in the assessment. The costs have been converted to 2016 prices based on the cost profile and the GDP deflator contained in the TAG Databook released in July 2016.

**Table 2.1: A13 scheme costs at Business Case submission**

	2015	2016	2017	2018	2019	2020	Total
Outturn Prices	0.4	1.7	31.2	24.1	21.9	2.0	81.2
2016 Prices	0.4	1.7	30.6	23.2	20.6	1.8	78.4

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Table 2.2 shows the updated scheme costs. These costs include 3% optimism bias. A third-party contribution of £8.2m in outturn prices is included in the assessment. The costs have been converted to 2016 prices based on the cost profile and the GDP deflator contained in the TAG Databook released in July 2016. The costs are now 45% higher in outturn prices and 42% higher in 2016 prices than they were at Business Case submission in 2017.

**Table 2.2: A13 scheme costs**

	2016	2017	2018	2019	2020	2021	2022	2023	Total
outturn prices	2.8	13.8	14.2	35.5	40.4	10.8	0.5	0.1	118.1
2016 prices	2.8	13.6	13.7	33.5	37.4	9.8	0.5	0.1	111.2

### 3 Estimation of Benefits

Benefits have been calculated for the core traffic forecast scenarios reported in the A13 Widening Forecasting Report. These are:

- Core Scenario
- Core Scenario + Lower Thames Crossing

For the Business Case submission the A13 Widening was programmed for completion in September 2019, with the first full year of operation in 2020. The Lower Thames Crossing was programmed for completion in 2025. For the Core Scenario + Lower Thames Crossing the benefits from 2020-2024 were the same as the core scenario, and benefits from 2025 onwards were calculated from forecasts with Lower Thames Crossing included in both the Do Minimum and Do Something networks. Benefits were calculated over a 60 year appraisal period (2020-2079) using the DfT economic appraisal software TUBA v1.9.7 and COBALT with the economics parameter files 'economics\_1\_9\_7.txt' and 'cobalt-2016-1-webtag-parameters.txt'.

The A13 Widening is now programmed to open to traffic in Autumn 2021, with the first full year of operation in 2022. The Lower Thames Crossing is now programmed for completion in 2027. For the Core Scenario + Lower Thames Crossing the benefits from 2022-2026 are the same as the core scenario, and benefits from 2027 onwards are calculated from forecasts with Lower Thames Crossing included in both the Do Minimum and Do Something networks. Benefits are calculated over a 60 year appraisal period (2022-2081) using the DfT economic appraisal software TUBA v1.9.7 and COBALT with the economics parameter files economics\_1\_9\_7.txt and cobalt-2016-1-webtag-parameters.txt.

## 4 Economic Assessment Results

### 4.1 Core Scenario

Table 4.1 shows that there is a very small reduction in total Present Value Benefits (PVB) due to the delay in opening the scheme. The Present Value Cost (PVC) has increased by 40%. Overall the Benefit to Cost Ratio (BCR) has reduced from 2.9 to 2.1, which is defined as high value for money in the Department for Transport's "Value For Money Assessment: Advice Note for Local Transport Decision Makers".

**Table 4.1: Comparison of Core Scenario Economic Results (£000s 2010 prices discounted to 2010)**

Benefit/Disbenefit	£000s Business Case	£000s 2020 Update
Greenhouse Gases	-3,664	-3,706
Accidents	-4,433	-4,479
Economic Efficiency: Consumer Users (Commuting)	12,896	12,804
Economic Efficiency: Consumer Users (Other)	46,999	46,983
Economic Efficiency: Business Users and Providers	112,455	112,451
Wider Public Finances (Indirect Taxation Revenues)	7,560	7,449
<b>Present Value of Benefits (PVB)</b>	<b>171,813</b>	<b>171,501</b>
Broad Transport Budget	58,749	82,195
<b>Present Value of Costs (PVC)</b>	<b>58,749</b>	<b>82,195</b>
<b>Net Present Value (NPV)</b>	<b>113,064</b>	<b>89,306</b>
<b>Benefit to Cost Ratio (BCR)</b>	<b>2.9</b>	<b>2.1</b>

### 4.2 Core Scenario with Lower Thames Crossing

Table 4.2 shows that there is a small reduction (<1%) in total Present Value Benefits (PVB) due to the delays in opening the scheme and delays opening Lower Thames Crossing. The Present Value Cost (PVC) has increased by 40%. Overall the Benefit to Cost Ratio (BCR) has reduced from 4.4 to 3.1, which is defined as high value for money in the Department for Transport's "Value For Money Assessment: Advice Note for Local Transport Decision Makers".

**Table 4.2: Comparison of Core Scenario +LTC Economic Results (£000s 2010 prices discounted to 2010)**

Benefit/Disbenefit	£000s Business Case	£000s 2020 Update
Greenhouse Gases	-4,768	-4,765
Accidents	-6,146	-6,179
Economic Efficiency: Consumer Users (Commuting)	20,650	20,429
Economic Efficiency: Consumer Users (Other)	67,820	67,302
Economic Efficiency: Business Users and Providers	169,427	167,997
Wider Public Finances (Indirect Taxation Revenues)	10,149	9,768
<b>Present Value of Benefits (PVB)</b>	<b>257,133</b>	<b>254,552</b>

<b>Benefit/Disbenefit</b>	<b>£000s Business Case</b>	<b>£000s 2020 Update</b>
Broad Transport Budget	58,749	82,195
<b>Present Value of Costs (PVC)</b>	<b>58,749</b>	<b>82,195</b>
<b>Net Present Value (NPV)</b>	<b>198,384</b>	<b>172,357</b>
<b>Benefit to Cost Ratio (BCR)</b>	<b>4.4</b>	<b>3.1</b>

## 5 March 2020 Cost Analysis

Outturn costs as of March 2020 are illustrated in Table 5.1 where 3% optimism bias has been included.

**Table 5.1: Comparison of estimated outturn costs (including 3% optimism bias)**

	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>	<b>Total</b>
Mar 2020	2.8	13.8	13.8	27.5	37.0	22.6	0.6	0.0	118.1

When compared with Table 2.2, the March 2020 estimate of costs are lower for 2018-2020 but higher in 2021 and 2022. This delay in the timing of the costs may reduce the Present Value of Costs slightly and therefore increase the Benefit Cost Ratio slightly when compared to the analysis carried out earlier in this note. The minor economic impacts from the change in cost profile do not reduce the value for money assessment of the scheme.