Technical Note

Project Title:	Nottingham Ring Road Major Scheme - Final Approval
MVA Project Number:	102149
Subject:	Updated Value for Money Tables
Note Number:	1 Version: 1
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1 Introduction

1.1 The Nottingham Ring Road Major Transport Scheme was submitted at Best and Final Funding Bid (BAFFB) stage in September 2011. The scheme has progressed and is now being submitted for Final Approval. As part of this Final Approval stage, a minor update of the value for money appraisal is required.

1.2 As the design of the scheme has not changed since submission, no further modelling has taken place and the benefits analysis remains as that submitted at BAFFB stage. There have been some updates to costs based on refined cost estimates and the passage of time. This note provides details of the changes in costs due to the updated cost estimates and assumptions. The note should be read in conjunction with the original Value for Money Summary submitted as part of the BAFFB process.

1.3 Following discussion with DfT it was agreed that it was not necessary to update the appraisal to 2010 prices and values in line with August 2012 versions of Transport Analysis Guidance (TAG) units. Therefore the appraisal, and values reported in this note where appropriate, remain in 2002 prices discounted to 2002.

2 Cost Changes

2.1 The main cost assumptions can be summarised as:

- Estimated Investment costs have remained broadly unchanged at £14.2m in 2011 prices.
- Operating costs remain unchanged at around £28k p.a. in 2011 prices.
- The QRA uplift (Pmean), which is applied to base costs to allow for median mitigated costs of identified risks, remains at 4.4%.
- Optimism bias is reduced from 44% to 3% in line with the progression of the project through stages of approval as advised in TAG unit 3.5.9.
- Inflation assumptions:

- Previously: RPI 2.7% pa, construction cost inflation equal to RPI
- Now: RPI 2011-12 observed data (3.19%) and assumed to carry on at this level post 2012 – construction cost inflation remains equal to RPI

- 2011 RPI value revised from 234.7 to 235.2

2.2 In addition it was found that previous analyses included preparation and supervision at their default rates (9% and 5% of investment cost) within the TUBA calculation. An allowance for preparation and supervision was made in the cost estimates at both BAFFB and this stage, so the amount was previously double-counted and included in error. This has the effect of reducing undiscounted investment costs by around 12% and discounted costs by 14%.

3 Updated Costs Tables

3.1 Table 3.1 shows updated cost data based on investment costs including QRA uplift and inflation but not optimism bias. The changes from BAFFB stage are due to the changes in inflation in 2011 and the marginally changed profile of costs.

Table 3.1 Scheme Investment Costs – Outturn Costs including Inflation (£000s) (not including Optimism Bias) – old Table 7.1

Year	MSBC June 2009	BAFFB Estimate	Final Approval Estimate
2011 / 2012	---	75	10
2012 / 2013	637	417	409
2013 / 2014	10,730	6,431	6,181
2014 / 2015	10,937	6,605	6,068
2015 / 2016	9,784	2,646	3,504
Total	**32,088**	**16,175**	**16,172**

3.2 Cost inflation assumptions for the BAFFB and Final Approval cost estimates are shown in Table 3.2. The BAFFB assumptions have been modified from the VfM note to reflect the assumptions input to the analysis.

Table 3.2 Cost Inflation Assumptions – old Table 7.2

	MSBC June 2009	BAFFB Estimate	Final Approval Estimate
Construction Inflation	2.7% p.a.	2.7% p.a.	3.19% p.a.
RPI	2.7% p.a.	2.7% p.a.	3.19% p.a.

3.3 Operating costs remain at £28k p.a. or £1.686m over the 60 year appraisal period in 2011 prices. This value represents the additional operating costs of the do something scheme over the reference case scenario.

3.4 Table 3.3 shows a summary of how the investment outturn costs and appraisal costs have been arrived at. The outturn cost calculations show the cost estimate in 2011 prices and the outturn costs for each year, which include RPI assumptions of 3.19% p.a and QRA of 4.4% of costs but exclude optimism bias.

3.5 The economic appraisal costs exclude sunk costs which are assumed to be 2011/12 and 75% of 1012/13 costs, leaving 25% of 2012/13 costs and all of the remaining years. The second column allows for real inflation, which is 0% as both RPI and construction costs have been assumed to increase at 3.19% p.a., QRA (again at 4.4%), and optimism bias at 3% in line with the stage of scheme development. The final column deflates costs to 2002 prices using published RPI figures (RPI 2002 = 176.2, RPI 2011 = 235.2), discounts to 2002 at 3.5% p.a. and converts to market prices by multiplying to allow for the general level of taxation (1.209). This last column replicates the calculations carried out in TUBA.

Table 3.3 Outturn and Appraisal Investment Cost Summary

	Outturn Costs		Economic Appraisal Costs		
	Cost Estimate (2011 prices)	inc inflation (@3.19% p.a.) and QRA (@4.4%)	Cost Estimate (2011 prices)	inc real inflation (0%), QRA (@4.4%) and Optimism Bias (@3%)	Deflated and discounted to 2002 prices in market prices
2011/12	10	10	-		
2012/13	380	409	95	102	66
2013/14	5,560	6,181	5,560	5979	3,709
2014/15	5,290	6,068	5,290	5688	3,410
2015/16	2,960	3,504	2,960	3183	1,843
TOTAL	**14,200**	**16,172**	**13,905**	**14,952**	**9,028**

3.6 Table 3.4 shows the cost to Broad Transport Budget as per the old Table 8.1. The reasons for the change in output costs between BAFFB and Final Approval are:

- Optimism bias reduced from 44% to 3% results in an input investment cost reduction of 28%.
- Removal of double counted preparation (9%) and supervision (5%) costs reduces undiscounted input investment cost by 12%.

- Change in RPI of base costs from 234.7 to 235.2 reduces all costs by 0.2%.
- Change in profile of costs alters costs due to differential discounting by year.

Table 3.4 Cost to Broad Transport Budget – old Table 8.1

Cost Item	60 Year Appraisal Period (£000s 2002 prices discounted to 2002)			
	BAFFB	Final Approval	Abs Difference	% Difference
Local Government Funding				
Operating Costs	437	434	-3	-1%
Investment Costs	4,529	2,708	-1,821	-40%
Central Government Funding				
Investment Costs	10,568	6,319	-4,249	-40%
Total	**15,534**	**9,462**	**-6,072**	**-39%**

4 Headline Economic Outputs

4.1 Table 4.1 shows the BAFFB and updated Headline Economic Outputs. The Benefits are identical while the costs have been reduced by around 39% as discussed above, through a combination of removal of optimism bias and double counting of preparation and supervision costs. This results in an increased NPV of £56.6m from £50.6m at BAFFB stage (2002 prices discounted to 2002) and an increase in BCR from 4.3 to 7.0. This table includes Wider Impacts which are not included in the AMCB.

Table 4.1 Headline Economic Outputs (2002 prices discounted to 2002) – old Table 9.1

	BAFFB NPV (£m)	Final Approval NPV (£m)
Consumer (Commuter) User Benefits	24.4	24.4
Consumer (Other purposes) User Benefits	10.8	10.8
Business User and Provider Benefits	33.7	33.7
Other Monetised Impacts	-6.4	-6.4
Wider Public Finances	3.5	3.5
Present Value of Benefits	**66.1**	**66.1**
Local Government Impacts	4.9	3.1
Central Government Impacts	10.6	6.3
Cost to the Broad Transport Budget	**15.5**	**9.5**
Net Present Value	**50.6**	**56.6**
Benefit to Cost Ratio	**4.3**	**7.0**

5 Updated AMCB, AST and Cost Pro Forma

5.1 Attached to this note are updated versions of:

- Analysis of Monetised Costs and Benefits
- Appraisal Summary Table
- Cost Pro-Forma

5.2 These are also included in electronic spreadsheet form in the submission which accompanies this note.