

Wednesbury to Brierley Hill Extension

**Evidence Given on Behalf of the Applicant: WMCA
Transport and Economic Case
Supplementary Proof of Evidence
David Carter**



Transport and Works Act 1992

The Transport and Works

(Inquiries Procedure) Rules 2004

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1. INTRODUCTION

1.1 Reasons for Supplementary Proof of Evidence

1.1.1 In my Main Proof of Evidence [APP/P2.1], which was submitted on 19 February 2019, I noted at paragraph 2.4.2, concerning the status of the business case, that:

“The WBHE scheme has now moved somewhat beyond the normal OBC (Outline Business Case) stage... in that, in the main, powers have already been obtained for the scheme through the 2005 Order... the Value for Money case has been assessed by DfT and funding has been allocated. However, the FBC [Full Business Case] stage has not yet been reached... final specification and costs for the extension are yet to be finalised, with this determining the final funding requirements to be made from local sources managed by WMCA.”

1.1.2 Peter Adams, in his Proof of Evidence [APP/P1.1], also submitted on 19 February 2019, at paragraph 8.2, states that:

“As with any long-term major scheme of this type, WMCA has continued to take work forward where feasible, including further surveys and outline design work. This has continued during the application process for the Proposed Order and is an ongoing process..... In due course.....the estimated cost of the WBHE, as revised and updated, will inform the Final Business Case for approval through WMCA’s normal assurance and governance approval processes.....further information will be made available to the Inquiry into the application for the Proposed Order if it becomes available.”

1.1.3 In preparing the Final Business Case (FBC), WMCA has carried out, through the Midland Metro Alliance (MMA), a thorough estimate of the costs for implementing the project in order to ensure it provides a comprehensive, robust and reliable basis for the consideration of the Financial and Value for Money (Economic) Cases. Subsequently a revised estimated outturn capital cost of £449.5 million for the WBHE has been submitted to WMCA by Midland Metro Alliance and the approval of the revised cost is being progressed through the WMCA’s normal assurance and governance process, as described above, with a final approval from the WMCA Board being planned for 22 March 2019. It is therefore appropriate to report the revised estimated capital cost to the Inquiry, which is planned to take place during the WBHE’s progress through the WMCA Governance process.

1.1.4 As part of the above process, the WMCA has reviewed and updated the business case for the scheme and has produced a Final Business Case based on these updates. Key findings from the Economic Case elements of this Final Business Case, the Wednesbury to Brierley Hill Final Business Case - Economic Case February 2019 [WBHE/D7/B], are reported to the Inquiry within the rest of this Supplementary Proof of Evidence. This Supplementary Proof of Evidence is intended to sit alongside Peter Adams' Supplementary Proof of Evidence [APP/P1.4] that, amongst a number of other issues, also deals with the updated funding arrangements for WBHE.

1.2 Statement of Matters

1.2.1 In this Supplementary Proof of Evidence, therefore, I update the Inquiry on issues related to the following matters in the Statement of Matters [GEN 3] issued by the Secretary of State for Transport. These being the matters about which the Secretary of State particularly wishes to be informed for the purposes of his consideration of this application.

1.2.2 In my Main Proof of Evidence [APP/P2.1], I address Matters 1, 3, 4a, 4b and 4c. In this Supplementary Proof, the issues of updated scheme costs affect:

- Matter 1 – Justification for the Transport and Act Order in relation to the proposed Wednesbury to Brierley Hill Extension scheme; and
- Matter 3 – The anticipated benefits of the scheme (in so far as the updated costs affect the net economic benefits of the WBHE and its allocation to a Value for Money category).

1.2.3 In this Supplementary Proof, I do not reconsider Matters 4a, 4b and 4c.

1.3 Declaration

1.3.1 This statement is true to the best of my knowledge and belief. I can confirm that the views expressed are my true and professional opinion.

2. APPRAISAL OF THE PERFORMANCE OF THE WEDNESBURY TO BRIERLEY HILL EXTENSION

2.1 Appraisal Approach

- 2.1.1 In my Main Proof of Evidence [APP/P2.1], in section 2, I set out the appraisal approach used to assess the performance of the WBHE when measured against local objectives and those set out by the Department for Transport (DFT) in its Transport Appraisal Guidance, as set out in a number of detailed WebTAG guidance documents [WBHE/D11-22, WBHE/D24, WBHE/D42 and updated versions referenced with A/B suffixes as appropriate).
- 2.1.2 Furthermore, in my Main Proof of Evidence [APP/P2.1], in section 3.1 to 3.4, I set out the benefits appraisal for the WBHE, including the primary assessments of Transport User Benefits and Wider Economic Benefits (sections 3.4.4. to 3.4.32). I also describe a number of additional appraisal assessments, in sections 3.4.33 to 3.4.70, including the Lichfields Wednesbury to Brierley Hill Extension Economic Impact Assessment [WBHE/D28]).
- 2.1.3 The development of any major scheme of this type ordinarily involves an on-going process of updating and refining scheme specification and designs, feeding through to updated business cases. Whilst the principal specification of the scheme remains unchanged from the earlier assessments underpinning the Wednesbury to Brierley Hill Business Case - Economic Case [WBHE/D7], further surveys and outline design work, as part of this ongoing process, has been carried out by the Midland Metro Alliance (MMA).
- 2.1.4 In producing the updated business case for final approval from the WMCA Board, the Wednesbury to Brierley Hill Final Business Case – Economic Case [WBHE/D7/B], WMCA has retained the appraisal methodologies that were used to underpin the 2017 business case, Brierley Hill Business Case - Economic Case [WBHE/D7] as described in my Main Proof of Evidence [APP/P2.1] in section 3.3.
- 2.1.5 In relation to scheme costs, as considered in Peter Adams’s Supplementary Proof of Evidence [APP/P1/4] and in my sections 2.2.5 to 2.2.11 below, WMCA has obtained new estimates of construction and vehicle costs that have now been included in the updated business case appraisal. The opportunity has also been taken to refine the renewal costs and scheme operating costs included in the appraisal of WBHE.

- 2.1.6 In relation to scheme benefits, the WBHE scheme itself remains largely unchanged from that assessed by the DfT in the Wednesbury to Brierley Hill Business Case - Economic Case [WBHE/D7] and the appraisal guidance is also largely unchanged, as described in my Main Proof of Evidence [APP/P2.1] in section 3.6. Therefore, in my judgement, there is no reason to reassess the underlying appraisals of scheme patronage, revenues and benefits.
- 2.1.7 This approach of a limited updating of the business case is consistent with the proportionality approaches advocated in the WebTAG Proportionate Update Process [WBHE/D12] in sections 1.3.1 to 1.3.8, in suggesting that a full reappraisal of all Economic Case elements of the scheme may not be required.
- 2.1.8 Section 3.5 of my Main Proof of Evidence [APP/P2.1] reports on the Value for Money Assessment for WBHE based on the scheme costs identified in Peter Adams' Main Proof of Evidence [WBHE/P2.1] and in my Proof of Evidence [APP/P2.1] in sections 3.5.3 to 3.5.12.

2.2 Updated Wednesbury to Brierley Hill Extension Value for Money

- 2.2.1 As noted in my Main Proof of Evidence [APP/P2.1], in section 3.5, a central part of the appraisal of WBHE is a cost benefit analysis (CBA). DfT's Transport Appraisal Process, DfT (January 2014) [WBHE/D11] and the updated Transport Appraisal Process, DfT (May 2018) [WBHE/D11/A] set out those costs and benefits that can be monetised in any CBA that, ordinarily, are used to generate a benefit cost ratio. The guidance recognises that not all costs and benefits can be readily monetised, but sets out methods for assessing non-monetised costs and benefits.
- 2.2.2 The Department for Transport has also established a set of value for money categories based around monetised benefit cost ratios, but with an opportunity for non-monetised impacts to contribute to the value for money allocation. At the time of the development of the business case, the value for money categories were set out in the DfT's Value for Money Assessment Advice Note for Local Transport Decision Makers, DfT (Dec 2013) [WBHE/D24]. The 'Poor' Value for Money category was split into 'Poor' and Very Poor' in later guidance, the Value for Money Framework, DfT (Jul 2017) [WBHE/D24/A]. However, this change does not affect the WBHE value for money allocation.

2.2.3 The value for money categories identified in the Value for Money Framework, DfT (Jul 2017) [WBHE/D24/A] are:

- Very Poor VfM if the BCR is less than or equal to 0
- Poor VfM if the BCR is between 0.0 and 1.0
- Low VfM if the BCR is between 1.0 and 1.5
- Medium VfM if the BCR is between 1.5 and 2.0
- High VfM if the BCR is between 2.0 and 4.0
- Very High VfM if the BCR is greater than 4.0

2.2.4 Before concluding on the value for money allocation for WBHE, it is also necessary to consider whether other non-monetised impacts would either add or detract from the scheme's value for money and change the allocation to a value for money category primarily driven by the benefit cost ratio. I consider the contribution of any non-monetised impacts on the value for money assessment later in this Supplementary Proof following my review of the cost changes and the consequent impact on the monetised elements of the appraisal for WBHE.

Updated Scheme Costs

2.2.5 In preparing the Final Business Case, WMCA has carried out, through the Midland Metro Alliance, a thorough estimate of the costs for implementing the project in order to ensure it provides a comprehensive, robust and reliable basis for the consideration of the Financial and Value for Money (Economic) Cases.

2.2.6 The updated investment cost profiles were developed for spending between 2017 and 2024, with the main spending occurring between 2020 and 2023. The costs of trams were spread over a three-year period paid for and delivered between 2020 and 2022.

2.2.7 The updated out-turn capital costs for the scheme are reported in section E4 of the Wednesbury to Brierley Hill Final Business Case – Economic Case [WBHE/D7/B], which notes a headline out-turn cost estimate of £449.5m, including an uplift of 9.9% to address estimating risk and forecast inflation. Of this total, £53.2m relates to the acquisition of new vehicles. This assumes construction is completed, in its entirety, by October 2023.

2.2.8 For appraisal purposes, the underlying costs have been adjusted to take out 'sunk costs' for prior years to the end of March 2019, in accordance with guidance at paragraph 2.3.3 in WebTAG Unit A1.2 Scheme Costs, DfT (July 2017)

[WBHE/D14/A]. As the cost estimates have been reassessed based on updated design and costing work, the requirement to include risk and optimism bias has been reduced, with the appraisal uplift of 4.4% applied to all scheme cost components to reflect delivery risk removed and the optimism bias premium on construction costs reduced from 20% to 6%. The optimism bias premium applied to the tram costs has been retained at 6%. The 6% optimism bias premium represents the recommended value for 'Light Rail' schemes at Stage 3 [Full Business Case for Local Authority and Public Transport Schemes] as set out in Table 8 following paragraph 3.5.7 in WebTAG Unit A1.2 Scheme Costs, DfT (July 2017) [WBHE/D14/A]. The recommended value has been used as it has been assumed that there are no additional mitigating factors that could otherwise reduce the premium below that recommended for a project at this stage of development, nor other factors suggesting the need for an increase the premium.

- 2.2.9 Allowing for the optimism bias premiums, but excluding 'sunk costs', the cashflow or nominal cost stream sums to a total of £455.9m. For the appraisal, the scheme cost stream was converted to 2010 discounted market prices using the standard GDP deflator based on September 2016 RPI figures, the standard indirect tax correction factor (1.19) and the Green Book schedule of discount rates provided in Table 6.1 of Annex 6 to the Green Book Appraisal and Evaluation in Central Government, HM Treasury (2003 – as updated in 2011) [WBHE/D9]. An additional allowance for capital cost renewals was also included in the updated appraisal to supplement the maintenance and renewals included in the routine operating costs. The value of the capital cost stream of the proposed extension, including all renewals, is £324.7 million (present value, 2010 prices).
- 2.2.10 The operating costs for the WBHE were derived from a bespoke operating cost model utilising operating costs from the existing Line 1 Metro line, with the marginal operating costs of the proposed extension generated from models of the extended system operations with and without the WBHE. These cost estimates have been reassessed, with a modest reduction in costs based on the opportunity to develop additional operating cost and network efficiencies from running a much larger network and the removal of the earlier 4.4% delivery risk premium. In line with WebTAG Unit A1.2 Scheme Costs, DfT (Nov 2014) [WBHE/D14] at paragraph 3.5.15, no optimism bias has been applied to the operating costs.
- 2.2.11 For the appraisal, the operating costs were converted to 2010 discounted market prices using the standard GDP deflator based on September 2016 RPI figures, the standard indirect tax correction factor (1.19) and the Green Book schedule of

discount rates provided in Table 6.1 of Annex 6 to the Green Book Appraisal and Evaluation in Central Government, HM Treasury (2003 – as updated in 2011) [WBHE/D9]. The value of the final 60-year stream of operating costs for the proposed extension is £142.5 million (present value, 2010 prices).

Appraisal Assumptions

2.2.12 The appraisal reported in the Wednesbury to Brierley Hill Business Case - Economic Case [WBHE/D7] was undertaken using the following assumptions:

- The WBHE is planned to open in 2023. Apart from capital costs which are spent prior to opening, operating costs and benefits streams have only been included from this opening year.
- The WBHE has been appraised over a 60-year period from opening, from the point when the full scheme is open in 2023, but with capital costs incurred earlier prior to opening.
- All prices have been re-based to 2010 prices, using a GDP deflator, consistent with WebTAG Transport Appraisal Process guidance [WBHE/D11].
- All costs and benefits have been discounted to 2010. As per guidance, a discount rate of 3.5% per annum has been applied for the next thirty years, with the rate reducing to 3.0% from then on.

2.2.13 With the operating concession for Midland Metro taken in-house through MML, the appraisal allocates system operation to the public sector, with any revenue surpluses accrues to the public sector. In cost benefit terms, this revenue surplus reduces the overall cost of the scheme to the public sector over the appraisal period and is treated as a negative cost in the cost part of the benefit cost ratio (i.e. as part of the denominator).

Analysis of Monetised Costs and Benefits

2.2.14 In accordance with WebTAG guidance Unit A2.1 Wider Economic Impact Appraisal, DfT (Sept 2016) [WBHE/D16/A], three variations of the Analysis of Monetised Costs and Benefits (AMCB) table were developed for the Final Business Case to set out the principal economic performance for the scheme:

- Level 1 assessment: initial BCR focusing on user benefits and assuming a fixed land use scenario.

- Level 2 assessment: adjusted BCR reflecting wider economic impact benefits assuming a fixed land use scenario
- Level 3 assessment: adjusted BCR reflecting dependent development and associated land value uplift benefits (regeneration benefits)

2.2.15 The Level 1 appraisal, is focused around user benefits, with greenhouse gas benefits derived from the DfT's standard software, TUBA (Transport User Benefit Appraisal) accident benefits derived from COBALT (COst and Benefit to Accidents – Light Touch), private sectors revenue and operating costs, and Metro-related operational costs and infrastructure costs. My Main Proof of Evidence [APP/P2.1] at paragraphs 3.4.2 and 3.4.61 provides further details of the TUBA and COBALT software packages. This initial appraisal, using the updated cost streams, generates a net present value for around £8m (present value, 2010 prices), and an initial benefit to cost ratio of 1.03.

2.2.16 The Level 2 appraisal extends the analysis to include the wider economic impacts generated using the DfT's WITA software. This expanded appraisal generates a net present value for £128m (present value 2010 prices), and an adjusted benefit to cost ratio of 1.53.

2.2.17 Table 1 below presents a full AMCB table for the Level 3 appraisal which takes account of Land Value Uplift. This is based on the core present value of benefits, expanded to include the wider economic impacts generated using WITA and the benefits arising from the Metro scheme 'unlocking' development along the corridor. The costs include both operational costs and infrastructure costs.

2.2.18 For the Level 3 appraisal, the scheme generates a net present value of £249m (present value 2010 prices), and an adjusted benefit to cost ratio of 2.03.

Table 1. Net Present Value and Adjusted Benefit to Cost Ratio

	£'000 (present value 2010 prices)
Greenhouse Gases	257
Accidents	1,115
Smarter Choices and Travel Planning Initiatives (benefits)	23,200
Network Rail Maintenance Saving	3,087
Economic Efficiency: Consumer Users (Non-Business)	
- user time, car operating costs, user charges	270,047
Economic Efficiency: Business Users and Providers	
- user time, car operating costs, user charges	18,101
- private sector bus revenues	-86,364
Private sector bus operating costs savings	44,794
Wider Public Finances (Indirect Taxation Revenues)	-23,249
Present Value of Benefits (PVB)	250,987
Wider Economic Impacts	119,756
Land Value Uplift	121,141
Adjusted Present Value of Benefits (PVB)	491,884
Broad Transport Budget	
- Metro investment costs	-324,722
- Metro operating costs	-142,525
- Metro revenues	227,757
Smarter Choices and Travel Planning Initiatives (costs)	-3,317
Present Value of Costs (PVC)	-242,807
OVERALL IMPACTS	
Net Present Value (NPV)	249,077
Adjusted Benefit to Cost Ratio (BCR)	2.03

2.2.19 Table 1 sets out the benefit to cost ratio for the WBHE and is supported by a number of standard analysis tables prescribed by WebTAG guidance. These are included as Table 4.4 (Public Accounts (PA)), Table 5.3 (Transport Economic Efficiency (TEE)) and Tables 6.1 - 6.3 (Analysis of Monetised Costs and Benefits (AMCB)) in the Wednesbury to Brierley Hill Final Business Case – Economic Case [WBHE/D7/B]. Also included in the Wednesbury to Brierley Hill Final Business Case – Economic Case [WBHE/D7/B] is the Appraisal Summary Table (AST) for WBHE, which brings together all aspects of the appraisal in a summary format. Again, the format of the AST is prescribed by the Department for Transport.

Value for Money Statement

2.2.20 Table 9 in my Main Proof of Evidence [APP/P2.1] and Table 6.3 in the Wednesbury to Brierley Hill Business Case - Economic Case [WBHE/D7] identified that, in 2017, the scheme generated a net present value of £275m (present value 2010 prices), and an adjusted benefit to cost ratio of 2.27. With the updating of the scheme costs to the new 2019 estimates, as noted above, but retaining all benefit estimates as for the earlier appraisal, the scheme generates a reduced net present value of

£249m (present value 2010 prices), and the adjusted benefit to cost ratio is reduced to 2.03.

2.2.21 Before concluding the allocation of the WBHE to a Value for Money category, I have also revisited my review of the wider non-monetised appraisal impacts reported in section 2.2 of my Main Proof of Evidence [APP/P2.1], concluding that there remain no significant adverse impacts that require a reduction in the value for money category for the scheme. Similarly, whilst there are further wider beneficial impacts not included in the benefit to cost ratio, particularly those identified and quantified in the Lichfields Wednesbury to Brierley Hill Extension Economic Impact Assessment [WBHE/D28], I see no reason to suggest increasing the scheme's value for money category from 'high'. However, I do consider that these wider benefits are strong enough to firmly cement the allocation of the quantified benefit cost ratio of 2.03 into this category.

2.2.22 Therefore, in my opinion, the economic performance of the WBHE continues to represent high value for money. This view is derived from a consideration of the benefit cost ratio of the scheme driven by both transport benefits and very strong wider economic benefits, alongside additional impacts that do not form part of the benefit cost ratio but provide strong policy support in terms of connectivity to employment and other facilities, and in supporting wider local and national policies.

3. THE SECRETARY OF STATE'S STATEMENT OF MATTERS

3.1 Secretary of State's Statement of Matters

3.1.1 The Transport and Works Act Orders Unit, on behalf of the Secretary of State for Transport, has issued a Statement of Matters [GEN 3] concerning particular issues upon which he wishes to be informed. For this section of my Supplementary Proof of Evidence, I have further reviewed the Statement of Matters in light of the updated appraisal considered in section 2 above, with this affecting only Matter 1 (the Justification for the Transport and Act Order) and Matter 3 – the anticipated benefits of the scheme (in so far as the updated costs affect the net economic benefits of the WBHE and its allocation to a Value for Money category).

Matter 1 – Justification for the Transport and Act Order in relation to the proposed Wednesbury to Brierey Hill Extension scheme

3.1.2 This matter is largely dealt with through the Main Proofs of Evidence of Peter Adams and Paul Ellingham [APP/P1.1 and APP/P5.1 respectively], however, in so far as it concerns my evidence, the compulsory purchase powers sought through the Proposed Order are essential to the delivery of the range and scale of benefits as reconfirmed in this Supplementary Proof of Evidence.

Matter 3 – The anticipated benefits of the scheme

3.1.3 This Supplementary Proof of Evidence concerns the economic case for the WBHE, including the range of economic and wider benefits ordinarily considered through the DfT's appraisal guidance used to assess the expected performance of major transport schemes such as WBHE. Section 2.2 of my evidence shows that, with updated scheme costs, the WBHE continues to deliver net economic benefit and offers 'high' Value for Money.

4. LIST OF APPENDICES

There are no Appendices to this Supplementary Proof of Evidence

