



Buckinghamshire Thames Valley Local Enterprise Partnership

Independent Assessment Summary Report: Aylesbury Eastern Link Road South

Business Case Independent Assessment

Report No. RT-A107360-01

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Appendices

Appendix A – Business Case Checklist

1 Executive Summary

1.1 This technical note provides an independent review of the Aylesbury Eastern Link Road (ELR) South scheme Outline Business Case submission to the Buckinghamshire Thames Valley Local Enterprise Partnership.

SCHEME SUMMARY

1.2 The Aylesbury Eastern Link Road South scheme consists of:

- A new link road - the ELR(S) - on a north-south alignment from a new bridge at the Grand Union Canal to the A41 at an improved Woodlands roundabout; and
- Shared-use footway/cycleways adjacent to the new routes, connecting in to Aylesbury's existing cycle network.

1.3 The scheme construction costs are £23m, putting the scheme into the 'major scheme' category (schemes over £5m are considered to be major schemes).

ASSESSMENT CRITERIA

1.4 According to the Buckinghamshire Thames Valley LEP Assurance Framework a full business case will be required for this scheme, which will be in line with DfT and WebTAG requirements.

1.5 This independent audit is based on DfT and WebTAG requirements for an Outline Business Case.

REVIEW FINDINGS

1.6 The Outline Business Case (OBC) contains some omissions that we would expect to see within the document, especially in the Economic Case. There are some methods used in the TUBA economic assessment that do not strictly follow the guidance, causing reduced accuracy in the appraisal.

1.7 These issues should be addressed before a future Full Business Case can be considered acceptable.



- 1.8 Notwithstanding the above, the buoyant economic assessment from the OBC provides strong evidence that the scheme is likely to give high value for money in the Full Business Case.
- 1.9 In conclusion, it is possible to recommend the Outline Business Case as submitted; subject to the scheme undergoing a WebTAG compliant Full Business Case in the future.



2 Submitted Information

2.1 The Business Case independent assessment was carried out based upon the following reports and appendices submitted by Buckinghamshire County Council and their consultant team (Jacobs):

- ELR (South) – ASR.doc;
- Aylesbury ELR - ASR - Final.doc;
- ELR OAR - Final Issue 26.03.2014.docx;
- Updated Outline Business Case for the ERL(S) - January 2018.pdf;
- LMVR_final.pdf;
- MFR_final.pdf.



3 Option Assessment Report - Review

- 3.1 The Options Assessment Report (OAR) is comprehensive and well written. It is clear that a wide range of options have been considered, giving confidence that the preferred scheme is the best choice.



4 Appraisal Specification Report - Review

- 4.1 The Appraisal Specification Report (ASR) has not been formally reviewed here. The document is however, at variance with the OBC appraisal, in particular with respect to the inclusion of an interpeak model and the use of variable demand modelling.
- 4.2 It is reasonable to suppose that the ASR was written with a Full Business Case in mind. It is considered here that the ASR is acceptable at this stage but should be updated for the Full Business Case.

5 Outline Business Case Review

- 5.1 The Outline Business Case (OBC) is generally well set out and includes the expected sections in each of the five cases.
- 5.2 The Economic Case however, is missing significant information to enable a full understanding of the effects of the scheme.
- 5.3 There is some uncertainty regarding the transport modelling used to underpin the scheme economics.
- 5.4 Certain methods used in the TUBA assessment are not ideal.
- 5.5 Certain assessments (Accidents, Air quality, Noise) have not been carried out.
- 5.6 The objectives of the Aylesbury ELR South scheme are:
- The successful (i.e. fully occupied) development of Aylesbury East to have taken place, build out complete by 2031;
 - Delivery of the commercial and residential development at Woodlands;
 - The reduction of journey times between the north of the county (and in turn Milton Keynes etc.) and the south of the county (and in turn London etc.) with the opening of the scheme. This will enhance the overall connectivity of Buckinghamshire, strengthen the area's appeal to investors and create the potential to qualify for other growth-related funding streams;
 - Reduced delays at major junctions across the Aylesbury network, improving journey time reliability by with the opening of the scheme. This will strengthen the town's appeal to visitors, investors and workers and engender the best possible access to East-West Rail and the associated benefits of that scheme: establishing sustainable strategic links to the rest of the country. This will also contribute towards town centre renewal and regeneration as outlined within the LTP3;
 - Improve public transport accessibility (reduced journey times for buses) and facilities for and usage by cyclists and pedestrians, to support lower carbon travel and enhance

access to the town centre by 2020. This will contribute towards town centre renewal and regeneration as outlined within the LTP3;

- Reduction of nitrogen dioxide emissions in Aylesbury's AQMAs to meet annual mean Air Quality Objectives by 2020, in line with AVDC's Air Quality Action Plan and on-going Local Air Quality Management regime. This will provide localised health benefits to the population of Aylesbury.

5.7 The scheme has been assessed on pure transport grounds.

Local Model Validation Report (LMVR)

5.8 Calibration and Validation of the transport model follows WebTAG Unit M3.1 guidance.

5.9 The model cordon boundary flow diagram (Figure 4-A) is not clear at all. More information is needed to understand the reasons for choosing the position of the cordon boundary. It would be helpful to have flow bundles on the scheme in county model.

5.10 The chosen RSI sites appear to capture the important movements related to the scheme.

5.11 Matrix building uses a combination of observed data (RSI's) and synthetic (gravity model). It is stated in the MVR that the gravity model is conducted using the county model.

5.12 The final calibrated parameters of the gravity model should be presented, in particular the lambda scaling parameters and any k-factors.

5.13 Deviations from the guidelines for matrix estimation (most notably HGV's) are sufficiently well explained.

5.14 The outbound SL2 screenline shows the most % difference from the observations. This is the screenline most affected by the scheme. It is explained that it consists of only two counts.

5.15 Link validation is good overall although the model flows exceed the criteria northbound on Broughton Lane in the IP and PM, which could over-estimate the benefits of the scheme.

5.16 Journey time (JT) validation is good near the scheme. Routes 1, 3, 4 and 9 are pertinent for the local scheme. Trafficmaster data for a whole month was used for the observed JT's which should give sufficient data for statistical significance, although this is not presented. JT

validation on these routes is within accepted criteria with the exception of Route 9 (902) in the AM peak which is just outside.

5.17 It is not clear which direction route 902 goes in, but from the route time-distance graphs it appears to be the middle section that is too slow in the model.

Model Forecasting Report (MFR)

5.18 The Model Forecasting Report gives some details about the methods used in building the forecast models. However, it is important to note that it does not describe the current modelling used to calculate the economics for the OBC.

5.19 The MFR tests the Aylesbury ELR South and the Stocklake Urban Link together.

5.20 In the MFR forecasting there are AM, IP and PM models.

5.21 The forecast years are 2019 and 2034.

5.22 The MFR forecasting uses NTEM 6.2.

5.23 The modelling in the MFR (and presumably for the OBC) uses fixed-trip matrices (i.e. no variable-demand modelling (VDM)). For a large scheme such as this the expectation is that WebTAG compliant variable-demand modelling will be needed to fully understand the final demand on the network.

5.24 Because there is no VDM, Temprow income and fuel-cost adjustment factors have been used, adding significantly to the forecast demand (+10.2%). These are unlikely to be appropriate in a small congested network, and will serve to artificially increase the TUBA benefits, possibly by significantly more than 10%.

5.25 The core scenario in the MFR does not use the uncertainty log, which would be expected.

OBC Modelling

5.26 The OBC states that the modelling has been updated since the MFR was written.

5.27 The latest modelling updates the MFR in the following ways:

- The Aylesbury ELR South is the only scheme being tested;
- The Stokelake Urban Link Road is treated as a committed scheme;
- The model now uses the uncertainty log, controlled to Temprow growth, as per WebTAG guidance. In the MVR only Temprow growth was used;
- There are only AM and PM peak models;
- The forecast years are 2022 and 2034;

5.28 The current modelling continues to use NTEM 6.2, which is out of date. NTEM 7.2 is the latest dataset. However, a comparison of the local growth factors between the two datasets presented in the OBC shows they are not too dissimilar in Aylesbury.

5.29 An updated MFR detailing the changes in this round of modelling should ideally have been presented.

5.30 More details on the Hampden Fields infrastructure should be shown. It is not clear whether it is reasonable that it is included in the 2022 model when the development is not.

5.31 The Woodlands development is stated as being dependent on the scheme. Proper use of WebTAG Unit A2-3 (transport appraisal in the context of dependent development) would assess an additional model run that includes the Woodlands development.

OBC Appraisal

5.32 Tuba 1.9.9 has been used. Value-of-time Method 1 (the default) has been used in the appraisal. This is not the most appropriate method to use in a cordon model since the full length of the trip is not represented. Method 3 would be more appropriate as this uses a global average value of time rather than calculating it as a function of distance. The use of Method 1 here is likely to slightly under-estimate the benefits.

5.33 The annualisation factors used for the AM and PM in Tuba were 678 and 705 respectively. These were calculated by multiplying the number of working days in the year (253) by the peak-to-period factors. This method is not supported by TUBA guidance and is likely to present an inaccurate estimate of scheme benefits.



- 5.34 The lack of IP model will make AQ, noise and accident calculations less precise.
- 5.35 Accident benefit/disbenefits have not been calculated.
- 5.36 Air quality benefit/disbenefits have not been calculated.
- 5.37 Noise benefit/disbenefits have not been calculated.
- 5.38 Accident benefit calculations using COBALT would be expected for a scheme of this nature.
- 5.39 For the AQ and noise assessments DMRB has guidelines for deciding whether quantified assessments are needed. The various criteria need to be shown to be met or not and, where exceed, assessments made.
- 5.40 Low and high growth scenarios have been conducted and show the expected results.

Scheme costs

- 5.41 The scheme cost calculations appear to be calculated correctly, with risk and optimism bias appearing in the right places.
- 5.42 Optimism bias has been calculated as 27%. This uses a calculation that examines the contributory factors associated with the 44% level of optimism bias and treats some of the causes to a reasoned reduction.

6 Conclusion

- 6.1 The Outline Business Case (OBC) contains some omissions that we would expect to see within the document, especially in the Economic Case. There are some methods used in the TUBA economic assessment that do not strictly follow the guidance, causing reduced accuracy in the appraisal.
- 6.2 These issues should be addressed before a future Full Business Case can be considered acceptable.
- 6.3 The scheme as presented in the OBC has a **Very High Value for Money** with a **BCR of 8.3**.
- 6.4 DfT and BTV LEP guidance recommends that only schemes with a High or Very High Value for Money (VfM) be taken forward for funding.
- 6.5 However, there are several key FBC requirements that are missing and more information that needs to be supplied in order to understand the impacts of the scheme. The methods used in the OBC to assess the scheme are likely to have produced results that will be significantly different to a full WebTAG compliant FBC appraisal. As such the BCR and value for money statement should be viewed with caution.
- 6.6 Notwithstanding the above, the buoyant economic assessment from the OBC provides strong evidence that the scheme is likely to give high value for money in the Full Business Case.
- 6.7 In conclusion, it is possible to recommend the Outline Business Case as submitted; subject to the scheme undergoing a WebTAG compliant Full Business Case in the future.



Appendix A – Business Case Checklist

Project Number: A087383-08
 Scheme: Aylesbury Eastern Link Road South
 Submitted by: Buckinghamshire County Council

Strategic Case	Addressed within Business Case	Notes	Economic Case	Addressed within Business Case	Notes	Financial Case	Addressed within Business Case	Notes	Commercial Case	Addressed within Business Case	Notes	Management Case	Addressed within Business Case	Notes
Business Strategy	Y	A short but informed description is provided. Appendix A is also detailed and informed.	Options appraised	N	No list of options appraised is provided in Section 3.3.	Costs	Y	Provided.	Output based specification	N	Not provided. Please provide.	Evidence of similar projects	Y	Detailed description provided.
Problem Identified	Y	Detailed description and evidence provided. Figure 2-B appears twice.	Assumptions	Y	Provided.	Budgets / Funding Cover	Y	Provided.	Procurement Strategy	Y	Provided.	Programme / Project dependencies	Y	Provided.
Impact of not changing	Y	Provided.	Sensitivity and Risk Profile	Y	Provided.	Accounting Implications	Y	Provided.	Sourcing Options	Y	Sources not explained. Please provide details.	Governance	Y	Provided. Appendix G not provided.
Drivers for change	N	Not included, although covered in Section 2.3. Please provide a separate section.	Appraisal Summary Table	Y	Provided. Please provide calculation details.				Payment Mechanisms	Y	Provided.	Programme / Project Plan	Y	Provided.
Objectives	Y	Not all objectives are SMART. None of the objectives is measurable.	Value for Money Statement	Y	Provided.				Pricing Framework and charging mechanisms	Y	Provided.	Assurances and approvals	Y	Provided.
Measures for success	Y	Provided.							Risk allocation and transfer	Y	Provided in Section 5.7 Contract Management.	Communication & Stakeholders	Y	Provided.
Scope	Y	Provided.							Contract length	N	Please state specifically.	Project Reporting	Y	Provided.
Constraints	Y	Detailed.							Human resource issues	N	Not provided but not necessary.	Implementation	N	Not provided but not necessary.
Inter-dependencies	Y	Not provided. If included in Section 2.8, please provide a separate section.							Contract management	Y	Provided. Please change title to: "Contract Length and Management"	Key Issues	N	Not provided. Please provide.
Stakeholders	Y											Contract Management	N	Not provided. Please provide.
Options	Y	Not included. Please provide.										Risk Management	Y	Provided.
												Benefits realisation	Y	Provided.
												Monitoring and evaluation	Y	Provided.
												Contingency	N	Not provided. Please provide.
												Options	N	Not provided. Please provide.