



Department
for Transport

Value for Money Assessment: Advice Note for Local Transport Decision Makers

December 2013

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Executive summary

1. The Department for Transport uses the 'Transport Business Case'¹ approach to support decision making for major investment. A key element of this approach is the Value for Money statement, which summarises the impact on the 'Economic Case' of the transport intervention under consideration.
2. The 'Economic Case' and supporting Value for Money assessment uses the HM Treasury Green Book² method of cost benefit analysis. This assesses the value of a transport project by weighing the benefits against the costs to indicate whether it is Value for Money. The Value for Money assessment is, however, not just about money and saving people time; a wide spectrum of impacts is considered in a detailed appraisal, including various impacts on the economy, the environment and social welfare. Further details of DfT's transport appraisal process, and how it relates to decision making, can be found in recently published note³.
3. As part of the devolution process, a significant portion of the DfT budget is being devolved and is part of the Local Growth Fund from 2015. The selection and approval of funding for individual local major transport schemes will now be the responsibility of local decision makers.
4. It is for local decision makers to determine the most appropriate criteria for prioritising spend on transport and the level of analysis required. Value for Money should nevertheless always be a factor considered in such decision making and in approving funding for individual schemes at all stages.
5. This note has been produced to help promote sound decision making and ensure that Value for Money of schemes is appropriately considered. It provides details of the Value for Money assessment process that DfT has developed over many years to assess major transport schemes, including the role of qualitative, quantitative and monetised information. It also shares some advice on the use of uplifts and values which have previously been used by the DfT in the assessment of major schemes. The presentation of this information and the use of standard tables such as the Analysis of Monetised Cost and Benefits Table and the Appraisal Summary Table are also discussed in this paper.

¹ Transport Business Case: <https://www.gov.uk/government/publications/transport-business-case>

² HM Treasury Green Book: <https://www.gov.uk/government/publications/the-green-book-appraisal-and-evaluation-in-central-government>

³ Transport Appraisal in Investment Decisions: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/253484/transport-appraisal-in-investment-decisions.pdf

6. The DfT's Transport Analysis Guidance (WebTAG)⁴ contains a wealth of material covering detailed advice on modelling, appraisal and the assessment of social and distributional impacts⁵. WebTAG includes specific values for use in appraisal that are based on detailed research. Inevitably the evidence available for some appraisal aspects and some scheme types will be less certain; and this note seeks to explain the best practice for dealing with these circumstances.
7. The methods described in this note have, in general, been used by the DfT for assessment of major schemes rather than smaller scale investments. This advice should therefore be considered in that context and proportionality should be a key consideration in application.
8. **This advice, in itself, is not mandatory. Individual devolved funding streams may, however, be subject to minimum requirements on Value for Money and these will be communicated separately. In any event this advice note should serve as good practice.**
9. In particular, this advice will enable Local Transport Bodies to fulfil the requirements of their 'Assurance Frameworks' in relation to Value for Money and should be seen as the DfT's definitive guidance in this regard.

⁴ WebTAG: <http://www.dft.gov.uk/webtag/index.php>

⁵ Social and Distributional Impacts Guidance: <http://www.dft.gov.uk/webtag/documents/expert/unit3.17.php>

1. Introduction

Background

1.1 The Department for Transport uses the 'Transport Business Case' approach for decision making. Using this approach means that business cases are developed in line with the Treasury's advice on evidence-based decision making set out in the Green Book⁶. The Transport Business Case is a five case model that shows whether schemes:

- are supported by a robust case for change that fits with wider public policy objectives – the 'Strategic Case';
- demonstrate value for money – the 'Economic Case';
- are commercially sound – the 'Commercial Case';
- are financially affordable – the 'Financial Case'; and
- are achievable – the 'Management Case'.

1.2 The five cases can be developed with the help of guidance and tools made available by the DfT to ensure that the assessment is robust and consistent. WebTAG⁷, the DfT's guidance on the conduct of transport studies, provides advice on the development of transport options and the appraisal and modelling requirements underlying their assessment.

1.3 Evidence from each of the five cases feeds into the decision making process, where this information is reviewed in three stages. Stage 1 sets out the need for intervention (Strategic Outline Business Case), stage 2 concentrates on the detailed assessment of the options (Outline Business Case) and stage 3 is the Full Business Case supporting the decision to commit funding.

1.4 This decision making process is intended to be flexible to ensure that time and resources spent on the development of a business case are **proportionate** to the size of the investment. More information on the five cases and the DfT's decision making process can be found on the DfT's website⁸.

Value for Money

1.5 The Economic Case assesses the impacts and the Value for Money (VfM) implications of all the options outlined in the business case. The economic, environmental, social, distributional and fiscal impacts of a

⁶ HM Treasury Green Book: <https://www.gov.uk/government/publications/the-green-book-appraisal-and-evaluation-in-central-government>

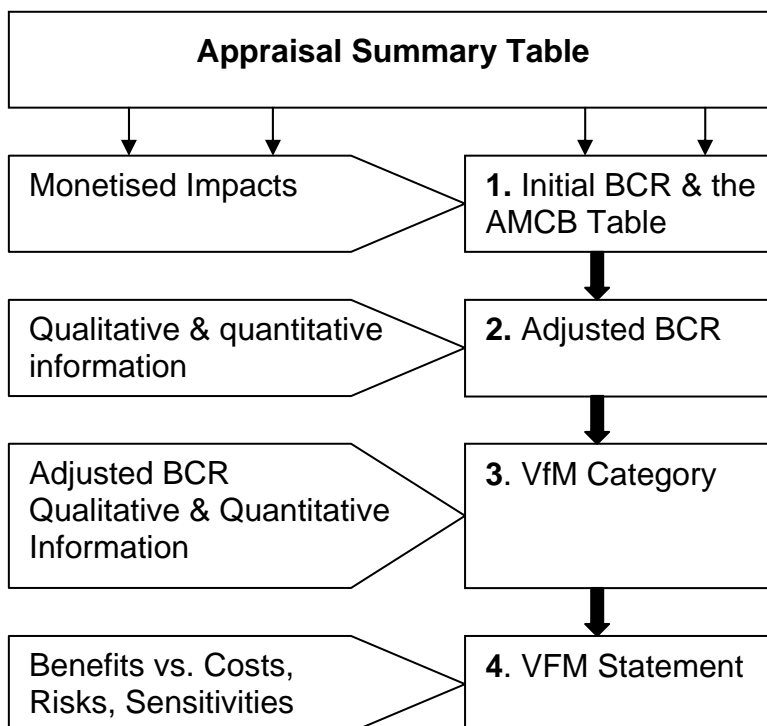
⁷ WebTAG: <http://www.dft.gov.uk/webtag/index.php>

⁸ Transport Business Case: <https://www.gov.uk/government/publications/transport-business-case>

proposal are assessed using qualitative, quantitative and monetised information.

- 1.6 The Value for Money assessment of a transport intervention has been designed as a staged process to ensure that a complete and robust analysis is undertaken by the practitioner. The Appraisal Summary Table⁹ (AST) helps to inform this process by providing a template for a summary of all the monetised, qualitative and quantitative impacts of the transport scheme to be presented as a coherent package.
- 1.7 The box below outlines the main 4 steps in the assessment process and how they make use of the detail presented in the AST.

BOX 1: Value for Money Process



- 1.8 The assessment starts with the calculation of those impacts, positive and negative, that can be expressed in money terms (“monetised”). This would typically include things like capital cost of the scheme and revenues. These monetised impacts are summed to construct an Initial Benefit Cost Ratio (Initial BCR) – that is the amount of benefit being bought for every £1.00 of cost to the public purse. A summary of the monetised information along with the Initial BCR is then presented in the Analysis of Monetised Costs and Benefits (AMCB) Table¹⁰.

⁹ Appraisal Summary Table: http://www.dft.gov.uk/webtag/documents/project-manager/xls/U2_7_2-appraisal-summary-table110418.xls

¹⁰ AMCB table: <http://www.dft.gov.uk/webtag/documents/project-manager/unit2.7.1.php>

- 1.9** Not all impacts lend themselves as easily to being monetised. The next step is then to look at those impacts where there is at least some evidence to support calculation of a money value. This might include aspects such as reliability improvements or landscape impacts. The resulting numbers can then be added to those used for the Initial BCR to calculate an Adjusted BCR.
- 1.10** Once the impacts that can be expressed in monetary terms have been calculated, and the sensitivities and uncertainties surrounding those calculations have been logged, the assessment needs to capture the remaining impacts that cannot be monetised (for example the impact an urban scheme might have in improving the aesthetics of the public realm). Taking all this information together allows a judgement to be made on the Value for Money category of the proposed scheme.
- 1.11** Table 1.1 below helps to provide an overview of the benefits and highlight those that are included in the Initial and Adjusted BCR. The table also outlines those benefits or costs that are currently not monetised and may be presented as qualitative information.

Table 1.1 Impacts of a Transport Scheme

Category of impacts	Impacts typically monetised (Initial BCR)	Impacts that can be monetised (Adjusted BCR)	Impacts currently not normally monetised
Economy	Business users and providers ¹¹	Reliability; Regeneration; Wider Impacts;	Townscape Heritage Biodiversity Water Security Access to Services Affordability Severance
Environment	Noise, Air Quality Greenhouse gas	Landscape	
Social	Commuting & Other users ¹² ; Accidents, Physical Activity and Journey Quality	Reliability Option and non-use values	
Public Accounts	Cost to broad transport budget Indirect tax		

¹¹ Business users and providers benefits may include impacts to travel time, vehicle operating costs, user charges and impacts during construction and maintenance. These benefits may also include impacts to revenue, operating and investment costs, grants and developer contributions.

¹² Commuting and other users benefits may include impacts to travel time, vehicle operating costs, user charges and impacts during construction and maintenance.

1.12 Finally, a Value for Money statement is produced using this information to provide a summary of the conclusions from the Value for Money assessment. It appraises whether the benefits of the proposal outweigh the costs whilst identifying any key risks and sensitivities that may affect the Value for Money conclusion. An example of the steps above is provided in Section 5 (Value for Money Assessment) of this document.

A Note for Practitioners

1.13 This note can be used by local decision makers when undertaking a Value for Money assessment of major transport schemes.

1.14 This advice, in itself, is not mandatory. Individual devolved funding streams may, however, be subject to minimum requirements on Value for Money and these will be communicated separately. In any event this advice note should serve as good practice. In particular, this note will enable Local Transport Bodies to fulfil the requirements of their 'Assurance Frameworks' in relation to Value for Money and should be seen as the DfT's definitive guidance in this regard.

1.15 This note provides an overview of the Value for Money process including advice on the different stages of the assessment and how these contribute to the final Value for Money statement.

1.16 Whilst this advice note does provide some advice on the development of the Initial BCR, the main focus of this document is outlining the Value for Money assessment process and providing detail on the impacts that contribute to the Adjusted BCR. This note should therefore be seen as complementary to, and be used in conjunction with, WebTAG.

1.17 A key consideration when applying both the advice in this note and WebTAG guidance is the need for proportionality. The scale and severity of the impacts of the scheme and the uncertainty in assessment should define the level of effort needed for each element of the assessment.

1.18 The advice provided herein on the monetisation of quantitative and qualitative information for the Adjusted BCR reflects best practice in the DfT. These uplifts and values have not been included in WebTAG, but provide an indicative order of magnitude of the benefits. The results are not intended to provide precise estimates but may be used to help judge the Value for Money of a scheme.

2. Initial BCR

- 2.1** The Benefit Cost Ratio (BCR) considers the impacts to the economy, society, the environment and the public accounts. It offers an estimate of the value of benefit generated for every £1 of public expenditure on a project or scheme.
- 2.2** The Initial BCR can be constructed using the DfT's WebTAG guidance. WebTAG Unit 3.5.4 provides advice on monetising the different benefits and costs of a transport intervention and also outlines the different assumptions for the appraisal of such impacts.
- 2.3** Benefits and costs that contribute to the Initial BCR can be presented in the Analysis of Monetised Costs and Benefits (AMCB) Table¹³.
- 2.4** The Initial BCR defines the initial Value for Money category. Proposals are judged to offer poor, low, medium, high and very high Value for Money based on the BCR boundaries. These categories include:
- Poor VfM if BCR is below 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
- 2.5** The Value for Money assessment should then account for quantitative and qualitative information. The following sections of this advice note provide more advice on the use of this information, construction of the Adjusted BCR and final Value for Money categorisation.

¹³ AMCB Table: <http://www.dft.gov.uk/webtag/documents/project-manager/xls/amcb-table.xls>

3. Adjusted BCR

- 3.1** The second stage of the Value for Money assessment process builds on the initial monetised costs and benefits. This stage considers the qualitative and quantitative information on some impacts and how these contribute to the Value for Money of the scheme.
- 3.2** This section of this advice provides advice on the monetisation of qualitative and quantitative information. The methods outlined may make use of uplifts and benchmark values in cases where evidence base is less well developed. They help to provide some indication of the Value for Money impacts of the individual costs and benefits.
- 3.3** The evidence base used to derive the monetary values here is necessarily less robust than values used for the initial BCR and therefore it is important to consider these estimates as part of the Adjusted BCR.
- 3.4** In order to ensure a robust analysis, it is important to follow a structured and consistent approach. The sections below on Reliability, Option Values, Regeneration, Wider Impacts and Landscape outline the basic method and principles for assessing these individual impacts.

Reliability

- 3.5** WebTAG Unit 3.5.7 provides guidance for modelling and monetisation of changes in journey time reliability for dual carriageway, motorway and urban road users. This assessment is usually generated through use of the reliability modelling software. Reliability benefits accrued to rail passengers can be similarly and systematically modelled for rail projects.
- 3.6** However reliability modelling may not be achievable for some road schemes, such as single carriageways outside of urban areas and public transport schemes. For public transport schemes, reliability would be based on the difference between the Preferred Arrival Time (PAT) and the actual arrival time. However, very little is known about PAT for most public transport schemes. In these instances reliability cannot be captured in the BCR but reliability valuations can be approximated and monetised for the Value for Money process.
- 3.7** Reliability benefits have previously been estimated in the DfT by applying uplifts of 5%, 10% and 20% of time savings. These provide an indicative measure of reliability benefits to reflect Slight, Moderate or Large impacts respectively.
- 3.8** The first step of estimating impacts outside of the model is to understand the evidence base for reliability impacts. For journeys on single carriageways outside urban areas, WebTAG unit 3.5.7 recommends the use of a stress based approach. In this case, the assessment of changes in reliability should be based on changes in "stress"- the ratio of

annual average daily traffic (AADT) flow to the Congestion Reference flow (a definition of capacity).

- 3.9** WebTAG provides advice on how the stress test results can be interpreted as Slight, Moderate or Large based on the values calculated. The appropriate uplift to time savings can then be applied to monetise the reliability impact. These results along with the evidence used (e.g. stress test) should be clearly covered in the Value for Money assessment.
- 3.10** If a stress based approach has not been undertaken, sensitivity tests for reliability using the uplifts should be undertaken. This would help to provide a useful indication of the likely impact of reliability on the VfM category. Any key impacts should also be summarised in the Value for Money statement.

Option values and Non-use values

- 3.11** Option values measure the willingness to pay to preserve the option of using a transport service for trips that are currently undertaken by other modes, over and above the expected value of any future use. For example, a car owner may value the option of a rail service being available for circumstances when they cannot use the car.
- 3.12** Non-use values or existence values, on the other hand, represent the value society places on the very existence of a service or facility regardless of any possibility of future use; this may be related to its usefulness to others or perhaps as a matter of civic pride.
- 3.13** WebTAG Unit 3.6.1 provides monetary values for different transport packages for schemes that consider changes in local bus and rail services. This unit also provides detail on the circumstances and methods for applying these values in appraisal. Because the evidence base used to derive the monetary values is less robust¹⁴, it is important to consider such estimates only as part of the Adjusted BCR.
- 3.14** The Appraisal Summary Table should include details of the assumptions used in the assessment along with the final Net Present Value. If a monetary assessment has not been undertaken, the AST should provide a summary of the evidence used to assess this impact qualitatively.

Regeneration

- 3.15** WebTAG Unit 3.5.8 provides advice and links for identifying regeneration areas (RA) and the method used for assessing transport schemes that affect travel to, from or within one or more RAs.
- 3.16** The first task is to understand whether the scheme lies in a Regeneration Area. A Regeneration Report would then need to be prepared using the

¹⁴ Refer to WebTAG Unit 3.6.1 for further detail on the evidence base.

guidance provided in WebTAG. The report should demonstrate the role transport plays in the RA's economy and how the proposed scheme is expected to affect job creation and employment levels in the area. WebTAG Unit 3.5.13 also provides advice on data sources that can be used when preparing a Regeneration Report. This is not an exhaustive list of sources but provides a starting point for this analysis.

Wider Impacts

- 3.17** WebTAG Unit 3.5.14 provides detailed instruction on how to measure wider impacts. This includes agglomeration impacts (i.e. the impact an increase in the concentration of economic activity has on productivity), increased or decreased output in imperfectly competitive markets (i.e. welfare gain/loss from increased/decreased output in these circumstances) and the effect on labour markets. The assessment of these impacts is usually undertaken using WITA (Wider Impacts in Transport Appraisal) software which automates the process outlined in WebTAG.
- 3.18** The use of such software is highly recommended by the DfT as it can help produce more accurate and robust results. However, in the absence of evidence, uplifts may be used to provide some understanding on the magnitude of such benefits.
- 3.19** An indicative measure of the value of increased output in imperfectly competitive markets can be estimated using a 10% uplift to Business User Benefits¹⁵. This represents the additional consumer surplus associated with increased output in imperfectly competitive markets.

Dependent Development

- 3.20** Dependent development is defined in WebTAG Unit 3.16D as housing which is dependent on the provision of some form of transport service. The dependency test outlined in this unit helps to establish whether the transport network could still provide a reasonable level of service in the absence of the transport intervention but with the new housing development. If this is not the case, the development can be considered to be dependent on the transport intervention.
- 3.21** The assessment then mainly involves two key steps:
- assessing the benefits of the **transport intervention** in isolation (without the new housing development)
 - assessing the (dis-)benefits of **dependent housing**.

¹⁵ Feldman O, Nicol J, Simmonds D, Sinclair C and Skinner (2008)-"Use of Integrated transport land use models in the wider economic benefits calculations of transport schemes". Paper presented at 87th Transportation Research Board Annual Meeting, January 13-17, 2008, Washington DC, USA. Forthcoming in Transportation Research Record: Journal of the Transportation Research Board.

3.22 The analysis for the **transport intervention** can be presented like any other transport assessment, including presenting the results in the AMCB Table and AST.

3.23 In this context the assessment of the benefits of **dependent housing** also plays a vital role in the transport assessment. Although transport schemes may play a fundamental role in the facilitation of housing and other development, it is important to note that transport is not the only infrastructure item needed; other items such as supply of electricity and water will also play a role. The benefits of a development arise from a planning decision that depends on a package of infrastructure investments and hence it would not be appropriate to attribute all the benefits of the dependent housing to the transport scheme in isolation.

3.24 Full details of the analysis required to assess the benefits of dependent housing can be found in WebTAG Unit 3.16D¹⁶. The advice below provides a brief summary that can be followed for presenting the information and results from the analysis of the **dependent housing**:

- **Values:** The promoters should report the number of dependent homes together with the hectares of land affected. The report should set out the assumptions and values underlying estimates of 'planning gain' associated with the dependent housing and similarly for any external costs that have been calculated. Where local values have been used, the report should justify the basis for using these values instead of those recommended by the DfT.
- **Results:** The estimated value of benefits of the dependent development can be used to obtain a qualitative assessment score. Guidance on the classification of these scores can be found in Annex B. The qualitative assessment of the dependent housing unlocked by a transport scheme is considered alongside any other non-monetised impacts to reach the overall assessment of the Value for Money of the transport scheme.

Landscape Assessment

3.25 The Landscape guidance published in WebTAG Unit 3.3.7 provides advice on how a qualitative assessment of these impacts can be undertaken. In the presence of moderate or large landscape impacts, an illustrative monetisation of the impact helps understand the Value for Money implications of landscape damage. The landscape assessment in WebTAG may differ from, but will be complementary to, any analysis needed for other (e.g. statutory) environmental assessments.

3.26 The following advice provides instruction on how practitioners can assess the landscape impact of a planned scheme and monetise this using recommended landscape values. The values help provide an indicative estimate of the monetary value of impacts but they are not

¹⁶ WebTAG Unit 3.16D Transport Appraisal in the Context of Dependent Development:
<http://www.dft.gov.uk/webtag/documents/expert/pdf/U3-16D-dependent-development-Oct-2013.pdf>

suitable for giving precise estimates. The following advice should be used in conjunction with the assessment outlined in WebTAG Unit 3.3.7 as this will help inform whether a detailed monetised assessment is required.

3.27 The table below summarises the 6-step procedure on monetising landscape impacts:

Table 3.1 Summary of Landscape Assessment Process

Step	Key aspects
1. Identify Landscape features	Utilises information from the landscape worksheet and an environmental constraints map (identify moderate or large landscape impacts)
2. Segment the scheme	Segmentation of scheme where landscape impacts vary significantly
3. Determine Land Type	From information or other sources (environmental constraints map/ google maps) determine the appropriate (mix of) land type
4. Mitigation	Identify any current mitigation structures or measures proposed to reduce impacts on the landscape.
5. Landscape Impact valuation	Assessment using the landscape values recommended in this advice.
6. Sensitivity Tests	Sensitivity analysis for the key assumptions used in the assessment. This could include a range of values (upper and lower bounds).

3.28 The starting point of the assessment depends on the analysis produced in the Landscape worksheets (from WebTAG Unit 3.3.7). If the landscape impact is considered to be neutral or slight, it is not proportionate to carry out a detailed analysis. If the scheme is judged to have a large or moderate impact, a detailed analysis should be undertaken to understand the potential impact on the BCR and Value for Money of the scheme.

3.29 Segmentation of the scheme would help identify homogenous aspects of the landscape. It is also essential to identify the "footprint" of the scheme or the area judged to be most affected. This assessment uses the assumption that the scheme or structure would affect the landscape up to 500m either side of the scheme. A linearly declining impact is also assumed and effectively implies that for each kilometre of the scheme, 25 hectares of land are fully impacted on each side of the scheme.

3.30 Steps 2 and 3 require the practitioner to make a judgement and can be aided through a variety of sources such as environmental constraints maps, OS maps, environment statements, aerial photos, artistic

impressions, digital images such as Google earth or street view or site visit.

3.31 The assessment should also consider mitigation measures as these may imply a lower area for the impact. Mitigation for landscape impacts can be in various forms:

- Existing structures: In this scenario, where a structure is nearby, the footprint of the existing and proposed development may overlap. Schemes that widen an existing road will also have a smaller impact than developments that are offline. Alternatively, the impact of existing housing or woodlands may act as a screen. The assessment should then only account for the marginal impact.
- Mitigation within the Scheme: The scheme design may include mitigation directly, for example through use of tree planting or sympathetic materials.

3.32 Unit values for landscape and the definition of land types are adapted from the Department for Communities and Local Government (DCLG) literature review study concerning the benefits of undeveloped land (DCLG/ODPM, 2001)¹⁷. The Present Values are presented in per hectare and are taken to provide an indication of the flow of non-market benefits that may be associated with a particular land type. More detail on the derivation and origin of these estimates can be found in Annex A along with Table A1 which provides the values by land type.

3.33 The text box provides the calculation to be used when assessing these impacts. The approach proxies the loss of welfare resulting from the landscape impact of a proposal to the area of land affected by the proposal.

Landscape Calculation

$$V_{s,l} = Length (km) \times Value_l (\pounds/ha) \times A_s (ha/km)$$

V is the present value of the landscape impact associated for proposal s for land type l. This is calculated by multiplying the scheme length (for linear based schemes) by the appropriate landscape value for land type l (in present value terms), and a further factor A, which establishes the area of land which is impacted upon (i.e. the number of hectares per km of scheme). The mitigation measures discussed should be accounted for in this factor. For instance, if mitigation measures within the scheme are likely to reduce landscape impacts by 50%, A would be 25, or 50% of 25 on both sides of the scheme.

3.34 Judgement needs to be applied at many stages of this assessment process and therefore sensitivity analysis should be undertaken to test

¹⁷ DCLG/ODPM (2001) Valuing the External Benefits of Undeveloped Land: A Review of Economic Literature, Department for Communities and Local Government (formerly Office of the Deputy Prime Minister) Appraisal Guidance, London.

the assumptions used. The assessment could therefore assess a "best case" scenario and a "worst case" scenario with varying assumptions for mitigation, landscape character and the design envelope of the scheme. It will also be important to consider other underlying assumptions, especially those that are used elsewhere in the appraisal process (e.g. income growth), and ensure consistency in approach. In some cases it may be proportionate to carry out more detailed analysis, including consideration of the timing of the impacts. The impact of any sensitivity tests can then be presented within the Value for Money conclusions.

- 3.35** The suggested approach and values presented here may be adapted to suit different transport appraisal requirements. It is however necessary to understand that this approach cannot produce precise estimates and is only to provide an illustrative monetary figure of such impacts.

4. Qualitative Impacts

- 4.1** Where a monetary assessment is not feasible, WebTAG provides guidance on the qualitative assessment of the impacts. This is covered in the WebTAG units for each impact but a brief outline of the basic methodology is discussed in this section.
- 4.2** The approach in general is the same for most qualitative assessments and should firstly consider how the transport scheme will affect each of the impacts individually. This is done by considering each impact with and without the scheme.
- 4.3** The impacts are then assessed using the recommended 7 point scale which breaks down impacts into Slight, Moderate or Large Beneficial or Adverse and Neutral. The WebTAG units also provide guidelines on the type of evidence to be used when applying this scale. These units may also contain worksheets to help with the assessment.
- 4.4** The Appraisal Summary Table should record the overall assessment of the qualitative impact along with details of any key assumptions and uncertainties.
- 4.5** A qualitative assessment may not contribute to the BCR but should be given equal weight when defining the Value for Money category. Large and Moderate impacts are more likely to affect the Value for Money and therefore should be highlighted in the Value for Money statement accordingly.

5. Value for Money Assessment

- 5.1** A Value for Money conclusion can be drawn by considering all the evidence pulled together as part of the Value for Money statement.
- 5.2** The final Value for Money category should consider any key risks and uncertainties relating to the scheme. Sensitivity tests undertaken as part of the assessment should help inform how these risks may impact the Value for Money of the scheme. For instance, the assessment could consider the impact of high and low demand forecasts upon which the appraisal is based and high and low ranges for the Value of Travel Time savings. The assessment may also consider the impact of cost ranges or different levels of optimism bias.
- 5.3** The appropriate range of sensitivity tests should be determined on a case by case basis; with proportionality a key consideration.
- 5.4** Sensitivities undertaken to test the robustness of the results (e.g. implications of cost changes) can then be used to inform the final judgement on the Value for Money category.
- 5.5** The table below provides a worked example of how the assessment results can be used to arrive at a Value for Money category.

Table 5.1 Value for Money: Worked Example

	Assessment	Detail
Initial BCR	1.5 (BCR)	Estimated using WebTAG Guidance
Adjusted BCR	1.9 (BCR)	Includes estimates for Reliability Impacts
Qualitative Assessment	Largely Beneficial	There is strong evidence of impacts relating to Severance and Security benefits.
Key Risks, Sensitivities	Risks reflected in VfM conclusion.	Cost estimates are not final. Higher optimism bias rate applied to account for uncertainty in cost estimates.
VfM Category	Medium/High	Qualitative assessment suggests BCR may be high. Medium/High Value for Money is judged appropriate as it is not possible to distinguish between the two categories with any certainty.

Value for Money Presentation

- 5.6** A **Value for Money Statement** summarising the Value for Money conclusions should then be produced to be included in the Economic Case.
- 5.7** The VfM statement should include:
- The VFM category of the scheme (low, medium, high or very high). This is based on the overall results in the AST.
 - The present value of benefits and costs along with the Benefit Cost Ratio. The values for both the Initial and Adjusted BCR should be reported separately.
 - A concise summary of the benefits and costs that have been assessed including any assumptions that may influence the results. This may include details such as the optimism bias and any assumptions used to calculate benefits and costs for the Adjusted BCR.
 - Details of the non-monetised impacts particularly if these are estimated to have large or moderate impacts. For example, if journey ambience has not been monetised but is judged to have a large or moderate impact this should be presented in the statement.
 - Identification of any key risks, sensitivities and uncertainties underlying the appraisal.
 - An explanation of the reasons why the proposal is considered to fall in a specific VfM category.
 - Any significant social or distributional impacts (SDIs). The key findings from this should be reported in the Appraisal Summary Table.
- 5.8** The Value for Money Statement thus provides a concise description of the main conclusions. This is typically presented as a few paragraphs at the most in order to ensure that the key messages are effectively captured. Further detailed results can be presented in an Annex to the main document. The Appraisal Summary Table is also included to provide further detail on the costs and benefits included in the assessment.

6. Annex A: Landscape Values

- A.1** The landscape values reported in this advice are sourced from a study by the Department of Communities and Local Government¹⁸. The figures were obtained from an extensive literature review which consolidated and considered evidence from 47 relevant studies, mainly from the U.K but also from the U.S., Europe and Australia dating from 1984 to 2001.
- A.2** The present value calculation accounts for a relative price effect; namely that willingness to pay may grow over time, principally due to rising incomes or increasing scarcity of land. This is a common assumption when considering the future value of non-market benefits.
- A.3** The derivation of these values is sensitive to certain key issues:
- Landscape impacts are assumed to exist in perpetuity. Even if a road lasts for 60 years (the current appraisal period) its impact is assumed to continue - unless costs of returning the landscape to its original form are included. Changing the time horizon would reduce the recommended guideline values.
 - The study assumed a 3% rate of increase to annual per hectare values composed of an income growth of 2.5% and an income elasticity of 1.2 (i.e. landscape values grow faster than income). Both parameter assumptions differ (and pre-date) from default values in the Green Book - which point towards a 2% rate of appreciation (and would approximately half current landscape figures).
 - The study values also pre-date Green Book discount rates - and use a 3.5% flat-rate discount rate rather than a declining rate over time as suggested by the Green Book¹⁹. This is in part a technical issue to allow the calculation of impacts over perpetuity (avoiding values exploding to infinity due to the interaction with the rate of appreciation).
 - The lower the discount rate, the less weight placed on benefits today relative to the future. Aggregated benefits accrued over a period of time will therefore be valued higher the lower the discount rate, tending towards infinity as the net effective discount rate diminishes.
 - It is also important to note that the reported landscape valuations do not just include landscape amenity benefits (where landscape character and quality combine to produce attractive views). They may also include the external benefits of recreation, biodiversity, cultural heritage, hydrology and tranquility. Some of these benefits

¹⁸ DCLG/ODPM (2001) Valuing the External Benefits of Undeveloped Land: A Review of Economic Literature, Department for Communities and Local Government (formerly Office of the Deputy Prime Minister) Appraisal Guidance, London.

¹⁹ Green Book, p99 - 3.5% for first 30 years, 3% for subsequent 45 years, 2.5% for next 50 years, 2% for following 75 years, 1.5% for 100 years after that, then a 1% rate.

may have also been captured as part of the other objectives in the AST.

- The table below provides the Landscape values by the type of land as defined in the study. These are presented in annual values and values over an infinite time horizon. This is based on the assumption that undeveloped land yields benefits in perpetuity.

Table A1 Landscape Values²⁰

Land Type	Value per hectare Per year (£)	Present Value per hectare (£) (2010 prices, infinite period)	Comments
Urban core	75,153	15,031,00	Central urban area. Examples include public spaces and city park
Urban Fringe (greenbelt)	1,237	247,000	Areas of transition where urban areas meet countryside
Urban Fringe (forested land)	3,758	752,000	Forested land on urban fringes, more valuable than typical urban fringe
Rural forested land (amenity)	9,222	1,844,000	This value represents the range of forests in the UK, including both commercial and amenity forests
Agricultural Land (extensive)	4,384	877,000	Areas of rough grassland where extensive agricultural practices such as sheep farming dominate. May include farm buildings forming part of the agricultural holdings
Agricultural Land (intensive)	143	29,000	This type of land is usually in farmland under intensive agriculture (usually land under food production). May include farm buildings forming a part of the agricultural holdings
Natural and semi-natural land	9,208	1,842,000	This includes uncultivated areas, wetlands and areas with nature conservation designations.

²⁰ The Landscape values are based on the original study values. These have been presented in 2010 prices using the GDP Deflator and rounded to the nearest 100 (annual values) and 1000(infinite value).

7. Annex B: Qualitative Scores for Dependent Development

B.1 A qualitative assessment score should be reported depending upon the estimated value of the benefits of the dependent development unlocked by the transport scheme and should follow the guidelines below:

Table B1 Suggested Qualitative Score

Benefits	Score
Greater than £100m	Large Beneficial
Between £100m and £25m	Moderate Beneficial
Between £25m and Zero	Slight Beneficial
Zero	Neutral
Between Zero and -£25m	Slight adverse
Between -£25m and -£100m	Moderate adverse
Less than -£100	Large adverse

8. Annex C: Q&A

What is a Value for Money assessment?

C.1 The 'Transport Business Case' sets out the Department for Transport's approach to producing business cases to support decision making. This approach ensures decisions are made by taking account of all the relevant information set out in five cases, consistent with the HM Treasury Green Book²¹, specifically, to show whether schemes:

- are supported by a robust case for change that fits with wider public policy objectives – the 'Strategic Case';
- demonstrate value for money – the 'Economic Case';
- are commercially sound – the 'Commercial Case';
- are financially affordable – the 'Financial Case'; and
- are achievable – the 'Management Case'.

C.2 The Value for Money assessment focuses on the Economic Case, and therefore forms one part of the overall advice. The information considered in a Value for Money assessment should be obtained through an appraisal that is consistent with the Department for Transport's WebTAG²² guidance.

C.3 A Value for Money statement provides a summary of the conclusions from the Value for Money assessment. The statement should provide a concise summary of the economic, social, environmental, and public account impacts that transport interventions may have and, based upon these, give advice about the Economic Case for a proposal.

Why is a VfM Assessment needed?

C.4 In addition to its role within a Transport Business Case set out above, a VfM assessment is produced to help to ensure value for money of public spending, as set out in HM Treasury guidance 'Managing Public Money'²³.

When is a Value for Money assessment needed?

C.5 A Value for Money assessment should be produced within any Transport Business Case that is used to support major investment decisions using public funds. The process described in this advice note is aimed at supporting decisions on major transport investments.

²¹ HM Treasury Green Book: http://www.hm-treasury.gov.uk/data_greenbook_guidance.htm

²² WebTAG: <http://www.dft.gov.uk/webtag/>

²³ HM Treasury Managing Public Money: http://www.hm-treasury.gov.uk/psr_mpm_index.htm

How should a Value for Money assessment be undertaken?

- C.6** The initial Value for Money category is identified based upon the Initial Benefit Cost Ratio (BCR) of the scheme, using monetised impacts in line with WebTAG guidance. These categories are:
- poor VfM if the BCR is less than 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
- C.7** However, appraisals that are produced following WebTAG guidance do not necessarily monetise all costs and benefits of a transport intervention. The VfM assessment should take account of quantitative and qualitative assessments of impacts in two stages.
- C.8** Firstly, an Adjusted BCR should be constructed following DfT guidance (including that outlined in this note) to monetise some of the quantitative and qualitative assessments using evidence for monetisation which is subject to greater uncertainty.
- C.9** Secondly, all other impacts that have not been monetised should be taken into account. Depending upon the expected magnitude of these impacts, an assessment should be reported of whether consideration of these non-monetised impacts is likely to alter the VfM category of the proposal.

How should the Value for Money statement be presented?

- C.10** The purpose of developing a Transport Business Case, including the Value for Money statement, is to enable an informed decision to be taken about the merits of a proposal. It needs to be comprehensive and comprehensible.
- C.11** A VfM statement, summarising the conclusions from the VfM assessment, should be reported as part of the Transport Business Case and should include:
- The VfM category of the scheme (and an explanation of the categorization).
 - The present value of benefits, present value of costs, and the Benefit Cost Ratio.
 - A concise summary of benefits and costs have been assessed, including any assumptions that influence the results.
 - Assessment of non-monetised impacts.
 - Identification of any key risks, sensitivities and uncertainties.
 - Any significant social and distributional impacts.