Appraisal

TAG Unit 3.2

IN DRAFT

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Department for Transport

Transport Analysis Guidance (TAG)

Contents

1 Appraisal

1.1 Introduction

1.1.1 The overall appraisal process is explained in The Steps in the Process (TAG units 2.1.1 to 2.1.4), which contains advice on the procedure for distilling the information against the criteria of the Five Case Model for each option and making recommendations. This TAG Unit deals with the Appraisal Summary Table (AST) which presents evidence informing the Economic case. Applying the principles of HMT's GB, the AST has been designed to record all impacts - Economic, Environmental, Social, Public Accounts and Distributional –at the national level.

1.1.2 The layout of the AST is designed to make the appraisal process more transparent by drawing together and summarising all relevant impacts to enable options to be considered in a concise and consistent manner. Those impacts that can be monetised are presented in monetary and quantitative terms. Those that cannot be monetised are presented quantitatively. No weightings are applied. The AST is typically completed by a scheme promoter, and in some cases – depending on the different treatment across modes – it can be modified by an assessor (decision-maker). The assessor should use the information provided in the AST (and, where necessary, the detailed supporting documents) to make a judgement about the overall value-for-money of the option in the Value for Money Assessment. The Guidance on Value for Money (DfT, 2006) sets this out in further detail.

1.1.3 An AST should be produced for each option considered as part of the study. The evidence supporting the ASTs are first compiled for the options in Stage 1 of appraisal (see TAG Unit 2.1 on The Overall Approach), Step 8 on "Produce Option Assessment Report". At this stage, the evidence is used as input into the distillation process to shortlist preferred schemes for more detailed appraisal in Stage 2.

1.1.4 It is worth noting that a study might involve the development of a strategy or a plan. Depending on which it is, the entries of the ASTs ought to be addressed at the relevant level of detail. Further guidance is available in Section 1.5.

1.1.5 This Unit covers the following topics:

- the content of the Appraisal Summary Table;
- description of options; and
- summarising the problems.

1.2 The Appraisal Summary Table (AST)

1.1.6 An AST template is available as an excel file, located alongside this document under WebTAG documents, module 3.2. The first element of the Appraisal Summary Table provides space for:

- **Name of the scheme**: Include the option reference.
- **Description of scheme**: Includes a few key words of text which summarise the main thrust of the option.
- **Date produced**
- **Contact information**: Includes information on the name and organisation of the person who is responsible for the information contained in the AST in case further information is required. Also states whether the person is a scheme promoter or an assessor.

1.1.7 The AST then has space to record the impacts of the option under the following headings.

- **Economy**
  - Business and users & transport providers
  - Reliability impacts on Business users
  - Regeneration
  - Wider impacts

- **Environment**
  - Noise
  - Air quality
  - Greenhouse gases
  - Landscape
  - Townscape
  - Heritage of historic resources
  - Biodiversity
  - Water environment

- **Social**
  - Commuting and Other users
  - Reliability impacts on Commuting and Other users
  - Physical activity
  - Journey quality
  - Accidents
  - Security
  - Access to services
  - Affordability
  - Severance
  - Option values

- **Public Accounts**
  - Cost to Broad Transport Budget
  - Indirect Tax Revenues

1.1.8 The key points in relation to each of the sub-impacts are briefly summarised in the "Summary of key impacts" column.

1.1.9 A summary assessment is then given to indicate how the scheme performs against each of the sub-impact headings. Where impacts can be quantified but not monetised, they should be reported under the "Quantitative" column. Impacts that cannot be quantified should be assessed on a (usually) seven point scale (note that these scales are not necessarily cardinal in nature) and reported under the "Qualitative" column. However, because each seven point scale measures a very different objective, they cannot be compared with each other. Where monetary values can be derived, as in the case of accidents or transport economic efficiency, these monetary values should be reported under the "Monetary" column.

1.1.10 Finally, analysis of the extent to which each option negatively impacts on vulnerable groups is also required. The level of detail of assessment required in the AST depends on:

- whether a strategy or a plan is the required output;
- the stage in the strategy or plan development process; and
- the level of detail at which the appraisal of the various sub-impacts should be conducted.

Level of Detail for Strategies and Plans

1.1.11 The guidance given in **The Environment Objective** (TAG Unit 3.3) on the appraisal of the environmental impact distinguishes between the level of detail required for strategy and plan development, for most of the analyses. In some cases, a simplified approach is recommended for strategy appraisal compared with the more detailed methods specified for plans. In other cases, guidance is given on how the more detailed methods for plans may be simplified for strategies.

1.1.12 The guidance given in **The Safety Objective** (TAG Unit 3.4) on the appraisal of the accidents sub-impact and in **The Economy Objective** (TAG Unit 3.5) on the appraisal of the cost to Broad Transport Budget sub-impact applies to both strategy and plan appraisal. The only difference is likely to relate to the degree of spatial detail at which the modelling is undertaken.

1.1.13 For a number of the other analyses, the approaches to be adopted are specified for both strategy and plan appraisal. In some cases, a simplified approach is recommended for strategy appraisal compared with the more detailed methods specified for plans. In other cases, guidance is given on how the more detailed methods for plans may be simplified for strategies.

1.1.14 For some analyses the level of detail is a matter for judgement.

Level of Detail as the Studies Progress

1.1.15 **Strategies** and plans might be developed in different ways and this may affect the appraisal process to some extent too. While there is scope for some variation in approach between studies, in general terms, the development of strategies and plans may proceed along the following lines.

- Strategies may be developed by testing and appraising a number of different total packages of measures which represent different ways of tackling the problems in the study areas. These should be assessed for two forecast years, so that streams of benefits can be estimated. In each forecast year, it should be assumed, for simplicity, that the complete strategy is in place; thus, the benefits will relate to the total strategy. By interpolation and extrapolation, the stream of benefits over the appraisal period can be estimated and discounted back to a common base year. The stream of costs can also be discounted back to the same common base year. This process will enable the calculation of the Present Values of the accident, transport economic efficiency, and option value Benefits which are to be entered into the AST.

- Plans are more likely to be developed by some quite extensive testing of individual interventions aimed at specific problems or groups of problems. Once the better-performing solutions to individual problems or problem groups have been identified, these may then be assembled to form the overall plan, taking account of conflicts and synergies in the process. This process would mean that many tests could be undertaken of individual interventions, but that very few overall plans, possibly only one, would be appraised. In this case, in order to prevent the amount of testing work becoming excessive, the appraisal of the individual interventions may be undertaken for a single forecast year only, while two forecast years are required for the appraisal of the overall plans.

1.1.16 Thus, in principle, two sets of accident, transport economic efficiency, and option value indicators may be produced:

- one set would be based on model outputs for a single forecast year and would be used to appraise and compare individual interventions in the earlier parts of the study; and

- the second set would be based on model outputs for two forecast years and would be used to appraise and compare overall strategies and plans in the later parts of the study.

1.1.17 In the case of the transport economic efficiency analyses, where information for only a single forecast year is available, the measure of economic worth would be the Forecast Year Benefit/Cost Ratio. Where information for two forecast years is available, the measure of economic worth would be the Net Present Value. These are explained in **The Economy Objective** (TAG Unit 3.5).

1.1.18 In the case of all the other analyses, the question of level of detail as the study progresses is best resolved by bearing in mind the general presumption that the level of appraisal detail should be just sufficient for robust decisions to be taken. Thus, in the early stages of a study, it is likely that some simplifications to the appraisal process can be adopted. Again, these simplifications are a matter for the individual steering groups and their consultants to decide.

Level of Detail of the Appraisals of Different Sub-Impacts

1.1.19 The appraisal of impacts should be conducted in a proportionate manner. TAG Unit 2.1.2 on Option development (Stage 1) provides more detailed guidance on how the concept of proportionality should be considered in appraisal. Essentially, it states that during Stage 1 of appraisal, the evidence presented in the Option Appraisal Report may demonstrate that there is no likely impact against certain sub-impact. For example, there could be insignificant impact on the environmental criteria such as heritage or ecology due to the lack of relevant environmental features in the study area or the characteristics of the intervention being assessed meaning that no interaction would take place. In such cases where scheme promoters and officials agree that further analysis is not required for the particular sub-impact, the corresponding fields for the AST – that is to be submitted in Stage 2 – should be greyed-out to indicate that no further analysis has been conducted. Clearly, this approach must not be adopted where impacts are likely to be significant

2 Further Information

The following documents provide information that follows on directly from the key topics covered in this TAG Unit.

For information on:	See:	TAG Unit number:
Appraisal Overview	The Appraisal Process	TAG Unit 2.5
Appraising Impacts against the Government's Objectives for Transport	The Environment Objective The Safety Objective The Economy Objective The Accessibility Objective The Integration Objective	TAG Unit 3.3 TAG Unit 3.4 TAG Unit 3.5 TAG Unit 3.6 TAG Unit 3.7
Transport Appraisal	Transport Appraisal and the New Green Book	TAG Unit 2.7

3 References

DETR (2000). *Guidance on the Methodology for Multi-Modal Studies*

Department for Transport, 2006, *Guidance on Value for Money*, http://www.dft.gov.uk/about/howthedftworks/vfm/

4 Document Provenance

This Transport Analysis Guidance (TAG) Unit is based on Chapter 3 of Guidance on the Methodology for Multi-Modal Studies Volume 2 (DETR, 2000).

The September 2009 version has been updated to reflect the adoption of The Government's new goals.

Technical queries and comments on this TAG Unit should be referred to:

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5 Appendix A – Derivation of the Information Required for the AST from the respective TAG Units

Economic impacts

5.1.1 **Business users & transport providers:** Guidance on analysis and reporting is provided in TAG Unit 3.5.2, The Transport Economic Efficiency Sub-objective should be followed. This analysis will provide a worksheet (the Transport Economic Efficiency – or TEE - table) covering all journey purposes, but only those impacts affecting business users and transport providers are relevant to this sub-impact. The total PVB attributed to business users and transport providers is to be reported in the monetary field, and the breakdown of travel time changes for the business and commuting users in the quantitative field. Note the computation of the 'Net journey time changes' should be calculated as follows:.

5.1.2 (i) The aggregate value of time savings (in £) in different time bands can be obtained from models or relevant tools (e.g TUBA, COBA, QUADRO), producing the following analyses:

Less than -5min	Between -5min to -2min	Between -2min to 0min	Between 0min to 2min	Between 2min to 5min	More than 5min
a	b	c	d	e	f

5.1.3 (i) The entries required in the sub-boxes under 'Net journey time changes should be calculated as:

Net journey time changes (£)		
0min to 2min	2min to 5min	More than 5min
c+d	b+e	a+f

5.1.4 It is possible to have negative numbers in a particular time band reflecting net changes - for example within the net time band of 0-2 minutes, a negative number will be obtained if the travel time changes in the -2min to 0min range outweighs the travel time changes 0min to +2min range.

5.1.5 **Reliability impact on Business users:** Guidance on the analysis and reporting the impact on reliability is provided in TAG Unit 3.5.7, The Reliability Sub-objective. The reliability impacts for Business users should be reported in the quantitative, qualitative and monetary fields as appropriate.

5.1.6 **Regeneration:** Guidance is provided in TAG Unit 3.5.8, Preparing a Regeneration Report. (Note that TAG Unit 3.5.8 was formerly called The Wider Economic Impacts Sub-Objective. It has been renamed to Regeneration to avoid confusion with TAG Unit 3.5.14, The Wider Impacts Sub-Objective and to clarify its purpose.)

5.1.7 **Wider impacts:** Guidance on analysis and reporting is provided in TAG Unit 3.5.14, The Wider Impacts Sub-Objective,

Environmental impacts

5.1.8 **Noise:** Guidance on analysis and reporting is provided in TAG Unit 3.3.2, The Noise Sub-objective.

5.1.9 **Air quality:** Guidance on analysis and reporting given in TAG Unit 3.3.3, The Air Quality Sub-Objective.

5.1.10 **Greenhouse Gases:** Guidance on analysis and reporting is provided in TAG Unit 3.3.5, The Greenhouse Gases Sub-objective.

5.1.11 **Landscape:** Guidance on analysis and reporting is provided in TAG Unit 3.3.7, The Landscape Sub-Objective.

5.1.12 **Townscape:** Guidance on analysis and reporting is provided in TAG Unit 3.3.8, The Townscape Sub-Objective.

5.1.13 **Heritage of historic resources:** Guidance on analysis and reporting is provided in TAG Unit 3.3.9, The Heritage of Historic Resources Sub-Objective.

5.1.14 **Biodiversity:** Guidance on analysis and reporting is provided in TAG Unit 3.3.10, The Biodiversity Sub-Objective.

5.1.15 **Water environment:** Guidance on analysis and reporting is provided in TAG Unit 3.3.11, The Water Environment Sub-Objective.

Social impacts

5.1.16 **Commuting and Other users:** Guidance on analysis and reporting is provided in TAG Unit 3.5.2, The Transport Economic Efficiency Sub-objective should be followed. This analysis will provide a worksheet (the Transport Economic Efficiency – or TEE - table) covering all journey purposes. Only those impacts affecting users travelling for commuting or other purposes (not Business purposes) are relevant for this sub-impact. It is required to report total PVB attributed to non-business users in the monetary field, and the breakdown of travel time changes in the quantitative field. The 'Net journey time changes' should be calculated in the similar way as for the 'Business users', but this time for the travel relating to 'Commuting users' and 'Other users'.

5.1.17 **Reliability impact on Commuting and Other users:** Guidance on the analysis and reporting the impact on reliability is provided in TAG Unit 3.5.7, The Reliability Sub-objective. The reliability impacts for Commuting users and Other users (but not Business users) should be reported in the quantitative, qualitative and monetary fields as appropriate.

5.1.18 **Physical activity**: Guidance on analysis and reporting is given in TAG Unit 3.3.12, The Physical Fitness Sub-Objective and in TAG Unit 3.14, Guidance on the Appraisal of Cycling and Walking Schemes, where detailed advice on analysis is given.

5.1.19 **Journey quality:** Guidance on analysis and reporting may be found in TAG Unit 3.3.13, The Journey Ambience Sub-Objective, and TAG Unit 3.7.1, The Transport Interchange Sub-Objective. Additional information on transport interchange and journey ambience (including crowding) for rail interventions may be found in TAG Unit 3.13, **Guidance on Rail Appraisal**. If it is unclear how to proceed, please contact the Department for advice.

5.1.20 **Accidents:** Guidance on analysis and reporting provided in TAG Unit 3.4.1, The Accidents Sub-Objective.

5.1.21 **Security:** Guidance on analysis and reporting is provided in TAG Unit 3.4.2, The Security Sub-Objective.

5.1.22 **Access to services:** Guidance on analysis and reporting guidance is provided in TAG Unit 3.6.3, The Accessibility Sub-Objective should be followed.

5.1.23 **Affordability:** Guidance on analysis and reporting is provided in TAG Unit 3.6.4, The Personal Affordability Sub-Objective.

5.1.24 **Severance:** Guidance on analysis and reporting is provided in TAG Unit 3.6.2, The Severance Sub-Objective.

5.1.25 **Option values:** Guidance on analysis and reporting is provided in TAG Unit 3.6.1, The Option Values Sub-Objective,

Public Accounts

5.1.26 **Cost to Broad Transport Budget:** Guidance on the analysis and reporting of impacts on public accounts is given in TAG Unit 3.5.1, The Public Accounts Sub-Objective. This guidance leads to the preparation of the Public Accounts (PA) table. Information on the impact on the **cost to broad transport budget** may be taken from the PA table. The total PVC should be presented under the monetary field, with breakdowns to show impact on local/central government, developer contributions, revenues/fares in the quantitative assessment field.

5.1.27 **Indirect Tax Revenues:** This is calculated as part of wider public finance impacts, and is presented in the PA table. Note that within the PA table, changes in indirect tax revenues are treated as ‘negative costs’. However, they are to be treated as benefits in the estimation of benefit to cost ratios and in the AST. So a change of sign is required when transferring values from the PA table to the AST. For example, if a project results in an increase in indirect tax revenue, this would appear as a negative number in the PA table, but as a positive number in the AST.

Distributional impacts

5.1.28 Guidance on analysis and reporting is provided in TAG Units 2.13 and 3.17 on Summary Guidance on Social and Distributional Impacts of Transport Interventions, and Social and Distributional Impacts of Transport Interventions respectively. Currently, the analyses need to be conduced for sub-impacts on business users & transport users, non-business users, noise, air quality, accidents, security, access to services, affordability and severance.