

Appraisal

TAG Unit 3.2

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1 Appraisal

1.1 Introduction

1.1.1 The overall appraisal process is explained in *The Appraisal Process* (TAG Unit 2.5). At the heart of the appraisal process is the Appraisal Summary Table (AST). This records the degree to which the five Central Government objectives for transport (environment, safety, economy, accessibility and integration) would be achieved and provides a comprehensive summary of the impacts of an option. It is intended that assessors (decision-makers) should use the information provided in the AST (and, where necessary, its more detailed supporting documents) to make a judgement about the overall value-for-money of the option.

1.1.2 The assessment of the value for money of an option from the AST is one of four assessment strands. The others are:

- achievement of local and regional objectives;
- amelioration of problems; and
- supporting analyses of distribution and equity, affordability and financial sustainability, practicality and public acceptability.

The appraisal process under each of these other three strands are explained in *The Appraisal Process* (TAG Unit 2.5). That TAG Unit also contains advice on the procedure for distilling the information from all four appraisal strands and making recommendations.

1.1.3 The purpose of this TAG Unit is to explain some general concepts and, in so doing, to set the scene for TAG Units 3.3 to 3.7. These are devoted to the appraisal of each of Central Government's five main objectives for transport and show how the information required for the AST should be derived.

1.1.4 This TAG Unit deals with the following topics:

- the content of the Appraisal Summary Table;
- a description of the option being appraised, along with the rejected options;
- a summary of the problems at which the option is aimed; and
- issues relating to the level of detail at which the analyses should be conducted.

1.2 The Appraisal Summary Table

1.2.1 The Appraisal Summary Table is shown below. This AST has been updated in line with the guidance issued following publication of the revised Green Book in January 2003.

1.2.2 The top row of the Appraisal Summary Table has space for:

- the option number;
- the option description, which should be a few key words of text which summarise the main thrust of the option;
- a reference to summaries of the problems in the base year and on the do-minimum transport system in the forecast year, and the changes in the forecast year problems which would be brought about by the option; and

- the total cost of the option to Public Accounts (including investment, subsidy, maintenance, operating and enforcement costs, and net of any additional revenues accruing to the public accounts), over the full appraisal period, and discounted to a present year.

1.2.3 The AST then has space to record the impacts of the option under the following objectives and *sub-objectives*.

- **environment** -to protect the built and natural environment
*to reduce **noise***
*to improve **local air quality***
*to reduce **greenhouse gases***
*to protect and enhance the **landscape***
*to protect and enhance the **townscape***
*to protect the **heritage of historic resources***
*to support **biodiversity***
*to protect the **water environment***
*to encourage **physical fitness***
*to improve **journey ambience***
- **safety** - to improve safety
*to reduce **accidents***
*to improve **security***
- **economy** - to support sustainable economic activity and get good value for money
*to get good value for money in relation to impacts on **public accounts***
*to improve transport economic efficiency for **business users and transport providers***
*to improve **transport economic efficiency for consumer users***
*to improve **reliability***
*to provide beneficial **wider economic impacts***
- **accessibility** -to improve access to facilities for those without a car and to reduce severance
*to improve **access to the transport system***
*to increase **option values***
*to reduce **severance***
- **integration** - to ensure that all decisions are taken in the context of the Government's integrated transport policy
*to improve **transport interchange***
*to integrate transport policy with **land-use policy***
*to integrate transport policy with **other Government policies**.*

Appraisal Summary Table

Option		Description	Problems	Present Value of Costs to Public
OBJECTIVE	SUB-OBJECTIVE	QUALITATIVE IMPACTS	QUANTITATIVE ASSESSMENT	ASSESSMENT
ENVIRONMENT	Noise			net population win / lose
	Local Air Quality			Concs wtd for exposure
	Greenhouse Gases			tonnes of CO ₂
	Landscape			Score
	Townscape			Score
	Heritage of Historic Resources			Score
	Biodiversity			Score
	Water Environment			Score
	Physical Fitness			Score
	Journey Ambience			Score
SAFETY	Accidents			PVB £m
	Security			Score
ECONOMY	Public Accounts		Central Govt PVC, Local Govt PVC	PVC £m
	Transport Economic Efficiency: Business Users & Transport Providers		Users PVB, Transport Providers PVB, Other PVB	PVB £m
	Transport Economic Efficiency: Consumers		Users PVB	PVB £m
	Reliability			Score
	Wider Economic Impacts			Score
ACCESSIBILITY	Option values			PVB £m
	Severance			Score
	Access to the Transport System			Score
INTEGRATION	Transport Interchange			Score
	Land-Use Policy			Score
	Other Government Policies			Score

- 1.2.4 The main impacts in relation to each of the sub-objectives are summarised in text with any relevant quantified information. A summary assessment is then given to indicate whether the impact in each category is generally beneficial or adverse and how large it is. Where monetary values can be derived, as in the case of accidents or transport economic efficiency, the summary assessment uses those values. Where impacts can be quantified but not monetised, the summary assessment is quantitative. Impacts that cannot be quantified are assessed on a (usually) seven point scale (note that these scales are not necessarily cardinal in nature), but because each seven point scale measures a very different objective, they cannot be compared with each other. The way in which the impacts under each sub-objective should be assessed is explained in TAG Units 3.3 to 3.7.
- 1.2.5 With regard to the AST, it is important that
- the objectives and sub-objectives are not changed; and
 - the information is summarised so as to fit on to a single sheet of paper, thus ensuring that all impacts can be easily compared and avoiding the implication that impacts on the first page are of more importance than those on following pages.
- 1.2.6 It is sensible to keep a record of all analyses, sensitivity tests, decisions and so on during the development of a study. This information should provide an audit trail showing how preferred options have been developed and refined and why decisions to reject options were made.

1.3 Describing the Options

Description of the Option Being Appraised

- 1.3.1 The AST contains a space at the top of the sheet for the name of the option being appraised - for example, "public transport investment with road user charging". However, in itself, this description will, in many cases, be insufficient for the assessor or decision-maker to gain an adequate understanding of the interventions which constitute the strategy or plan being appraised. A complete specification of the strategy or plan will therefore be required to accompany the AST. This specification should be summarised on a single sheet of paper and should include all the main elements of the strategy or plan, including:
- infrastructure proposals as lines on a map background;
 - public transport service frequency changes from the do-minimum case as annotations on a map background;
 - changes in public transport fares;
 - locations of road user charging cordons on a map background, with annotations indicating the levels of charging; and
 - assumed subsidies and/or grants to private sector operators.
- 1.3.2 It will be a matter of judgement as to how much detail is included on this single page, but the essential point is that nothing which leads to either significant costs or significant benefits/disbenefits should be omitted'. This single sheet is a summary; a complete description of the details of the option should be recorded in the supporting documentation.

Description of Other Options Considered

- 1.3.3 There is no space on the single page AST to include anything about the other options considered. Instead, a separate single page should be prepared, providing a brief description of all rejected options and a summary of the reasons for their rejection. The information provided should be self-explanatory, but concise.
- 1.3.4 This information about 'other' options should only be prepared at the stage of making the final choice between alternative strategies or plans. The sheet containing the information about the 'other' options should make clear what the options are called, along with the reference numbers which appear on their ASTs.
- 1.3.5 Again, this information is a summary; a complete description of the details of the rejected options and their appraisals should be included in the supporting documentation.

1.4 Summarising the Problems

- 1.4.1 There is likely to be insufficient space on a single page AST even to summarise the problems in the study area at which the strategy or plan being assessed is aimed. The intention is, therefore, that the problems in the study area for any one year should be summarised on a map background on a single A4 sheet. In general, two sheets of problems would be presented which would apply to all options: one for the existing situation in the base year and one for the do-minimum case in the forecast year furthest in the future. In addition, for each option, the changes in the forecast year problems which would be brought about by the option should be summarised.
- 1.4.2 Because of their locationally specific nature, problems are often best summarised on a map of the study area. In order that such information can be presented in a graphically clear manner, some distillation of the information analysed may be necessary. Thus, the problem summary may concentrate on those problems which:
- are known to be of importance; or
 - show significant changes between the base and forecast years; or
 - show significant changes as a result of the options.
- 1.4.3 Some problems are not locationally specific and are more generic in nature. An example might be the unwillingness of neighbouring local authorities to adopt stringent planning controls or traffic reduction measures. Problems of this kind should be briefly summarised in words on the same single page as the map showing the locationally specific problems.
- 1.4.4 In addition, it may be useful to include small tables showing the incidence of problems by type, magnitude and severity.
- 1.4.5 The analysis of changes in problems arising from an option being appraised is discussed in *The Appraisal Process* (TAG Unit 2.5). In presentation terms, these analyses should follow the same format as adopted for the base year and forecast year do-minimum problems.
- 1.4.6 Again, all this information is in summary form. Full analyses of problems and how they would change often take a lot of space to present and explain. It is expected, therefore, that the supporting documentation will contain full details.

1.5 Level of Detail

1.5.1 Level of detail is relevant in three respects:

- 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-objectives should be conducted.

Level of Detail for Strategies and Plans

1.5.2 The guidance given in *The Environment Objective* (TAG Unit 3.3) on the appraisal of the environmental objectives distinguishes between the level of detail required for strategy and plan development, for most of the sub-objectives. 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.

1.5.3 The guidance given in *The Safety Objective* (TAG Unit 3.4) on the appraisal of the accidents sub-objective and in *The Economy Objective* (TAG Unit 3.5) on the appraisal of the transport economic efficiency sub-objectives 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.

1.5.4 For a number of the other sub-objectives, considered in TAG Units 3.4 to 3.7, 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.

1.5.5 For the reliability, wider economic impacts, land-use policy and other government policy sub-objectives the level of detail is a matter for judgement.

Level of Detail as the Studies Progress

1.5.6 **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 whole 30-year 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.

1.5.7 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.

1.5.8 In the case of the transport economic efficiency sub-objectives, 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).

1.5.9 In the case of all the other sub-objectives, 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-objectives

1.5.10 The level of detail indicated in the later TAG Units in this volume for some sub-objectives may be considered by Steering Groups to be too onerous for the scale of the areas being covered and/or inappropriate to the strategy or plan development stage of planning and more appropriate to the scheme development stage.

1.5.11 It may also be the case that particular sub-objectives are of less importance in particular study areas, in which case a lower degree of effort may be appropriate for these sub-objectives.

1.5.12 In these cases, it may be convenient to use the advice given in TAG units 3.3 through to 3.7 as a checklist of issues to be considered (as opposed to being analysed in the detail specified) in making a judgement about the likely impacts of the option. Where this approach is adopted, analysts must ensure that there is clear evidence to support their judgements. 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	<i>The Appraisal Process</i>	TAG Unit 2.5
Appraising Impacts against the Government's Objectives for Transport	<i>The Environment Objective</i>	TAG Unit 3.3
	<i>The Safety Objective</i>	TAG Unit 3.4
	<i>The Economy Objective</i>	TAG Unit 3.5
	<i>The Accessibility Objective</i>	TAG Unit 3.6
	<i>The Integration Objective</i>	TAG Unit 3.7
Transport Appraisal	<i>Transport Appraisal and the New Green Book</i>	TAG Unit 2.7

3 References

DETR (July 1998). *A New Deal for Transport: Better for Everyone*

DETR (July 1998). *A New Deal for Trunk Roads in England*

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

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).

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

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