The Appraisal Process

TAG Unit 2.5

December 2004

Department for Transport

Transport Analysis Guidance (TAG)

Contents

1 The Appraisal Process

1.1 Introduction

1.1.1 This TAG Unit describes the appraisal process. It is structured in the following manner:

- Section 1.2 explains the **appraisal framework**, including the Appraisal Summary Table which is used to assess the achievement of the Government's objectives for transport (Step 6 Figure 1.1);
- Section 1.3 discusses the ways in which the achievement of **local and regional objectives** may be assessed;
- Section 1.4 discusses ways in which the amelioration of **problems** may be assessed;
- Section 1.5 discusses the treatment of the supporting analyses of **distribution and equity**, **affordability and financial sustainability**, and **practicality and public acceptability**; and
- Section 1.6 discusses the process of **distilling the appraisal information** towards a final appraisal summary so that recommendations may be made (Step 10 in Figure 1.1).

1.1.2 The analyses which should be undertaken to obtain the entries to the AST are explained in *The Environment Objective* (TAG Unit 3.3), *The Safety Objective* (TAG Unit 3.4), *The Economy Objective* (TAG Unit 3.5), *The Accessibility Objective* (TAG Unit 3.6) and *The Integration Objective* (TAG Unit 3.7). *Modelling* (TAG Unit 3.1) also includes advice on the methods which should be used to undertake the environmental impact assessment (Step 7.2 in Figure1.1) and the cost/benefit analysis (Step 7.3).

1.1.3 Since the publication of GOMMMS (now incorporated into TAG) in March 2000, a supplement has been issued specifying the treatment of the 10 Year Plan targets in multi-modal study appraisals. The appraisal of the impacts on 10 Year Plan targets is to form a further supporting analysis in multi-modal studies. *Supporting Analysis* (TAG Unit 3.8) contains the supplement in full.

1.1.4 Following publication by the Treasury in January 2003 of a revised Green Book, a supplement was issued to clarify the implications of the new advice. This supplement is incorporated throughout TAG. *Transport Appraisal and the New Green Book* (TAG Unit 2.7) contains the supplement in full. This TAG unit has been updated so that the advice given here is consistent with that given in the supplement. It has also been revised to reflect the fact that the methods are now applied to a wider range of transport studies than multi-modal studies.

1.2 Overview of the Appraisal Process

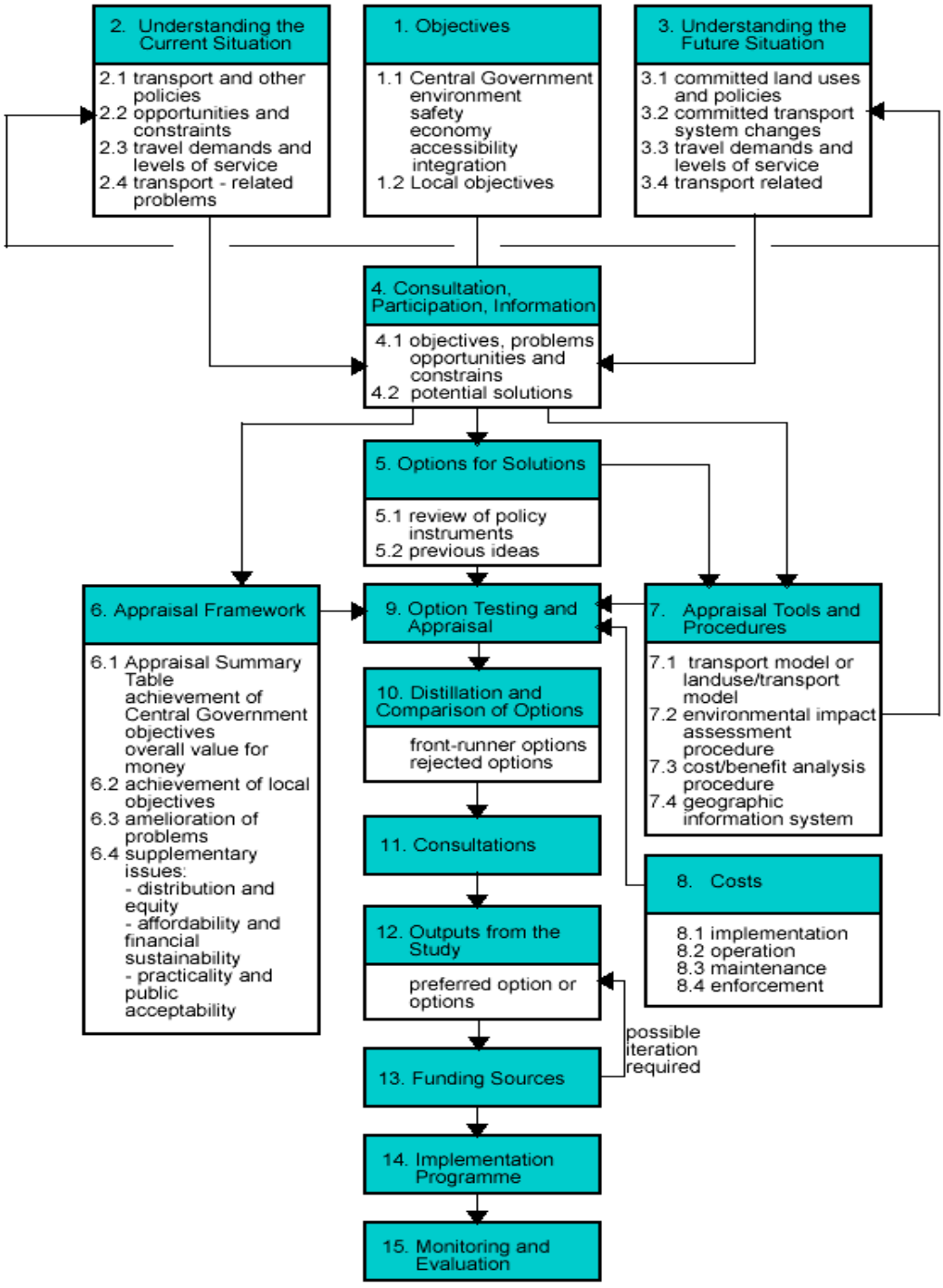

Figure 1.1

The New Approach To Appraisal

1.2.1 The New Approach To Appraisal (NATA) was introduced in the Government's white paper *A New Deal for Transport*. The Approach was developed by the DETR during the 1998 Roads Review for two purposes:

- choosing between different options for solving the same problem;
- prioritising between proposals; and
- assessing value for money.

1.2.2 NATA has evolved since its original launch in 1998, it is now the basis for:

- appraisal of multi-modal studies;
- appraisal of Highways Agency road schemes and Local Transport Plans major road and public transport schemes;
- the Strategic Rail Authority's Appraisal Criteria;
- the project appraisal framework for seaports; and
- the appraisal process employed during the development of the Government's airports strategy

1.2.3 The Approach includes the identification and assessment of problems, the identification of options, and the assessment of those options. Throughout this process, the approach works within the framework provided by the five objectives of environment, safety, economy, accessibility and integration set out in *A New Deal for Trunk Roads in England* (DETR, 1998). Figure 1.1 gives an overview of the process.

Appraisal in Transport Studies

1.2.4 The approach to appraisal to be adopted in transport studies embraces fully the principles of the New Approach To Appraisal. Those elements of the New Approach To Appraisal which are concerned with the identification and assessment of problems and the identification of options are discussed in *Objectives and Problems* (TAG unit 2.2) and *Policy Instruments* (TAG Unit 2.3). The appraisal process has the following four appraisal 'strands'.

- An **Appraisal Summary Table** (AST) that displays the degree to which the five **Central Government objectives for transport** (environment, safety, economy, accessibility and integration) would be achieved (Step 6.1 in Figure 1.1). It is from this AST that a **judgement** should be made about the overall value-for-money of the option or options in achieving the Government's objectives. The information provided in the AST and its more detailed supporting documents will enable a consistent view to be taken about the value of the strategies and plans developed for the different study areas.
- An assessment of the degree to which the **local and regional objectives of the study** would be achieved (Step 6.2 in Figure 1.1) is likely to be of particular interest to the regional and local authorities, and the local people. Overlap between this appraisal strand and the previous one is to be expected.
- An assessment of the extent to which the **problems** identified would be ameliorated by the option or options achieved (Step 6.3 in Figure 1.1) is also likely to be of particular interest to the regional and local authorities,

and the local people, and additionally the local transport providers. The changes in conditions which lead to a change in problem severity will be subsumed by the changes already taken into account in the assessment of the achievement of objectives; to that extent, therefore, there will be multiple-counting between this appraisal strand and the previous two. However, while changes in problems are only part of the total effects of an option, they are, arguably, the most important changes. After all, as the process will have started off by identifying problems, it seems sensible to check to see what the option would do for those problems.

- **Supporting analyses** of distribution and equity, affordability and financial sustainability, and practicality and public acceptability (Step 6.2 in Figure 1.1) are likely to be of interest to both Central Government and the regional and local authorities, as well as the local people. The local transport providers will be particularly interested in the impacts on the financial sustainability of their operations.

Treatment of Social Inclusion in the Appraisal Framework

1.2.5 Encouraging social inclusion is an explicit component of the Government's policies on transport (see in particular Chapter 2 of A New Deal for Transport, DETR, 1998b). The Appraisal Summary Table provides the framework for assessing the impact of a particular strategy or plan on objectives for social inclusion. The Qualitative Impacts column on the AST may be used to highlight for particular sub-objectives the effects on different social groups. The supporting analyses of distribution and equity may be useful in assessing what these particular impacts are (see paragraph 1.5.3 and those that follow). Where specific social inclusion objectives are identified in a particular study, the assessment of the achievement of local and regional objectives (see paragraph 1.3.1 and those that follow) also provides a vehicle for highlighting the impacts of a particular options on social inclusion.

The Appraisal Summary Table

1.2.6 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, along with a reference to a single page summary of the option, coupled with another single page (if required) of alternatives considered and rejected with brief reasons for their rejection;
- a reference to single page summary of the problems on the do-minimum transport system and a single page summary of the changes in those 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.

1.2.7 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.**

The AST is shown in tabular form below. This AST, and the above list of sub-objectives, have been updated in line with the guidance issued following publication of the revised Green Book in January 2003, *Transport Appraisal and the New Green Book* (TAG Unit 2.7).

1.2.8 The information presented in the Appraisal Summary Table is, where possible, based on the results provided by established techniques to assess the environmental, economic and social consequences of options. The approach is largely based on the Cost Benefit Analysis (CBA) and the Environmental Impact Assessment (EIA). The Appraisal Summary Table brings information from these together to give a fair and unbiased overall description, without giving prominence to any one type of effect or to benefits expressed in monetary terms compared with those which cannot be monetised.

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 safety benefits or transport user benefits, 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). Because each seven point scale measures a very different objective, they cannot be compared with each other. For more information on this type of analysis see *The Environmental Objective* (TAG Unit 3.3.)

Appraisal Summary Table

Option		Description	Problems	Present Value of Costs to Public
OBJECTIVE	**SUB-OBJECTIVE**	**QUALITATIVE IMPACTS**	**QUANTITATIVE ASSESSMENT**	**ASSESSMENT**
ENV RONMENT	Noise			net population win / lose NPV £m
	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 Businesses 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

Use of the Appraisal Summary Table

1.2.9 The AST relates to one option only. In the case of a study which involves the development of a transport strategy (before going on to develop a 'plan' to enact the preferred strategy), it may be that the 'options' being tested and appraised are, in fact, alternative strategies - that is, complete packages of measures which apply to the whole study area. In these cases, an AST should be produced for each alternative strategy. It is expected that testing would also be undertaken to examine the contribution of each of the main elements of the strategies to the whole. Further guidance on this is given in the COBA manual. In general, the discipline of the AST should be maintained for each element, although it may be that not all objectives need be addressed in every case. For example, if it was found that a particular element had a large negative economic value, it may be considered unnecessary to undertake any further analyses under other objectives.

1.2.10 It is appropriate for a complete AST to be prepared for each element of a Plan and, where different options are considered for each element, for each option for each element, although some detail may be sacrificed in the early stages. Complete ASTs are required for each transport plan prepared.

1.2.11 Complete ASTs are required - for input to the distillation process described in Section 1.6 - for each alternative strategy and plan. ASTs may also be completed, either fully or partially, for each of the elements of a strategy or plan which are tested separately, as an aid to deciding whether they should feature in any of the alternative strategies or plans.

Assessing the Overall Value for Money of the Option

1.2.12 The table of impacts in the AST will contain all the significant costs and benefits of an option (whether an individual intervention, or overall strategy or plan). The balance of this information gives the 'overall net value' of the option. It takes account of **all** factors, not just the economic worth, and also takes account of all kinds of impact, both monetised and non-monetised, and qualitative as well as quantitative information.

1.2.13 The way in which this 'overall net value' is derived is by **judgement**. The person assessing the 'overall net value' - the 'assessor' - is required to derive their own estimate by exercising their own judgement about the relative importance of the various impacts - the costs and benefits shown in the table of impacts in the AST. Thus, different people may come to different conclusions about the 'overall net value' of an option, depending upon the weights which they attach to the impacts.

1.2.14 In order to make an assessment of value for money, assessors will need to compare their assessment of 'overall net value' with the cost of the project. Because affordability to Government will often be a critical factor in deciding whether options are realistic and practical, it is recommended that the Cost to Public Accounts, shown in the first sub-objective under the 'economy' objective (as well as being repeated at the top right of the AST), be used for this comparison. This cost will often include a different range of costs from that defined by the Costs term in the form of Benefit Cost Ratio in common use **prior** to the publication of the revised Green Book in January 2003, see *Transport Appraisal and the New Green Book* (TAG Unit 2.7). Further guidance on this topic is provided in *The Economy Objective* (TAG Unit 3.5).

1.2.15 In forming these judgements, the assessor may wish to consult the analyses which have been undertaken to derive the summary information presented in each line of the AST. Of necessity, the information in the AST is a summary and may not be readily understood by some readers of the table. In these

circumstances, material underlying the AST may enable the assessor to gain the necessary understanding.

Interpretation of the Information in the AST Rows

1.2.16 The assessor also needs to be aware that the information in the different rows of the AST applies to different appraisal periods. In what follows, it is presumed that the transport model, on which much of the information is based, would represent a typical weekday in the forecast year or years.

- The **noise** indicator relates to an 18-hour period (0600 to 2400) on a typical weekday in the forecast year. This indicator is the same whether a single intervention or a strategy or a plan is being appraised. Usually, information for the year furthest into the future would be used.

- The **local air quality** indicator relates to the whole of the forecast year for strategies, and to an annual average hour in the forecast year for individual interventions and plans. Again, information for the year furthest into the future would be used.

- The **climate change** indicator relates to the whole of the forecast year, i.e., it is an annual figure. This indicator is the same whether a single intervention or a strategy or a plan is being appraised. Again, information for the year furthest into the future would be used.

- For overall strategies and plans, the **accident** and **option value** indicators are Present Values of Benefits, and **the transport economic efficiency** indicators are Present Values of Benefits, which relate to all the days, both weekday and weekend, over the whole appraisal period, discounted to a particular present value year. For individual interventions, these indicators may relate to all the days in a single forecast year, rather than the full 30-year appraisal period.

- The **reliability** and **severance** scores relate to a typical weekday in a single forecast year (the later year, if forecasts are produced for two years). This indicator is the same whether a single intervention or a strategy or a plan is being appraised.

- The entries under all the other sub-objectives relate to the point in time at which the intervention, strategy or plan would be implemented.

1.3 Appraising the Achievement of Local and Regional Objectives

1.3.1 As discussed in *Objectives and Problems* (TAG Unit 2.2), it is not appropriate to be prescriptive about what local and regional study objectives are set. What is required, however, is that decision makers agree what these objectives are, and that they provide an assessment of the performance of the strategies and plans against those objectives. In order to ensure that the assessment is not overly judgmental or impressionistic, the definition of a set of key indicators is recommended against which to measure the performance of the strategies or plans.

1.3.2 As noted in *Objectives and Problems* (TAG Unit 2.2), it is expected that local and regional objectives will nest within Central Government's five objectives for transport. It may be possible, therefore, to structure the summary of the achievement of these objectives in a similar manner to the Appraisal Summary Table employed for Central Government's objectives.

1.3.3 In many instances, it may well be sensible and cost-effective to use the same indicators for assessing performance against local and regional objectives as are used to measure impacts in the Assessment Summary Table. Differences

may arise in that different or supplementary indicators may be used for some impacts.

1.3.4 The assessment against local and regional objectives will focus on the performance of the strategies or plans from the perspective of the stakeholders (travellers, residents, environmental interests, business interests, planning interests) within the study area. This focus may give quite different results from the main analysis in the AST. For example, there will be particular interest in the impact of strategies or plans on regional economic activity and employment. Where the forecast is that region A will make economic gains of X and that these are implicitly partly or wholly displacement from region B, this needs to be made absolutely clear in the supporting documentation, since the regional view and the national view may then legitimately be different.

1.4 Appraising the Impacts on Problems

1.4.1 *Objectives and Problems* (TAG Unit 2.2) deals with methods of identifying problems, considering both problems identified by objective measurement against thresholds, and problems identified from evidence of public perceptions. These methods will have led, at an early stage of the process, to the formulation of a statement of transport-related problems. Methods will have been devised for displaying and analysing problems such as plots, tables and text. The problem analysis will have been summarised on a single sheet for the do-minimum and each of the options.

1.4.2 During the appraisal process, the setting of thresholds and the appraisal of strategies or plans in terms of the amelioration of problems can give a sharper focus to strategy or plan development. It can also help to answer the question of whether problems are solved or at least addressed, or whether a number of problems remain. In order to do this, it will be necessary to find appropriate performance measures to indicate whether implementation of a strategy or plan moves the system towards, away from or across a threshold of acceptable performance.

1.4.3 In considering system trends, both absolute and relative performance are relevant:

- absolute performance refers to whether conditions are getting better or worse in relation to current (or base year) conditions; and

- relative performance refers to whether conditions under the strategies or plans are forecast to get better or worse in relation to the do-minimum case against which the strategies are tested.

As in other contexts in this report, these relative measures will only be meaningful if the base case is a realistic one which can genuinely be expected to occur in the absence of positive policy action.

1.4.4 The appraisal of strategies in terms of amelioration of problems is not without difficulties:

- there is a conceptual difficulty in suggesting targets or thresholds for important problems relating to economic efficiency, such as travel costs and journey times, and thresholds do not sit comfortably with appraisal practice which counts all time saving and operating cost changes whether in congested or uncongested conditions;

- any thresholds may be to a degree arbitrary, and it may be difficult to 'pitch' thresholds at the right level - they may not be attainable or too easily achieved; and

- what is or is not regarded as acceptable - where to set thresholds - is itself a moving target, scientific particularly in relation to air quality where the evidence on harmful effects of emissions is changing rapidly.

1.4.5 Overall, whilst assessment of strategies or plans in relation to their contribution to solving identified problems is a useful exercise which is important for the decision making process, it is not a substitute for assessing the extent to which strategies or plans offer value for money against objectives.

1.5 Supporting Analyses

1.5.1 There are three additional groups of issues which are relevant to the choice of strategy or plan but do not fit easily within the AST. This is because the AST always takes the perspective of the overall public interest at a national level, whereas the following issues reflect a more focused view of the implications of the proposed strategy or plan for particular groups of users, non-users, operators and public sector authorities. These issues are:

- distribution and equity;
- affordability and financial sustainability; and
- practicality and public acceptability.

Since the publication of TAG (formerly GOMMMS) in March 2000, an additional supporting analysis to assess impacts on 10 Year Plan targets has been specified for multi-modal studies, as explained in *Supporting Analysis* (TAG Unit 3.8).

1.5.2 Each group is dealt with in a separate Supporting Analysis, which should be provided to the assessor(s) (decision-maker(s)) along with AST, its supporting worksheets, and other information on the achievement of local and regional objectives and the amelioration of problems. The following sections outline the main issues and offer guidance on how to carry out the assessment. The decision as to how much importance to place on each Supporting Analysis in choosing between alternative strategies will be a matter for the assessor(s).

The Distribution and Equity Supporting Analysis

1.5.3 This Supporting Analysis is designed to show the distribution of the overall impacts summarised in the AST, thereby enabling a judgement to be made about the fairness of the impacts across those affected by the strategy or plan.

1.5.4 The main determinants of the distributional analyses that can be undertaken will be:

- the spatial basis for the transport model and the degree of segmentation of the travel demand within the model; and

- the geographical relationship between the interventions making up the strategy or plan and factors which have a geographical position, such as the population, designated areas, water resources, etc.

1.5.5 In the following paragraphs, some ideas are presented about the kinds of distributional analysis which could be carried out and ought to be considered under each of the sub-objectives in the AST for which distributional analyses are appropriate. Advice on distributional issues can also be found in *Transport Appraisal and the New Green Book* (TAG Unit 2.7).

1.5.6 **Noise and local air quality** are related to traffic. Thus, the geographical distribution of noise and air quality can be displayed at the level of detail at which traffic information is output from the transport model. A GIS is a useful

tool for relating changes in noise and air quality to factors such as population, sensitive areas, and so on.

1.5.7 The geographical distribution of the physical impacts of the interventions on **landscape, townscape, biodiversity, heritage and water resources** can be displayed using a GIS. The worksheets for these impacts will provide useful supporting information on the nature of the resource and its rarity, importance and so on.

1.5.8 Savings in **accidents** included in the accidents row of the AST are calculated from changes in personal injury accidents by severity class (slight, severe, fatal) and type of road. Tabulations can therefore be prepared to show the distribution of the changes in accidents by these dimensions. Plots may also be prepared using a GIS showing the changes in accidents on individual roads, although not by specific location.

1.5.9 The **transport economic efficiency** worksheet, see *The Economy Objective* (TAG Unit 3.5), provides a breakdown of the Present Values of Costs and Benefits against the following recipients of costs and benefits/disbenefits:

- personal travellers by mode (car, bus and coach, rail, walk/cycle, other);
- personal travellers by purpose (business, consumer);
- freight (road, rail, other); and
- transport system operators (road, rail, bus and coach, other).

1.5.10 In some cases a significant proportion of the impacts summarised on the AST will fall on non-UK residents. For example, non-UK residents may derive a significant proportion of the user benefits resulting from a public transport scheme providing access to an airport or seaport. In cases where a significant proportion of a scheme's impacts fall on non-UK residents it is important that the Distribution and Equity supporting analyses include a section that separately identifies the impacts on UK and non-UK residents.

1.5.11 The personal traveller benefits/disbenefits may, with some extra computation, be broken down by each of the trip purposes distinguished in the transport model.

1.5.12 All these calculations are conducted on a matrix basis. This means that the incidence of the benefits/disbenefits accruing to each origin or destination zone can be displayed geographically.

1.5.13 Given that the aim of some elements of a strategy or plan may be to stimulate economic regeneration in specific areas, the distribution of the **wider economic impacts** in this sense will be implicit in the analysis which underlies the entry into the AST.

1.5.14 Analyses of **access to the transport system** are undertaken on a spatial basis, against the background of car ownership. This analysis therefore provides useful information about the distribution and fairness of an option's impacts.

1.5.15 It is not clear that distributional analyses under the **other sub-objectives**, although possibly feasible, would add much or be worthwhile in the context of large-scale studies. Their value should therefore be considered carefully before any further analysis is undertaken.

Affordability and Financial Sustainability (AFS) - Sheet 1 of 3

Local Government Affordability and Financial Sustainability

Costs	**TOTAL (undiscounted)**		**Breakdown by organisation/budget**		
Investment Costs			Local highways	Light rail	Other
Year I					
Year ii					
Year iii					
Year iv					
Year v					
TOTAL		(1)			
Developer and Other Contributions		(2)			
Grant from Central Government		(3)			
Grant to Private Sector		(4)			
Cost to Local Government net of contributions		(5)=(1)+(4)-(2)-(3)			

Public Sector Operations			**Breakdown by organisation/budget**		
Year 1			Local highways	Light rail	Other
Change in operator costs		(6)			
Change in operator revenue		(7)			
NET IMPACT		(8)=(7)-(6)			
Year 5					
Change in operator costs		(9)			
Change in operator revenue		(10)			
NET IMPACT		(11)=(10)-(9)			
Year 10					
Change in operator costs		(12)			
Change in operator revenue		(13)			
NET IMPACT		(14)=(13)-(12)			

Affordability and Financial Sustainability (AFS) - Sheet 2 of 3

Central Government Affordability and Financial Sustainability

Costs	**TOTAL (undiscounted)**		**Breakdown by organisation/budget**			
Investment Costs			HA	SRA	Other 1	Other
Year I						
Year ii						
Year iii						
Year iv						
Year v						
TOTAL		(15)				
Developer and Other Contributions		(16)				
Grant to Local Government		(17)				
Grant to Private Sector		(18)				
Indirect Tax Revenues		(19)				
Cost to Central Government of contributions		(20)=(15)+(17)+(18)-(16)-(19)				

Operations			**Breakdown by organisation/budget**			
Year 1			HA	SRA	Other 1	Other
Change in operator costs		(21)				
Change in operator revenue		(22)				
NET IMPACT		(23)=(21)-(20)				
Year 5						
Change in operator costs		(24)				
Change in operator revenue		(25)				
NET IMPACT		(26)=(24)-(23)				
Year 10						
Change in operator costs		(27)				
Change in operator revenue		(28)				
NET IMPACT		(29)=(28)-(27)				

Affordability and Financial Sustainability (AFS) - Sheet 3 of 3

Private Sector Affordability and Financial Sustainability

Private Sector Investment Costs and Grants	**TOTAL (undiscounted)**		**Breakdown by organisation**					
Investment Costs			Rail route 1	Rail route 2	Bus corridor 1	Bus corridor 2	Rail freight	Other
Year I								
Year ii								
Year iii								
Year iv								
Year v								
TOTAL		(30)						
Grants from Central and Local Government		(31)						

Private Sector Operators	TOTAL (undiscounted)		**Breakdown by organisation**					
Year 1			Rail route 1	Rail route 2	Bus corridor 1	Bus corridor 2	Rail freight	Other
Change in operator costs		(32)						
Change in operator revenue		(33)						
NET IMPACT		(34)=(33)-(32)						
Subsidy		(35)						
Year 5								
Change in operator costs		(36)						
Change in operator revenue		(37)						
NET IMPACT		(38)=(37)-(36)						
Subsidy		(39)						
Year 10								
Change in operator costs		(40)						
Change in operator revenue		(41)						
NET IMPACT		(42)=(41)-(40)						
Subsidy		(43)						

Private Sector NET IMPACT								
Investment net of capital grant		=(30)-(31)						
Operations net of subsidy								
Year 1		=(34)-(35)						
Year 5		=(38)-(39)						
Year 10		=(42)-(43)						

The Affordability and Financial Sustainability Supporting Analysis

1.5.16 Although the prime criterion against which strategies and plans are to be assessed is overall value for money, as expressed in the AST, Steering Groups should have regard to the financial performance of the strategies or plans. In doing so it will be helpful to distinguish between services provided by the private sector and those provided by the public sector. *Supporting Analysis* (TAG Unit 3.8) sets out default assumptions regarding the sector providing the different modes. The role of this analysis is to provide an overall assessment of the likely public expenditure required to ensure the provision of the option under consideration.

1.5.17 To aid this process, an Affordability and Financial Sustainability (AFS) table should be completed for each strategy or plan. Advice on completing an AFS table is provided in *Supporting Analysis* (TAG Unit 3.8). The tables summarise the **financial** impacts on the public accounts (sheets 1 and 2) and on private sector transport providors (sheet 3), of carrying out one particular strategy. Impacts are measured relative to the agreed do-minimum baseline case so they represent changes in costs and changes in revenues. The entries in the table include the initial investment costs associated with the option, the change in ongoing operator costs and revenues and the financial transfers between the private and public sectors which are being assumed as part of the option definition.

1.5.18 Any costs which are identical in the do-minimum and the option, for example the fixed component of highway maintenance costs on the base network (the 'Group 1' costs in DMRB Volume 13 Section 1 Part 2 Ch. 9), will not appear in the AFS table. However, costs which are common to all options but which do not appear in the do-minimum, such as maintenance of a new road link which appears in all options, must be included in the AFS tables for all options.

1.5.19 It is important to note that the AFS table presents **financial** impacts. In addition, it only provides information on operating costs and revenues for selected years during the appraisal period. This information is useful for the consideration of affordability and financial sustainability, since it enables the timing of costs and the build-up in revenues to be considered. Assessors should note that the Public Accounts (PA) and the Transport Economic Efficiency (TEE) table (which supports the AST and is discussed in depth in *The Economy Objective* (TAG Unit 3.5)) provide complementary information.

1.5.20 However, it should be noted that, while the costs included in the PA and TEE tables should be in real terms (that is, net of inflation), the costs shown in the AFS tables should be in cash terms (that is, taking account of all assumed rates of inflation in the future).

1.5.21 The key question for Financial Sustainability is the extent to which strategies or plans are self-supporting from revenues – that is, can revenues cover operating costs for each year during the operating period; can revenues cover all costs, including investment costs? Where options would not be fully self-supporting, this raises the question: what grant or subsidy would be required to deliver the option?

1.5.22 The costs, revenues and net impact should be disaggregated by modal groups and, where feasible, by corridor or operator. Where a strategy or plan is self-supporting overall but for certain groups the outcome is not self-supporting, this is important information which needs to be brought out, since grant or subsidy may still be required if the strategy or plan is to succeed.

1.5.23 Where grant or subsidy does appear to be needed, studies will need to consider whether the need for support would be likely to meet the relevant decision criteria. This will only be feasible in most cases at a very broad brush level of

analysis, the content of which should be made clear by the consultants. Further advice on this is given in *Supporting Analysis* (TAG Unit 3.8).

1.5.24 In assessing affordability, it will be necessary for the Steering Group to take a view as to the likelihood of public funds being available of the scale suggested by the total requirement from the two sheets. Advice on affordability will be provided by Government Offices and the SRA. Where appropriate, affordability may be improved by the use of possible parking or road user charges, though this should be considered as a longer-term option

The Practicality and Public Acceptability Supporting Analysis

1.5.25 In the past, some studies have been less effective than they might have been because their recommendations breached some constraint. Thus strategies or plans may be desirable but not fundable, or may create a majority of winners with a minority of uncompensated losers who will form a vocal opposition, or may be contingent on future funding to complete a network which cannot be guaranteed, or may be risky against certain scenarios. There therefore needs to be an overall assessment of the practicability of each strategy or plan and, where relevant, what countervailing or complementary measures are needed to make the strategy or plan practical. Ideally, these measures should be built into the strategy or plan for testing, but it is recognised that this may not always be possible.

1.5.26 The following checklist may be helpful in assessing practicability.

- **Feasibility**. What is the likelihood of the decision being implemented? Technical and legal issues need to be considered as well as political and funding aspects. Consideration of feasibility and phasing will be interconnected.

- **Enforcement**. Does the strategy or plan require other, supporting enforcement measures to ensure that it is effective? If possible, measures should be self-enforcing.

- **Area of interest ("breadth" of the decision)**. What is the scale of the strategy or plan? How wide a range of activities and how many/what agencies does it involve? This is not merely a matter of specifying the geographic extent of the strategy or plan but of clarifying, for example, the role played by the local authorities compared to that by other bodies whose activities are embraced by the strategy or plan.

- **Complexity ("depth" of the decision)**. Does the strategy or plan involve numerous factors? Most transport policy decisions are, of course, complex but the extent varies. Removing traffic from a town centre, for example, encompasses a wide range of complex technical issues. Other decisions, for instance re-directing a cycle route, may be relatively simple.

- **Time-scale**. What is the time-scale for the implementation and of the effects of the strategy or plan?

- **Phasing**. What is the trade-off between making at least some kind of decision at an early stage (even though it may be revised later), as against postponing it? Early implementation of the elements of the strategy or plan that can be undertaken quickly will achieve political (and often public) support. The phasing of funding must be closely allied to the phasing of other elements of the strategy or plan, for example, design and construction. While all the strategy or plan components will need to be implemented if the original objectives are to be met fully, some policies can be adopted in stages.

- **Partitioning**. Can the strategy or plan be broken down into a series of simpler, discrete components? For example, could a proposal for area-wide traffic calming be divided up into smaller, more manageable, units? Parts of partitioned strategies or plans may not be implemented over a longer time period because they become redundant. Progressive pedestrianisation of a town centre is another illustration of the possible partitioning of proposals. Whereas the requirement of phasing implies that one measure follows another, the issue of partitioning merely means that a measure can be broken into separate components, but that all will not necessarily be implemented.

- **Complementarity**. Are the proposals complementary or are they independent? Some measures will make a significant contribution only if undertaken in association with others. Others are quite distinguishable and separate. Thus, the benefits of complementary measures undertaken in unison are greater than they are individually but the joint implementation may be more difficult to achieve.

- **Conflicts**. Does the measure conflict with others that have been or are likely to be made? Is the construction of a new radial route compatible with bus-priority measures on a parallel road, for instance? It is particularly important that measures do not conflict: consistent policies are essential for effective strategies or plans.

- **Political nature of policies and proposals**. How should the strategy or plan relate to the way that political choices are made? It is important that technical choices, which are primarily concerned with the specification of schemes and measures, are not confused with political choices, relating to policies.

1.5.27 The analysis of practicality should have given some clues to public acceptability. In addition, public acceptability will be judged from the responses to the public consultations in Steps 4 and 11 in Figure 1.1. Again, the outcome of those consultations should trigger the question “is the strategy fatally flawed, or are there accompanying measures, which could help to overcome the problems?”. Also, it is essential to ensure that the public is presented with a base case against which to assess the alternatives.

1.5.28 As well as the acceptability of the strategy to the general public, another dimension which must be considered under this heading is the level of support for the strategy from the key stakeholders who will be involved in implementation of the approved strategy. It cannot be stressed too strongly that this is not an academic exercise; these are studies which are intended to lead to practical results on the ground. Part of the task of the consultants and steering groups will be to create a shared plan to which the key stakeholders have a genuine commitment. This commitment must be achieved by involving the stakeholders via the steering group or otherwise, at every stage of the study from option definition to screening to strategy definition to final appraisal.

1.6 Distillation Towards the Final Appraisal Summary

1.6.1 To recap, the appraisal process of strategies or plans will have four strands:

- the Appraisal Summary Table, from which the overall value for money in achieving Central Government’s objectives for transport should be derived;

- assessment of the degree to which local and regional objectives would be achieved;

- assessment of the degree to which problems would be ameliorated; and

- supporting analyses of the implications for distribution and equity, affordability and financial sustainability, and practicality and acceptability.

Distillation of the Appraisal Information

1.6.2 The AST is, by definition, a **summary** of the indicators which are to be used to assess the extent to which the Government's objectives for transport would be met by the option. It enables the assessor to gauge the overall value for money of the option. **The final AST for each of the options should be confined to a single page and should present the impact on all the sub-objectives - even where the impact is very small or neutral.**

1.6.3 However, to assist in the process of selecting the preferred option, some distillation may be required to focus more on the 'important facets'. In this context, 'important facets' means:

- that information which contributes significantly to the overall worth of an option; and

- that information which helps the decision-taker distinguish between options.

1.6.4 This means that the information used to select the preferred option could vary between studies. For example, if impacts on heritage were significant and radically different between options in one study and completely unimportant in a second study, information about heritage would be required in the first case but not the second. Thus, the omission of information under any one sub-objective or objective from the working ASTs would imply that it was unimportant in the particular study and that it did not assist in distinguishing between options, **but** it would not imply that the issue had **not** been considered. That it was unimportant in the particular study could be verified by inspection of the final ASTs for the study which should present the impact on **all** the sub-objectives.

1.6.5 Summaries of the information under each of the other appraisal strands should also be prepared. These should also fit on a single page to match the AST, and should be along the following lines.

- The **local and regional objectives** should nest within each of the five objectives of Central Government, and the summary of the option's effectiveness against these objectives should follow the format of the AST. If there are more local and regional objectives than can fit within a single page, a selection should be made, omitting those for which relatively insignificant impacts were found for the option concerned.

- The **problems** for the forecast year do-minimum case will have been summarised on a single sheet of paper (with map background) at the outset. For each option, a further single sheet should be produced which shows how the do-minimum problems would change with the option.

- The main points from the **Supporting Analyses** should also be summarised on a single sheet of paper for each option. This means identifying the important points about the option from each of the Supporting Analyses: distribution and equity, affordability and financial sustainability, practicality and public acceptability. For multi-modal studies this should also include impacts on 10 Year Plan targets.

The Final Appraisal Summary

1.6.6 For each strategy or plan option, there will, at this stage, exist up to seven single sheets which summarise various aspects of the appraisal, as follows:

- an annotated map describing the strategy or plan option;
- possibly a separate sheet listing the alternatives considered and their reasons for rejection (if this information cannot be fitted onto the previous sheet);
- an AST for Central Government's objectives;
- a summary of the achievement of local and regional objectives;
- a map showing the changes in the do-minimum problems which would be brought about by the strategy or plan option (backed by two maps showing the problems in the base year and in the horizon year on the do-minimum network, which are, of course, common to all options); and
- a summary of the main points from the Supporting Analyses.

In addition, there will also be worksheets for each sub-objective on the Central Government AST, though these may not be provided for the assessor unless requested.

1.6.7 It may be that the assessor (Steering Group members) can cope with this level of information and that no further distillation is necessary. If further distillation is required, it is suggested that the following steps are taken:

- delete that information in the summary of achievement of the local and regional objectives which adds little or nothing to the comparable information in the AST for Central Government's objectives; and
- delete any information from the Supporting Analyses which are not central to the appraisal.

1.6.8 Judgement will play a clear role in this distillation process. The original summary sheets and worksheets should always be retained so that other people can judge the distillation process for themselves.

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:
Setting objectives	*Objectives and Problems*	TAG Unit 2.2
Models used in transport appraisal	*Modelling*	TAG Unit 3.1
Appraising against the Government's 5 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
The appraisal process	*The Overall Approach: The Steps in the Process* *Appraisal*	TAG Unit 2.1 TAG Unit 3.2
The Appraisal Summary Table	*Transport Appraisal and the New Green Book*	TAG Unit 2.7
Strategic Environmental Assessment	*Strategic Environmental Assessment for Transport Plans and Programmes*	TAG Unit 2.11
The economic elements of transport appraisal (including transport economy efficiency, TEE tables)	*The Economy Objective*	TAG Unit 3.5
Completing the Affordability and Financial Sustainability (AFS) Tables Treatment of 10 Year Plan Targets in Multi-Modal Study Recommendations	*Supporting Analysis*	TAG Unit 3.8
The impact if the revised Green Book on TAG	*Transport Appraisal and the New Green Book*	TAG Unit 2.7

3 References

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

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

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

Highways Agency *Design Manual for Roads and Bridges (DMRB)*

H.M. Treasury (January 2003) *Green Book*

4 Document Provenance

This Transport Analysis Guidance (TAG) Unit is based on Chapter 6 of *Guidance on the Methodology for Multi-Modal Studies Volume 1* (DETR, 2000), updated to take account of H.M. Treasury (January 2003) *Green Book*.

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

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