

## **The Overall Approach: The Steps in the Process**

### **TAG Unit 2.1**

December 2004

Department for Transport

Transport Analysis Guidance (TAG)

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# **1 The Steps in the Process**

## **1.1 Introduction**

- 1.1.1 Figure 2.1 is a description of the process for establishing a transport strategy or plan.
- 1.1.2 This process is also generally applicable to the development and appraisal of Local Authority Transport Strategies, major highway and public transport schemes which are part of Local Transport Plans, and trunk road and motorway schemes. The process chart should be taken as the starting point and adapted to suit the kind of study being carried out.

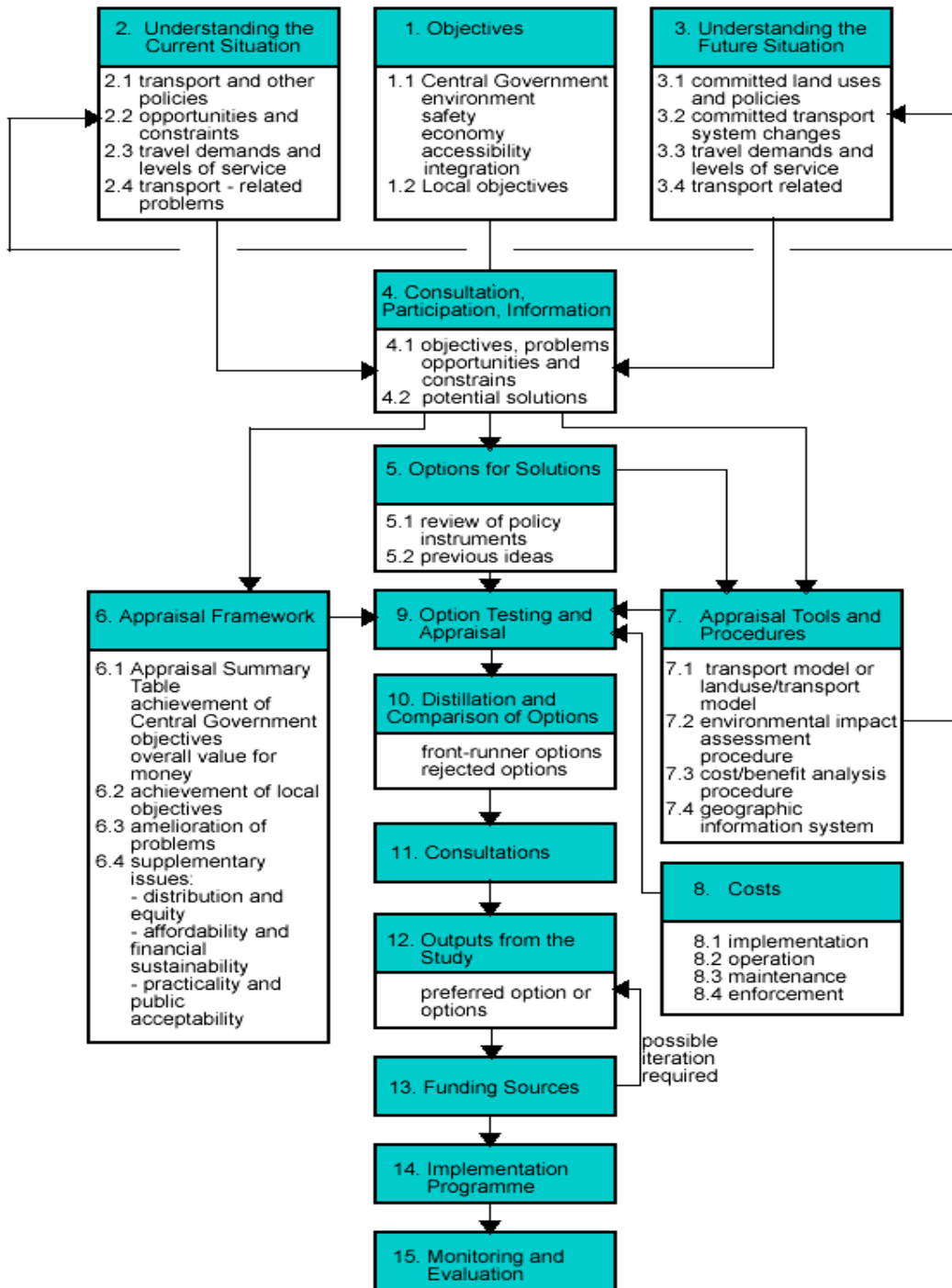


Figure 2.1 Study Approach

## 1.2 Step 1: Objectives

1.2.1 In *A New Deal for Transport*, the DfT has set out its five main criteria for transport, as follows:

- “integration - ensuring that all decisions are taken in the context of our integrated transport policy;
- safety - to improve safety for all road users;
- economy - supporting sustainable economic activity in appropriate locations and getting good value for money;
- environmental impact - protecting the built and natural environment;
- accessibility - improving access to everyday facilities for those without a car and reducing community severance.”.

1.2.2 These criteria, which can be couched as objectives, should form the cornerstone of studies and are shown in Figure 2.1 as Step 1.1 - **Central Government objectives**. So, Step 1.1 is, in effect, complete for all studies at the outset; the Government’s five main objectives are a ‘given’ starting point.

1.2.3 A number of factors may have triggered the need for a study. Annex D to *A New Deal for Trunk Roads in England* (DETR, 1998) gives the problems on the trunk roads that led to the DfT’s initial programme of studies being identified. However, in the longer term, transport studies will be initiated from a number of sources and will not relate to problems on a particular mode. Thus, the problems behind the study may be quite varied in nature. They may range, for example, from the possible redevelopment of a major site, to the need to regenerate the economy of a run-down area, to the need to control congestion, to the desire to enhance the attraction of an area as a recognised business or tourist centre. Whatever the initial stimulus for the study, it may give a sharper focus if those initial thoughts and requirements are translated into a set of local or study-specific objectives which the study should aim to meet.

1.2.4 These **local, regional or study-specific objectives** should be framed in such a way so that they:

- all ‘nest’ within the Government’s five main objectives, with no local or regional objectives lying outside the framework provided by the Government’s objectives; and
- avoid indications of preferred solutions.

1.2.5 Where quantified targets are stated, care should be taken not to introduce bias by inadvertently setting some targets which are easy to meet while others are very difficult, if not impossible, to achieve.

1.2.6 Study-specific objectives may also relate to the

- distribution and equity,
- affordability and financial sustainability, and
- practicality and public acceptability

of potential solutions. While these issues are not to be treated as objectives in the same way as the Government’s five main objectives are, they do appear in the appraisal process, as explained in *The Appraisal Process* (TAG Unit 2.5).

- 1.2.7 *Objectives and Problems* (TAG Unit 2.2) discusses the development of a set of objectives for use in establishing a transport strategy or plan.

### 1.3 Step 2: Understanding the Current Situation

- 1.3.1 Step 2 is designed to contribute to developing an understanding of the **current** situation in the study area.

#### Step 2.1: Current Transport and Other Policies

- 1.3.2 Step 2.1 is concerned with developing an understanding of current transport policies and practice. Included in these policies would be those of the transport providers. Other areas of Government policy should also be taken into account, where they impact on the transport sector. Of particular importance are policies relating to land uses.

#### Step 2.2: Opportunities and Constraints

- 1.3.3 Step 2.2 is concerned with exploring the physical features of the study area. Examples of physical features which may exert special **constraints** on the shape of a transport strategy or plan include:

- sensitive areas of ecological or landscape or heritage importance;
- built-up areas;
- rivers and railway lines which are expensive to bridge;
- hilly terrain making infrastructure works expensive; and
- unusual existing patterns of development such as industry and commerce spread over wide areas outside the traditional urban centre.

- 1.3.4 There may also be institutional or legal constraints which are important to take into account. Examples of this kind of constraint could include:

- the provision of elements of the public transport system by private operators who will have their own commercial objectives; and
- the provision of private non-residential parking, although legislation to enable the use of this space to be controlled is planned.

- 1.3.5 The extent to which these institutional and legal constraints have a material bearing on the outcome of the studies could depend on the extent to which the recommendations are developed with the private suppliers of transport.

- 1.3.6 These are but a few of the kinds of feature which should be appreciated early in the strategy or plan development process. Of course, not all such features would necessarily be regarded as sacrosanct to the same extent nor necessarily as absolute constraints in every case. Nevertheless, an early appreciation of these issues will assist in identifying a strategy or plan which is more readily acceptable than one which ignores them.

- 1.3.7 Within this exploration, any **opportunities** for the improvements to the transport system and the way it is used should be noted. Examples of opportunities could include:

- ways of making better use of the existing infrastructure through either better management or some small but crucial addition to the infrastructure; and

- provision of new or improved transport infrastructure, such as reopening or reusing railway lines for light rail, bus-only links (including guided busways), cycle routes or a new road.

### **Step 2.3: Current Travel Demands and Levels of Service**

- 1.3.8 For a full understanding of the study area and its transport system, it is essential to establish the levels of service offered by the current transport networks and the current demands for travel by those living in the area and its hinterland. The surveys necessary to collect this information often consume a substantial part of the resources allocated to the study. Best use should be made of information collected previously and care should be taken to minimise the effort required to assemble new information.
- 1.3.9 A comprehensive picture of the demand for travel in the study area is usually required for the creation of a computer model of the transport system, which is desirable for the proper appraisal of the strategy and its components. For general advice on travel demand surveys, reference should be made to *the Design Manual for Roads and Bridges Volume 12* (Highways Agency) or to textbooks such as Richardson, *et al* 1995.

### **Step 2.4: Current Transport-Related Problems**

- 1.3.10 The analysis of the current problems on the transport system is a crucial step. It brings into sharper focus the issues at which the study should be aimed. As explained in *Objectives and Problems* (TAG Unit 2.2), there is little or no material difference, in concept, between a comprehensive set of quantified objectives and a comprehensive set of problems identified by relating conditions to thresholds.
- 1.3.11 Problems may be analysed at very broad or very specific levels. At the broad level, a problem may be identified where it is judged that an objective is not being met. For example, if an objective had been set to reduce emissions from transport to a specified level, and if emissions can be shown to be above that specified level, a problem of poor air quality can be said to exist. Thus, problems can be defined as unmet objectives.
- 1.3.12 Problems may be identified in a number of ways, including:
- by consulting people about their perceptions of the problems, both those that they encounter when travelling and those which result from other people travelling (see Step 4 below);
  - through discussions with representatives of the regional and local authorities and the transport providers to gain an understanding of the transport and planning professional's perceptions of problems with the transport system (also see Step 4 below);
  - by conducting audits of specific elements of the transport system in order to gain a deeper understanding of the roles performed and to analyse the extent to which the expected aims are not met; and
  - by analysing outputs from the transport model in comparison with thresholds so as to enable the geographic display of the worst conditions on a consistent numerical basis across the study area.
- 1.3.13 The geographical display of problems can be very useful, in that it provides:
- those involved with the study, including the public, with a display of current problems on the transport system in a comprehensible, rather than abstract, form;

- the transport planner with a means of ‘calibrating’ the methods used for forecasting future problems, by comparing the numerical analyses in the base year with people’s perceptions and adjusting the numerical analyses appropriately; and
- a direct stimulus to the development of solutions and the transport strategy or plan as a whole.

However, it is not always appropriate or possible to undertake such spatially detailed analyses.

- 1.3.14 *Objectives and Problems* (TAG Unit 2.2) describes the different ways in which problems may be identified. It is crucial, however, that the **causes** of the problems are investigated before solutions are generated. It has often been argued in the past that focusing on problems as the stimulus for option development encourages a superficial approach whereby solutions are adopted which ‘patch up’ the symptoms without addressing the real underlying causes. Analysis of causes avoids this pitfall.
- 1.3.15 Consistency between the approaches adopted in different studies will be essential in several key respects, notably forecasts of travel demand, in the methods of environmental impact assessment and cost/benefit analysis, and in the values of the economic parameters which are used in the cost/benefit analysis. As far as problems are concerned, however, it is considered that some degree of flexibility is desirable to ensure that solutions are developed which are most suited to local and regional objectives.

## **1.4 Step 3: Understanding the Future Situation**

- 1.4.1 Step 3 broadly parallels Step 2 in that it is concerned with developing an understanding of problems, but in the future rather than the present.

### **Step 3.1: Future Committed Land-Uses and Policies**

- 1.4.2 The interaction between transport and land use is a two-way relationship. On the one hand, future travel demands will be shaped by future land uses while, on the other hand, changes in the disposition of land uses will be influenced by changes in accessibility provided by the transport system.
- 1.4.3 The traditional transport planning approach has been to assume a particular land-use pattern for the future planning year as a starting point. In a similar manner, at the macro-level, studies should work within the framework set by regional planning guidance and development plans. However, at the micro-level, studies should examine the interaction of transport and planning decisions and may consider land-use planning based solutions. The modelling implications for this are discussed in *Summary Advice on Modelling* (TAG Unit 2.4) and *Modelling* (TAG Unit 3.1).
- 1.4.4 It is important to ensure that the approach to planning data forecasts is broadly consistent between studies. To ensure that this is achieved, forecasts of population, households and employment published by the DfT in the TEMPRO database should be used as a reference case. In cases where a land-use/transport interaction model is used, study-specific forecasts of planning data will be generated by the model. Forecasts should also be prepared using the TEMPRO data as a benchmark. The differences between the modelled forecasts and the TEMPRO data should be displayed and the implications of the differences explored and reported.

### Step 3.2: Future Committed Transport System Changes

- 1.4.5 The assessment of a transport intervention includes a comparison of the situation without the intervention against the situation which would obtain with the intervention in place. The without-intervention scenario needs careful consideration and may be defined in one of the following two ways:
- a 'do-nothing' case in which the current transport system is used unchanged;
  - a 'do-minimum' case in which only committed changes are made to the existing transport system.

These concepts are explained in more detail in the COBA Manual (*Design Manual for Roads and Bridges, Volume 13*).

- 1.4.6 The 'do-nothing' scenario generally makes little sense as the datum against which the options are compared because it is very rare for there to be no changes at all to the present system in the pipeline.
- 1.4.7 The most usual basis for the assessment of options is the 'do-minimum' in which only **committed** changes are added to the existing system. These 'committed' changes, which may apply to public transport and parking as well as roads and traffic management, should be limited to those schemes to which a genuine commitment has been made from which it would be difficult to withdraw. This includes projects for which tenders have been invited or let and projects to which Ministers have given a firm commitment (for example, road schemes in the Targeted Programme of Improvements). The do-minimum should also include minor changes which can be expected to be carried out as conditions deteriorate - signalisation of busy priority junctions, for example.
- 1.4.8 The do-minimum may also reflect trends in the provision of transport. For example, if an improved trend in the levels of service offered by public transport or an upward trend in the real cost of fares can be identified, there may be a case for extending these trends into the future do-minimum scenario. This philosophy is intended to answer the question: if no action is taken, what will be the situation on the transport system at some defined point in the future?
- 1.4.9 In order to achieve the desired degree of consistency on all the factors affecting the do-minimum forecasts liaison with DfT is recommended to agree the relevant forecasting assumptions.

### Step 3.3: Future Travel Demands and Levels of Service

- 1.4.10 As well as considering changes in land uses and the transport system, studies will also need to consider the impacts of other trends, such as in GDP and taxation, especially of car purchase and fuel. Again, consistency will be important.
- 1.4.11 Travel demands will need to be forecast for some future years. A distinction needs to be made between the traditional approach and evolving approaches using dynamic modelling systems.
- 1.4.12 In the **traditional** approach, the travel forecasts are made using a transport model. In transport strategy or plan studies, it is usual to adopt a single planning year. Desirably, however, forecasts should be produced for other years, both before and after the main horizon year so that an appreciation can be gained as to how conditions and problems will change over time. Forecasts for intermediate years are also essential for working out the phasing of the various components of the preferred strategy or plan over the implementation period and for estimating streams of benefits for use in the cost/benefit analysis. In the **dynamic** approach, forecasts of land-use and travel demand are made at

relatively small intervals throughout the planning period. The guidance in *Summary Advice on Modelling* (TAG Unit 2.4) should be followed.

### Step 3.4: Future Transport-Related Problems

- 1.4.13 Having established future travel demands in the horizon year do-minimum case, future problems can be analysed. While audits of specific parts of the transport system are not appropriate in this context, the public, the regional and local transport and planning professionals, transport providers and other transport interests may all be consulted about their views on the forecast changes (see Step 4 below). It will also be useful to repeat the base year numerical analyses of problems conducted by comparing conditions with thresholds but using the forecast travel demands and levels of service for the do-minimum case.

## 1.5 Step 4: Consultation, Participation and Information

- 1.5.1 Local people, businesses, environmental interests, transport users and operators will need to be involved in the study process. Wide participation and consultation will be a key factor in gaining public support and acceptability for options put forward in the studies. A strategy for involving these groups will need to be established early on in the study process.

- 1.5.2 The strategy should address **who** to involve. In particular, the strategy will need to address how to involve the following groups:

- regional partners (Regional Planning Conferences; Regional Assemblies, Regional Development Agencies, Regional Chambers);
- local authorities;
- transport providers (Highways Agency, highway authorities, Strategic Rail Authority, Network Rail, train operating companies, bus and coach operators, and car park operators);
- representatives of business (Regional Chambers of Commerce, CBI, Freight operators);
- transport users (rail passengers, disabled travellers, freight interests, motorists, cyclists and walkers);
- environmental interests (Transport 2000, CPRE, etc);
- Statutory Bodies (Countryside Agency, English Heritage, Environment Agency, English Nature)
- the general public of the study area; and
- the travelling public who would be a subset of the general public in the study area but who would also include people from outside the study area;

- 1.5.3 The strategy should also specify **when** to involve them, for example:

- prior to the start of the study so that views can be sought on the terms of reference;
- at the start of the study so that views can be sought on local and regional objectives;
- in the early stages so that current perceptions of problems on or with the transport system can be established;

- after the analysis of current transport problems so that the perceived problems can be used to validate and, if necessary, adjust the computational procedures used to identify problems;
  - after the analysis of the future transport problems so that views can be sought on the relative importance of the different kinds of problem;
  - at the start of the option development step so that views can be sought on the kind of solution which should be considered; and
  - as part of the appraisal process (e.g. involvement of the statutory bodies in assessing the environmental aspects of particular options)
  - after the options have been tested and appraised so that views of respondents can be taken into account when making a decision about the preferred transport strategy or plan.
- 1.5.4 The strategy should make clear from the outset the aims and limits of this involvement, so that suitable techniques can be identified and confusion as to the role of different groups can be avoided. In particular the strategy should distinguish between the following.
- **Information provision**, a one way process to keep those with an interest in the study informed.
  - **Consultation**, where the views of the general public or sectional interests are sought at particular stages of the study and the results are input back into the study process. This need not involve lengthy consultation documents. Consultants should advise on the most appropriate techniques, e.g. the use of leaflets, exhibitions and questionnaires.
  - **Participation**, either through the steering group or through other means by which the public and other interests have a direct influence on the outcome of studies.
- 1.5.5 Chapter 7 of the *Guidelines on Developing Urban Transport Strategies* (IHT, 1996) provides advice on the various techniques available for consulting the public. If the study area is large, special attention will be required. Ways of consulting the public over the larger study areas in a cost-efficient manner will need careful consideration.
- 1.5.6 Consultation with Environmental Bodies (English Nature, English Heritage, the Countryside Agency and the Environment Agency) and the public is legally required for plans and programmes involving a Strategic Environmental Assessment; see *Strategic Environmental Assessment for Transport Plans and Programmes* (TAG Unit 2.11). In such cases, consultation must be undertaken at an early stage in plan preparation and then again when a draft version of the plan is published.

## 1.6 Step 5: Options for Solutions

- 1.6.1 Once objectives have been set, the situation in the study area has been examined, and problems have been identified, the next step is to start developing ideas for solutions. The following sources of ideas are likely to be available:
- the public, if consulted at the stage suggested in Figure 2.1, will have some ideas;
  - ideas considered previously may be reviewed to check whether any of the proposals discarded in the past may now be worth reconsidering; and

- *Policy Instruments* (TAG Unit 2.3) reviews the significant policy instruments which may be of use in studies.

1.6.2 *Policy Instruments* (TAG Unit 2.3) sets out a wide range of policy instruments that may be relevant in studies covering both urban and inter-urban techniques. When assessing options it is important to consider all aspects of possible impacts. For example, one of the major causes of motorway congestion is the use made of these roads by local traffic, diverting to avoid congestion on local roads caused by even more local traffic. If some of these very local car journeys could be transferred to cycle, foot or public transport, this could provide some relief of the motorway congestion. In addition, where inter-urban routes bypass or provide access into urban areas, then urban instruments may be used to complement inter-urban techniques. Generally options that reduce the need to travel are likely to be more sustainable than those that cater to travel demand.

1.6.3 'Brainstorming' sessions or 'workshops' can be used as a means of developing options for testing. These approaches can generate ideas by cross-fertilisation between the participants' different perspectives, though both have potential drawbacks:

- because of the limited time often allocated, the discussions may fail to address the issues in a thorough manner, giving rise to the danger that any conclusions reached may well be superficial; and
- the power of the personalities participating, and the energy and persuasiveness with which they are able and prepared to pursue their arguments, may result in a biased view emerging which is not truly representative of the balanced views of the group as a whole.

These difficulties may be reduced, but not necessarily eliminated, by allocating sufficient time for discussion and for the rapporteurs to prepare their feedback to the plenary sessions, and by employing strong, well-briefed people to chair the workshops.

1.6.4 Decision makers will play the key role in selecting options for detailed consideration in studies. *Policy Instruments* (TAG Unit 2.3) provides the starting point. It provides a checklist of the range of policy instruments that are likely to be relevant to studies, and indicates the types of objectives they can help contribute to. It also provides references to source documents that will provide more detail about the performance of the instruments more likely to be of use. At this stage of the study, outputs from the transport model and the problem analyses will be available, and may be used to undertake some broad brush analyses of the likely effects of the promising policy instruments in the context of the specific studies. By a combination of numerical analysis and rational argument, it is likely that the most promising set of policy instruments for any particular circumstance can be identified.

## 1.7 Step 6: Appraisal Framework

1.7.1 Before options can be appraised, an appraisal framework is required. This is discussed in detail in *The Appraisal Process* (TAG Unit 2.5). The framework has four strands.

- 1 **The Appraisal Summary Table.** This analyses the degree to which the five Central Government objectives for transport (environment, safety, economy, accessibility and integration) would be achieved. It provides a comprehensive summary of the impacts of an option. Assessors 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. Used in this way, the AST will help ensure

that decisions on the value of options are consistent between study areas. The section on *Appraisal* (TAG Unit 3.2) gives detailed advice on the AST.

- 2 An assessment of the degree to which the **local and regional objectives** would be achieved. This is likely to be of particular interest to the regional and local authorities and to local people, so is an important element of the appraisal process. Overlap between this appraisal strand and the previous one is to be expected.
  - 3 An assessment of the extent to which the **problems** identified would be ameliorated by the option.
  - 4 **Supporting analyses** of distribution and equity, affordability and financial sustainability, and practicality and public acceptability.
- 1.7.2 It is possible that the second and third of these appraisal strands may amount to much the same thing, although this will clearly depend on the nature of the local and regional objectives adopted and the form of the local problem analyses.
- 1.7.3 *The Appraisal Process* (TAG Unit 2.5) and *Appraisal* (TAG Unit 3.2) provide guidance on how each of these appraisals should be conducted. The use made of them is discussed under Step 10 below.

## 1.8 Step 7: Appraisal Tools and Procedures

- 1.8.1 While Step 6 is concerned with defining what **information** is required for the appraisal framework, Step 7 is concerned with establishing the **methods** (tools and procedures) by which the required information should be provided. The entries to the Appraisal Framework and, in particular to the Appraisal Summary Table, are **computed** under Step 9.
- 1.8.2 Four groups of tools or procedures are identified in Figure 2.1:
- a transport or a land-use/transport interaction model;
  - an environmental impact assessment procedure;
  - a cost/benefit analysis procedure; and
  - a geographic information system.

### Step 7.1: Transport Model or Land-Use/Transport Interaction Model

- 1.8.3 The consequences of a transport strategy or plan may be many and varied and considerable expenditure is often involved. It is important, therefore, that every effort is made to assess the likely consequences, to ascertain the extent to which objectives are met and problems solved, and to estimate the value for money of the strategy or plan. For these purposes, a computer model of the transport system is usually required which can project future demands and realistically represent the effects of all the components. Further advice is given in *Summary Advice on Modelling* (TAG Unit 2.5) and *Modelling* (TAG Unit 3.1).
- 1.8.4 This is a crucial step in developing any transport study. The creation of a transport model, along with the collection of the necessary data, is potentially costly and time-consuming. It is vital, therefore, that the scope for using existing models and data is carefully considered, and that new models and data are up to the task. Careful consideration should be given, before resources are committed to data collection and model building, to the nature of the options which it is likely to wish to test and the required level of detail of the analyses.

### **Step 7.2: Environmental Impact Assessment Procedure**

- 1.8.5 An important part of the information required for the AST comes from environmental impact assessment and cost/benefit analysis. The AST enables the information from these two sources to be presented in a balanced and integrated manner. By adopting standard procedures for these two assessments and using common parameter values in the cost/benefit analysis, consistency across the Studies can be ensured, thereby facilitating any comparisons which Ministers may wish to make.
- 1.8.6 While guidance is readily available on the environmental assessment procedures for the appraisal of road schemes, guidance is less available for the appraisal of the impacts of other modes. For plans and programmes, strategic environmental assessment is normally required; see *Strategic Environmental Assessment for Transport Plans and Programmes* (TAG Unit 2.11). Strategic Environmental Assessment relies on different techniques, appropriate to consideration of environmental and social impacts at the plan/programme level. It is clearly important that methods of environmental assessment are chosen which are appropriate to the scale of the study being undertaken, the nature of the area and the kind of solutions likely to be appraised. *The Appraisal Process* (TAG Unit 2.5) and *The Environment Objective* (TAG Unit 3.3) also provide useful information.

### **Step 7.3: Cost/Benefit Analysis Procedure**

- 1.8.7 The Department for Transport has two appraisal programs, TUBA and COBA. COBA is only appropriate for fixed trip matrix, highway scheme analysis, whereas TUBA can also accommodate more complex multi-modal and variable trip matrix analyses. *COBA11 Guidance with accompanying COBA11 software* (HETA, 2001) and *Transport Users Benefit Appraisal User Manual, TUBA User Guidance with accompanying TUBA software* (HETA, 2001) provide further information.
- 1.8.8 Of particular importance in these calculations is the consistent and explicit treatment of flows of taxes, so that impacts on the Exchequer can be identified, and flows of fares, tolls and charges paid by travellers, and revenues received by transport operators, can be accounted for. These payments and receipts appear in the cost/benefit analysis as costs and benefits. Thus, the information required for the appraisal of the financial consequences on the Exchequer and the transport operators is automatically contained within a full cost/benefit analysis and can be identified separately.
- 1.8.9 *The Economy Objective* (TAG Unit 3.5) provides advice on how the cost/benefit analysis should be undertaken and on the sources for the economic parameter values required for the calculations.

### **Step 7.4: Geographic Information System**

- 1.8.10 Geographic Information Systems (GISs) are very powerful tools for the display of information on a geographical basis. Background information, such as designated areas, can be assembled in the GIS, along with detailed OS background mapping. Plots can then be output which overlay the elements of the strategy or plan on the background data. A database is usually associated with a GIS in order to store information relating to the appraisal of each of the options tested. From this source, information from the appraisal can be displayed geographically, either for options individually or as a means of making comparisons between options.

## 1.9 Step 8: Costs

1.9.1 Costs are as crucial to the appraisal process as benefits. Therefore, studies will need to include estimates of the costs of implementation, operation, maintenance and enforcement, to an appropriate level of accuracy to enable robust decisions to be made. However, it would not be cost-effective to spend considerable funds designing something in detail, simply so that its cost could be determined with accuracy, only to find subsequently that it fails the appraisal criteria and is rejected. Once the initial appraisal results become available, it should then be possible to see where the cost estimates are particularly important to the choices which have to be made and for the robustness of the overall recommendations. Further effort may then be directed to refining those costs which have a special influence on the choices to be made.

1.9.2 Step 8 is concerned with establishing the **methods** by which costs should be estimated. The estimates themselves are derived as part of Step 9. Procedures need to be established for each of the various kinds of costs, along the following lines:

- **implementation costs** - unit costs for land, construction, vehicles, etc;
- **operating costs** - models of the costs of operating public transport and charging systems;
- **maintenance costs** - unit rates or simple models; and
- **enforcement costs** - unit rates or simple models.

Advice on the treatment of costs in the cost/benefit analysis is given in *The Economy Objective* (TAG Unit 3.5).

## 1.10 Step 9: Option Testing and Appraisal

1.10.1 Using the appraisal framework, appraisal tools and procedures described in earlier steps, the work of testing and assessment of the options can begin. There are a number of different ways in which this step can be tackled; these are considered in *Appraisal* (TAG Unit 3.2), and in *Guidelines on Developing Urban Transport Strategies* (IHT, 1996).

## 1.11 Step 10: Distillation and Comparison of Options

1.11.1 It is conceivable that very large numbers of options could be tested and appraised in the course of a study. On the face of it, the process of comparing a large number of options, for each of which there is a large amount of complex appraisal information, could present a considerable challenge.

1.11.2 In practice, it seems unlikely that a study would be undertaken in such a way that (a) a large number of options are tested and appraised, but (b) that no comparisons of the options are undertaken until the results from all the options are available. It seems more probable that a learning process would be adopted, whereby a small number of tests would be conducted, the results compared, leading to the specification of another small group of tests, and so on. In other words, there may, in reality, be no need to devise a way of comparing a large number of options because, even though a large number may be appraised, only small numbers would be compared at any one time.

1.11.3 The process of strategy or plan appraisal may be viewed as the progressive distillation of the key features that:

- either distinguish one option from others;

- or contribute significantly to the overall value-for-money of an option.

Distilling the appraisal information down to these two essentials may well reduce significantly the amount of information which needs to be considered by the decision-maker and make the process of comparing options tractable. Advice on this process is given in *The Appraisal Process* (TAG Unit 2.5).

## 1.12 Step 11: Consultations

1.12.1 A consultation exercise should be undertaken before the decision makers reach conclusion. Consultation with Environmental Bodies (English Nature, English Heritage, the Countryside Agency and the Environment Agency) and the public is legally required at the draft plan/programme stage where a Strategic Environmental Assessment is undertaken; see *Strategic Environmental Assessment for Transport Plans and Programmes* (TAG Unit 2.11).

## 1.13 Step 12: Outputs from the Study

1.13.1 Dependant upon the type of study, outputs will be reported in a variety of forms to a variety of audiences. In general the outputs of studies should:

- be provided at a level of detail that enables the different players to contribute to the debate and make their decisions in a fully informed manner; and
- set out the conclusions in a clear and logical manner without over-burdening the reader with information.

## 1.14 Step 13: Funding Sources

1.14.1 A crucial part of the appraisal framework described under Step 6 will be the assessment of affordability and financial sustainability. Thus, a view should be taken in the course of a study about the likely financial requirements of any solution proposed. Once conclusions and recommendations have been reached, it may be worth re-investigating the funding implications to ensure that the options proposed are feasible in this crucial respect.

## 1.15 Step 14: Implementation Programme

1.15.1 Some transport strategies or plans will involve a considerable amount of expenditure and a large number of concerted actions, spread out over a number of years. These need to be phased appropriately so that the transport system develops in the most effective manner. In determining the phasing of the component parts of a strategy or plan, it will be necessary to:

- decide **when** each component is required by analysing when the problems are likely to emerge at which the component is aimed;
- understand the relationships between the various components, taking account of which elements **must** come before or after others;
- take account of the lead times required to progress each component, taking account of planning procedures, and design and construction times;
- take account also of the capabilities of the transport providers to deliver schemes at the required times; and

- reconcile the ideal sequence of implementation with the likely flow of funding.

### 1.16 Step 15: Monitoring and Evaluation

1.16.1 Monitoring of significant environmental effects is legally required for plans and programmes involving Strategic Environmental Assessment. Advice on this is given in *Strategic Environmental Assessment for Transport Plans and Programmes* (TAG Unit 2.11).

## 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:
The development of a set of objectives in transport appraisal	<i>Objectives and Problems</i>	TAG Unit 2.2
Transport Modelling and the interaction with land-use planning	<i>Summary Advice on Modelling</i> <i>Modelling</i>	TAG Unit 2.4 TAG Unit 3.1
Review of the significant policy instruments which may be of use in the Studies	<i>Policy Instruments</i>	TAG Unit 2.3
The New Approach to Appraisal	<i>The Appraisal Process</i>	TAG Unit 2.5
Strategic Environmental Assessment	<i>Strategic Environmental Assessment for Transport Plans and Programmes</i>	TAG Unit 2.11
Using the multi-modal Appraisal Summary Table.	<i>Appraisal</i>	TAG Unit 3.2
Accounting for Environmental Impacts in Transport Appraisal	<i>The Environment Objective</i>	TAG Unit 3.3
The Economic impacts of Transport Appraisal, including cost / benefit analysis.	<i>The Economy Objective</i>	TAG Unit 3.5

## 3 References

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

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

Highways Agency *DMRB Volume 13 (The COBA Manual)*, and DfT (2003) *Interim COBA 11 Guidance and Accompanying COBA 11 software*

Richardson A J, Ampt E S and Meyburg A H (1995). *Survey Methods for Transport Planning*. Eucalyptus Press, Melbourne

DETRA (1999) *better quality of life: a strategy for sustainable development for the UK, Cm 4345*.

DfT (2003) *Guide to Producing Regional Transport Strategies*

ODPM (previously DETR) *Regional Planning Guidance, Planning Policy Guidance Note 11 (PPG11)*

## 4 Document Provenance

This Transport Analysis Guidance (TAG) Unit is based on Chapter 2, Section 2 of *Guidance on the Methodology on Multi-modal Studies Volume 1* (DETR, 2000).

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

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