

Trunk Roads

TAG Unit 1.3

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Department for Transport

Transport Analysis Guidance (TAG)

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1 Purpose of this Document

1.1 Background

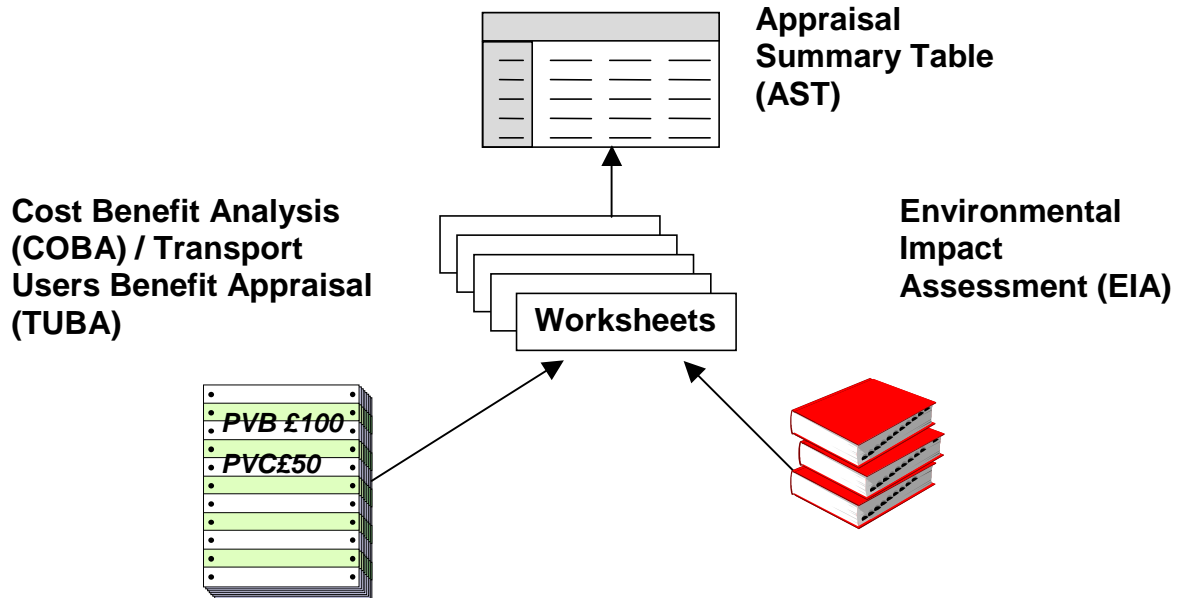
- 1.1.1 Since 1998, trunk road appraisal has been based on the New Approach To Appraisal (NATA) set out in Annex B of the 1998 Roads Review (*A New Deal for Trunk Roads in England*, DETR, July 1998). The Integrated Transport White Paper published at the same time as the Roads Review (*A New Deal for Transport: Better for Everyone*, DETR, July 1998), stated the intent to develop the New Approach To Appraisal for the appraisal of all transport projects, including highway projects. The revised version was later set out in *Guidance on the Methodology for Multi-Modal Studies* (DETR, 2000) (GOMMMS) (see *Multi-Modal Studies*: TAG Unit 1.2). The appraisal of highway schemes needs to be conducted in accordance with this revised version of the New Approach To Appraisal to maintain consistency with multi-modal studies and with the appraisal of other modes. The advice originally set out in GOMMMS is now fully incorporated into TAG.

1.2 Purpose

- 1.2.1 The purpose of this document is to provide an introduction to the interpretation of the multi-modal, study-based, appraisal advice in TAG (formerly GOMMMS) for highway project appraisal. It provides advice on the need for a change in the approach to scheme design and development, to reflect the need for a balanced improvement across all five objectives, rather than the maximisation of transport economic efficiency and safety.
- 1.2.2 In TAG Units 3.3, 3.6 and 3.7, advice can be found on the links between TAG's treatment of the *environment*, *accessibility* and *integration objectives* and the advice given in Volume 11 of the *Design Manual for Roads and Bridges* (DMRB), which deals with the environmental assessment of highway projects. *The Safety Objective* and *The Economy Objective* (TAG Units 3.4 and 3.5) provide the guidance needed to ensure that the appraisal of highway safety and economy impacts is in line with the approach set out in TAG. The sections in these TAG Units which deal with highway project appraisal focus on the most detailed level of appraisal and therefore provide the bridge between a TAG Plan level appraisal and a DMRB Stage 3 level assessment, normally undertaken following the identification of the preferred route. Advice is also provided on the bridge between DMRB Stage 1 and 2 levels of assessment and TAG, for schemes at a less developed stage in the process.
- 1.2.3 The DMRB assessment is an important initial step in this process as it provides the information required for a NATA appraisal and the supporting back up information and justification for the appraisal. For openness, clarity and consistency the New Approach To Appraisal requires the appraisal findings to be reported in an Appraisal Summary Table (AST). The AST is described in *The Appraisal Process* (TAG Unit 2.5). The elements of the New Approach To Appraisal are summarised in Figure 1, which emphasises the importance of the work undertaken in the environmental and economic assessments. These provide the foundation for the New Approach To Appraisal and the inputs to the worksheets, which in turn provide the entries to the AST.
- 1.2.4 Further advice on the application of the New Approach to Appraisal to trunk road project appraisal can be found in *Applying the Multi-Modal New Approach to Appraisal to Highway Schemes* (TAG Unit 2.6.)

Figure 1.

Elements of the New Approach to Appraisal



2 Scheme Design and Appraisal

2.1 Appraisal as a Tool for Creative Development of Solutions

2.1.1 When design and appraisal work hand in hand, each informing the other, designers are wielding a powerful tool with which to develop and create effective solutions. This emphasis on appraisal as a continuous process has long been a feature of scheme development¹. The introduction of the New Approach To Appraisal further encourages this interactive design and management process.

2.1.2 The New Approach To Appraisal also encourages designers and project managers to develop proposals that offer improvements across all of Central Government's five main objectives for transport– environment, safety, economy, accessibility and integration.

2.1.3 Scheme impacts may be summarised in qualitative, quantitative or money terms. Regardless of the way in which assessment is recorded, throughout the appraisal process all five objectives are given equal prominence. The positive sub-objectives of the New Approach To Appraisal encourage good design. Together this supports the search for solutions that not only target problems that are immediately apparent, but also deliver wider benefits that enhance overall scheme value.

2.1.4 The New Approach To Appraisal thus makes it easier to promote solutions that have the best overall justification. Specific implications of a rounded approach are as follows.

- A wide range of solutions should be sought. Solutions involving partnership with other bodies should be considered.
- All significant impacts should be taken into account. The full range of sub-objectives should be considered, irrespective of the main problems the scheme seeks to address.
- Positive design features should become an integral part of the solution. Even if their incorporation offers benefits unrelated to the main problems that have been identified, enhancements that offer overall value should become part of the core design.
- There is no requirement to maximise a project's monetised benefit to cost ratio. Impacts that are not in money terms should be given the same consideration as those in money terms.
- Nor is there a requirement to achieve a specific benefit to cost ratio. A minimum benefit to cost ratio of one will normally be expected for schemes that focus on providing benefits for motorised road users². For projects that are not primarily intended to improve conditions for motorised road users - e.g. pedestrian facilities, landscape improvements or noise barriers - benefit to cost ratios of less than one may be appropriate³.

¹ E.g. DMRB Volume 11 states, "environmental assessment should be considered as a continuous process used to inform all decisions in the development and design of a trunk road scheme. Assessment and design must be considered as an iterative process." Similarly, DMRB Volume 13 states "cost benefit analysis will have applications throughout scheme preparation, not just at set points in the process."

² For projects where the intended beneficiaries are motorised road users, most of the benefits can be expressed in money terms – accidents, travel time savings, vehicle operating costs. "Normally" is emphasised because some benefits to motorised road users are not in money terms – e.g. ambience, security, reliability.

³ For such projects, the main benefit categories will not be in money terms so that the monetised benefit to cost ratio is a poor indicator of the extent to which the project improves the situation.

The New Approach To Appraisal provides the freedom and flexibility for designers and project managers to promote better balanced projects that support a wider range of objectives. By promoting better design, solutions will achieve broader appeal and, by attracting support that is more widespread, may move towards implementation at a faster pace.

2.2 The Planning Framework

2.2.1 It is important to understand the relationship between the new planning regime, the New Approach To Appraisal, and the three stages of highway appraisal. In DMRB the 3 stages of highway appraisal are:

Stage 1 – the purpose is to identify the advantages, disadvantages and constraints of broadly defined improvement options, producing an environmental constraints map and identifying key issues;

Stage 2 – assessment of identified range of scheme options, suitable for public consultation, based on more information than at Stage 1, allowing comparison between alternatives and identifying the significance of effects; and

Stage 3 – assessment of the Preferred Scheme involving a detailed assessment of all issues and preparation of an Environmental Statement or Stage 3 Scheme Assessment Report to DMRB 11.3.1.

2.2.2 The New Approach To Appraisal is concerned with the way in which solutions are identified as well as the way in which they are appraised. In essence, the New Approach To Appraisal includes:

- the identification of the problems to be addressed (and/or the identification of local or project- specific objectives to be met);
- the identification of a wide range of solutions to be considered; and
- the distillation of the solutions to identify the preferred solution.

2.2.3 This process is compatible with the three stages of highway appraisal. Problem identification will usually have been completed at Stage 1, identification of potential solutions will generally span Stages 1 and 2, and the selection and refinement of the preferred solution will be carried out in Stages 2 and 3.

2.2.4 However, a key requirement of the New Approach To Appraisal is the need to consider a wide range of alternatives, aimed at solving the problem, rather than merely mitigating the symptoms of the problem. Satisfying this requirement is inherently difficult because some potential solutions may not be deliverable by the body carrying out the study. For example, some potential solutions to road problems might involve public transport, or might require combined action by the Highways Agency and local highway authorities.

2.2.5 Recent changes in the land use and planning regime may help to reduce these difficulties. *Planning Policy Guidance Note 11* (PPG11, DETR 2000) sets out arrangements for Regional Planning Guidance. In particular, transport planning is to be fully integrated with land use planning at the regional and local levels. The preparation of a Regional Transport Strategy (RTS) as an integral and clearly identifiable part of RPG is of key importance to achieving this integration. The RTS will identify regional priorities for transport investment and management across all modes, including trunk roads and local highway authority roads of regional or sub-regional significance. Regional Planning Bodies (RPBs) may use multi-modal studies to help formulate their RTSs. *Guide to Producing Regional Transport Strategies* (DfT, 2003) provides further advice to assist in the development of strengthened RTS documents.

- 2.2.6 The RTS will provide the long term regional framework for local transport plans and transport providers, including the Highways Agency. In many cases, especially where the formulation of the RTS has been informed by a multi-modal study, it will identify the problem to be addressed and significantly reduce the range of potential solutions to be considered. In particular, it will often identify the solution as a road improvement scheme, rather than (or perhaps complementary to) a project involving other modes. Thus, the work leading up to the RTS will often meet the requirements of highway appraisal Stage 1.
- 2.2.7 The RTS will not address more localised problems. In these cases, project managers should explore the full range of options, usually in partnership with other transport providers. For the Highways Agency, the Route Management Strategy process provides a framework for this. These investigations will often be completed early in the appraisal process, reducing the range of potential solutions to be examined in more depth at later stages.

3 Key Traffic Modelling and Forecasting Issues

3.1 Modelling Issues

- 3.1.1 Modelling must be tailored to suit the circumstances of a scheme: small schemes in uncongested networks may only require consideration of reassignment; larger schemes, or those in congested networks, will usually need to take account of suppressed and induced traffic.
- 3.1.2 Where other modes, public transport and cycle/pedestrian, may be affected or could contribute to the solution, multi-modal modelling will be required.

3.2 Forecasting Issues

- 3.2.1 Forecasting should be consistent with that underlying the DfT's Ten Year Plan. It should be based on National Trip End Model (NTEM) planning and trip end data, and should have regard to local factors, including the impact of local development impacts and of local transport plans. It should pay careful attention to uncertainty, especially with respect to local factors – no firm line should be drawn between what should be included and what may be ignored – sensitivity tests will be essential. It is important to ensure that environmental assessment is based on the same forecast assumptions as economic appraisal and includes the same sensitivity tests.

4 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:
Policy background to the New Approach to Transport Appraisal	<i>DETR A New Deal for Trunk Roads in England (July 1998)</i>	–
Background to the development of the Guidance on the Methodology for Multi-Modal Studies (GOMMMS)	<i>Multi-Modal Studies</i>	TAG Unit 1.2
The links between GOMMMS' treatment of the environment, accessibility and integration objectives and the advice given in Volume 11 of the Design Manual for Roads and Bridges (DMRB)	<i>The Environment Objective The Accessibility Objective The Integration Objective</i>	TAG Unit 3.3 TAG Unit 3.6 TAG Unit 3.7
Guidance needed to ensure that the appraisal of highway safety and economy impacts is in line with the approach set out in GOMMMS	<i>The Safety Objective The Economy Objective</i>	TAG Unit 3.4 TAG Unit 3.5
The Appraisal Summary Table (AST)	<i>The Appraisal Process</i>	TAG Unit 2.5
Further advice on the application of the New Approach to Appraisal to trunk road project appraisal	<i>Applying the Multi-Modal New Approach to Appraisal to Highway Schemes</i>	TAG Unit 2.6
Modelling	<i>Modelling</i>	TAG Unit 3.1

5 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*

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

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

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

6 Document Provenance

This Transport Analysis Guidance (TAG) Unit is based on Chapters 1 to 3 of *Applying the Multi-Modal New Approach to Appraisal to Highway Schemes* (DETR, 2001).

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

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