

The Environment Objective

TAG Unit 3.3.1

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Department for Transport

Transport Analysis Guidance (TAG)

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1 The Environment Objective

1.1 Introduction

1.1.1 This TAG unit provides guidance on appraising transport options against the Government's environmental objective for transport. It deals with impacts on both the built and natural environment and on people. The following 10 sub-objectives, which are derived from the environment objective, are examined in the Sub-Units as indicated:

- noise (TAG Unit 3.3.2);
- local air quality (TAG Unit 3.3.3);
- greenhouse gases (TAG Unit 3.3.5);
- landscape (TAG Unit 3.3.7);
- townscape (TAG Unit 3.3.8);
- biodiversity (TAG Unit 3.3.10);
- heritage of historic resources (TAG Unit 3.3.9);
- water environment (TAG Unit 3.3.11);
- physical fitness (TAG Unit 3.3.12); and
- journey ambience (TAG Unit 3.3.13).

In addition, TAG Unit 3.3.4 outlines the approach to considering regional air pollution and sets out where this may be applicable; TAG Unit 3.3.6 discusses *The Environmental Capital Approach* and TAG Unit 2.11 provides additional guidance on *Strategic Environmental Assessment* which is a legal requirement for certain plans and programmes.

1.1.2 The advice given below is based chiefly on recognised current best practice, where this is available and applicable. Published studies and other work which is going on are therefore referred to as appropriate. The reader is encouraged to access these studies to gain an insight into some of the current methods. In particular, the reader is referred to unpublished research by the Highways Agency on multi-modal environmental assessment, *Multi-Modal Environmental Assessment – Extract of Phase 1 Report (unpublished)* (HA, 1999).

1.2 Level of appraisal

1.2.1 A principal consideration throughout this guidance is that the assessment, and subsequent appraisal, is undertaken at a level of detail sufficient to compare options and to inform decisions as to whether a strategy or plan should be taken forward. It is essential that this can be done on a clear and transparent basis. In this context, it is important to bear in mind that there is essentially a continuum of levels at which assessment may be undertaken.

1.2.2 The guidance is designed to take account of the very differing levels of detail of data likely to be available for the assessment and appraisal of options at the transport strategy and plan stages. In particular, the level of detail of data available for assessment and appraisal purposes will be very much dependent on the nature of the transport model being used to analyse options at the strategy and plan stages.

1.2.3 A transport plan involving specific interventions such as perhaps new or improved infrastructure is likely to require a spatially detailed transport model to enable a robust appraisal to be carried out. The output from this type of model will enable an understanding to be gained of changes in traffic flow on a link basis which in turn will allow changes in noise and air quality at specific receptor sites to be predicted.

1.2.4 An assessment of options arising from a wide-ranging regional transport

strategy is more likely, in the first instance at least, to be appraised using a spatially coarse transport model. Although it is possible to feed changes in demand from a spatially coarse model into a spatially detailed assignment model, spatially coarse models are expected to be commonly used at the strategy level, given that they are reasonably informative and comparatively quick to run. This type of model will be likely to provide only a broad indication of changes in transport behaviour arising from strategy options, expressed perhaps in terms of changes in passenger car unit kilometres or vehicle kilometres across a model zone or a regional study area. Such model output does not enable environmental impacts to be identified at specific receptor sites, as with spatially detailed transport models, but requires a much more broad brush assessment of environmental impacts to be undertaken.

- 1.2.5 Similarly, at plan level it will be relatively straightforward to determine the effects of specific interventions on the natural and built environment arising from landtake or changes in setting to a reasonably detailed level. At the strategic level, landtake of sensitive resources is likely to be more difficult to determine, where infrastructure alignment is perhaps not well defined or only identified as a requirement at the conceptual level.
- 1.2.6 Thus there will inevitably be disparities in the degree of data available - it is certainly not expected that data will always be produced for all studies at the level of detail that was employed for the roads-based ASTs, produced as part of DfT's Roads Review, *A New Deal for Trunk Roads in England* (DETR, 1998e). As a rule of thumb, if the study area is large and a spatially coarse model is employed, then assessment is likely to be of a broad brush nature. In those cases where the modelled area is smaller and a spatially detailed model is available, then more detailed calculations may be undertaken.
- 1.2.7 It will be up to the analyst responsible to ascertain the level of detail to which the study team is working before following the advice contained in TAG.

Categories of environmental impact

- 1.2.8 In assessing the long-term environmental impacts (which may be both beneficial and adverse) of transport plans and strategies, it is useful to be aware that these fall into two main categories:
 - those that arise in the surrounding area as a result of landtake of sensitive natural or built resources in order to accommodate new or improved transport infrastructure and associated development; and
 - those that arise as a result of changes in traffic (whether this be road or rail traffic) using transport infrastructure.

In some circumstances, it may be appropriate to consider environmental impacts during, or as a result, of construction.

- 1.2.9 The categories within which the environmental topics fall are set out below in Table 1.

Table 1 Broad Categories of Environmental Impact

Environmental attribute	Landtake Type Impact	Traffic Type Impact
Noise	-	✓
Local Air Quality	-	✓
Greenhouse Gases	-	✓
Landscape	✓	✓
Townscape	✓	✓
Biodiversity	✓	✓
Heritage	✓	✓
Water Environment	✓	✓
Physical Fitness	-	✓
Journey Ambience	-	✓

2 References

Highways Agency (1999) *Multi-Modal Environmental Assessment – Extract of Phase 1 Report (unpublished)*

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

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

3 Document Provenance

This Transport Analysis Guidance (TAG) Unit is based on Chapter 3, Sections 1 to 3 of *Guidance on the Methodology for Multi-Modal Studies Volume 2* (DETR, 2000).

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

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