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Guidance

Transport analysis guidance

Transport analysis guidance (TAG) provides information on the role of transport modelling and appraisal.

From:
> Department for Transport (https://www.gov.uk/government/organisations/department-for-transport)

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Contents

- Introduction
- TAG update reports
- Overview
- Guidance for the senior responsible officer (SRO)
- Guidance for the technical project manager (TPM)
- Guidance for the appraisal practitioner
- Guidance for the modelling practitioner
- TAG Data Book
- Software tools
- Supplementary guidance
- Changes
- Feedback and contact
- Data protection regulations

Print this page

Introduction

This content contains guidance on the conduct of transport studies. The guidance includes or provides links to advice on how to:

- set objectives and identify problems
- develop potential solutions
- create a transport model for the appraisal of the alternative solutions
- how to conduct an appraisal which meets the department's requirements

Projects or studies that require government approval are expected to make use of this guidance in a manner appropriate for that project or study. For projects or studies that do not require government approval, TAG should serve as a best practice guide.

The department endeavours to keep the guidance up-to-date in light of new evidence and developments in best practice modelling and appraisal methodologies. Changes are released through an orderly release process (https://www.gov.uk/government/publications/change-management-in-webtag-the-orderly-release-process), giving users early sight of changes and when they are to be released definitively. Users working on longer-term business cases should refer to the proportionate update process (https://www.gov.uk/government/publications/webtag-tag-proportionate-update-process) when considering incorporating these changes into their analyses.

For users wishing to understand how the new structure relates to previous version of TAG a correspondence table (https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/415615/tag-correspondence-new-old.xlsx) (MS Excel Spreadsheet, 24.7KB) is available. An archived version of the previous TAG site (http://webarchive.nationalarchives.gov.uk/20140304105410/http://www.dft.gov.uk/webtag/) is also available.

TAG update reports

These reports describe our approach to updating TAG in 2020 and 2021.

- Appraisal and modelling strategy: route map for updating TAG during uncertain times (https://www.gov.uk/government/publications/appraisal-and-modelling-strategy-a-route-map-for-updating-tag)
- TAG appraisal and modelling strategy update report (https://www.gov.uk/government/publications/tag-appraisal-and-modelling-strategy-update-report)

Overview

This overview provides general introductory information on the role of transport modelling and appraisal, and how the transport appraisal process supports the development of investment decisions to support a business case.

- TAG overview (https://www.gov.uk/government/publications/webtag-tag-overview)

Guidance for the senior responsible officer (SRO)

This guidance is for project promoters and sponsors who manage and oversee those projects as a whole.

It provides knowledge on how the evidence derived from the transport appraisal process can be used to support the transport business case and inform the decision-making process. It introduces the high-level concepts of transport appraisal and modelling, the important outcomes required and the main risks to monitor and manage.

- TAG guidance for the senior responsible officer (https://www.gov.uk/government/publications/tag-guidance-for-the-senior-responsible-officer-may-2018)

Guidance for the technical project manager (TPM)

This guidance is for technical managers that oversee the detailed modelling and appraisal work.

It provides more detailed knowledge on the key components of the transport appraisal process – including options development analyses and appraisal – describing how the concepts of transparency and proportionality should be applied. Overall, this should enable those managers to programme and manage the deliverables and resources more effectively. This identifies the main outputs expected in transport business cases and provides checklists of those expectations in more detail.

- TAG guidance for the technical project manager (https://www.gov.uk/government/publications/webtag-advice-for-the-technical-project-manager-may-2018)

Transport appraisal process

This guidance gives a more detailed description of the transport appraisal process, including more detail on the 3-stage process of option development, further appraisal and implementation/evaluation.

- Transport appraisal process (https://www.gov.uk/government/publications/webtag-transport-appraisal-process-may-2018)

Transport appraisal case studies

These case studies show how local context can be captured as part of the transport appraisal process, to make the argument for transport investment that supports local economic growth objectives.

- TAG: capturing local context in transport appraisal (https://www.gov.uk/government/publications/tag-capturing-local-context-in-transport-appraisal)

Proportionate update process

This guidance provides an overview of the department's process for updating guidance, when guidance is intended to become definitive and how analysts should go about adopting changes to guidance in a proportionate manner.

- Proportionate update process (https://www.gov.uk/government/publications/webtag-tag-proportionate-update-process)

Guidance for the appraisal practitioner

These guidance documents inform practitioners of best practice in preparing the necessary outputs for the appraisal of transport schemes and policies.

A1 cost-benefit analysis

These guidance documents give advice on the principles of cost-benefit analysis in transport appraisal, the estimation of scheme costs and the calculation of direct impacts on transport users and providers.

- TAG unit A1-1 cost-benefit analysis (https://www.gov.uk/government/publications/webtag-tag-unit-a1-1-cost-benefit-analysis-may-2018)

- TAG unit A1-2 scheme costs (https://www.gov.uk/government/publications/webtag-tag-unit-a1-2-
  scheme-costs-july-2017)
- TAG unit A1-3 user and provider impacts (https://www.gov.uk/government/publications/tag-unit-a1-3-
  user-and-provider-impacts)

A2 economic impacts

These guidance documents give advice on the appraisal of the wider impacts, regeneration impacts,
and dependent development impacts, of transport interventions.

- TAG unit A2-1 wider economic impacts appraisal (https://www.gov.uk/government/publications/tag-
  unit-a2-1-wider-economic-impacts)
- TAG unit A2-2 induced investment (https://www.gov.uk/government/publications/tag-unit-a2-2-induced-
  investment)
- TAG unit A2-3 employment effects (https://www.gov.uk/government/publications/webtag-tag-unit-a2-3-
  employment-effects-may-2018)
- TAG Unit A2-4 productivity impacts (https://www.gov.uk/government/publications/tag-unit-a2-4-
  productivity-impacts)

A3 environmental impacts

This guidance provides advice on the appraisal of the environmental impacts of transport
interventions. It deals with impacts on both the built and natural environment and on people. The
environmental impacts covered in this manual are noise, air quality, greenhouse gases, landscape,
townscape, the historic environment, biodiversity and the water environment. The guidance
discusses the relationship between environmental impact appraisal (as set out in this unit) and
environmental impact assessment and the need to tailor the level of appraisal to the stage of
development of the proposal.

- TAG unit A3 environmental impact appraisal (https://www.gov.uk/government/publications/tag-unit-a3-
  environmental-impact-appraisal)

A4 social and distributional impacts

These guidance documents give advice on the appraisal of the social impacts and distributional
impacts of transport interventions.

- TAG unit A4-1 social impact appraisal (https://www.gov.uk/government/publications/tag-unit-a4-1-
  social-impact-appraisal)
- TAG unit A4-2 distributional impact appraisal (https://www.gov.uk/government/publications/tag-unit-a4-
  2-distributional-impact-appraisal)

A5 uni-modal appraisal

These guidance documents give advice on issues specifically relating to cases where only one mode
of transport is explicitly modelled. Guidance is provided for active modes (eg walking and cycling),
aviation, rail and highway interventions and on the use of marginal external congestion costs to
estimate decongestion benefits resulting from mode switch away from car use.

- TAG unit A5-1 active mode appraisal (https://www.gov.uk/government/publications/tag-unit-a5-1-active-mode-appraisal)
- TAG unit A5-2 aviation appraisal (https://www.gov.uk/government/publications/webtag-tag-unit-a5-2-aviation-appraisal-may-2018)
- TAG unit A5-3 rail appraisal (https://www.gov.uk/government/publications/webtag-tag-unit-a5-3-rail-appraisal-may-2018)
- TAG unit A5-4 marginal external costs (https://www.gov.uk/government/publications/tag-unit-a5-4-marginal-external-costs)
- TAG unit A5-5 highway appraisal (https://www.gov.uk/government/publications/webtag-tag-unit-a5-5-highway-appraisal)

Appraisal worksheets

Worksheets used to present evidence for each impact:

- Appraisal tables (https://www.gov.uk/government/publications/webtag-appraisal-tables)
- Economic impacts worksheets (https://www.gov.uk/government/publications/tag-economic-impacts-worksheets)
- Environmental impacts worksheets (https://www.gov.uk/government/publications/tag-environmental-impacts-worksheets)
- Social and distributional impacts worksheets (https://www.gov.uk/government/publications/tag-social-and-distributional-impacts-worksheets)
- Proformas (https://www.gov.uk/government/publications/tag-appraisal-worksheets-proformas)
- Optimism bias workbook (https://www.gov.uk/government/publications/tag-optimism-bias-workbook)

Guidance for the modelling practitioner

This guidance informs practitioners of best practice in transport models that provide evidence for use in the appraisal of transport schemes and policies.

M1 modelling principles

This guidance provides an introduction to transport models, modelling data and forecasting. It aims to help practitioners understand the general principles of transport modelling and the department's forecasting approach. It also identifies the main sources of transport data that are available to practitioners developing transport models and address the methods used for gathering data including survey methodology.

- TAG unit M1-1 principles of modelling and forecasting (https://www.gov.uk/government/publications/webtag-tag-unit-m1-1-principles-of-modelling-and-forecasting)
- TAG unit M1-2 data sources and surveys (https://www.gov.uk/government/publications/webtag-tag-unit-m1-2-data-sources-and-surveys)

M2 demand modelling

This guidance provides advice on the development of variable demand models. This covers scoping the need for such models, their specification, development, calibration and validation, and ensuring fitness for purpose in forecasting.

- TAG unit M2-1 variable demand modelling (https://www.gov.uk/government/publications/tag-unit-m2-1-variable-demand-modelling)
- TAG unit M2-2 base year matrix development (https://www.gov.uk/government/publications/tag-unit-m2-2-base-year-matrix-development)

M3 assignment modelling

These guidance documents give advice on developing, calibrating and validating highway and public transport assignment models. It provides advice on aggregate highway assignment models, for both general and specific purposes, which represent average conditions over the modelled period. It also provides detailed advice on methods for public transport passenger assignment models.

- TAG unit M3-1 highway assignment modelling (https://www.gov.uk/government/publications/webtag-tag-unit-m3-1-highway-assignment-modelling)
- TAG unit M3-2 public transport assignment modelling (https://www.gov.uk/government/publications/webtag-tag-unit-m3-2-public-transport-assignment-modelling)

M4 forecasting

This guidance provides advice on using transport models to prepare future forecasts of demand and supply. This includes guidance on the use of the department's demand projections in the NTEM dataset. Furthermore, forecasting is, by nature, uncertain, and this unit gives guidance on how various sources of uncertainty should be taken into account throughout the forecasting process.

- TAG unit M4 forecasting and uncertainty (https://www.gov.uk/government/publications/tag-unit-m4-forecasting-and-uncertainty)
- TAG Uncertainty Toolkit (https://www.gov.uk/government/publications/tag-uncertainty-toolkit)

M5 advanced modelling techniques

This guidance provides advice on using advanced modelling techniques. These techniques include modelling the impacts of parking policies and park and ride schemes and incorporating the impacts of smarter choice initiatives in existing modelling tools.

- TAG unit M5-1 modelling parking and park-and-ride (https://www.gov.uk/government/publications/webtag-tag-unit-m5-1-modelling-parking-and-park-and-ride)
- TAG unit M5-2 modelling smarter choices (https://www.gov.uk/government/publications/webtag-tag-unit-m5-2-modelling-smarter-choices)
- TAG Unit M5-3 supplementary economic modelling (https://www.gov.uk/government/publications/webtag-tag-unit-m5-3-supplementary-economic-modelling-may-2018)

TAG Data Book

The TAG Data Book includes all of the appraisal and modelling values referred to in the guidance in one workbook.

- TAG Data Book (https://www.gov.uk/government/publications/tag-data-book)

Software tools

To support transport business case development, the department has produced a suite of tools to enable the appraisal of transport policy and interventions. The purpose of these tools is to ensure a consistent approach in transport appraisal, as well as reducing the cost of carrying out the analysis.

- TEMPRO (Trip End Model Presentation Program) (https://www.gov.uk/government/publications/tempro-downloads)
- DIADEM (Dynamic Integrated Assignment and DEmand Modelling) (https://www.gov.uk/government/publications/diadem-software)
- COBALT (COst and Benefit to Accidents - Light Touch) (https://www.gov.uk/government/publications/cobalt-software-and-user-manuals)
- TUBA (Transport Users Benefit Appraisal) (https://www.gov.uk/government/publications/tuba-downloads-and-user-manuals)

Supplementary guidance

This guidance provides further information on more specific areas of modelling and appraisal methods that TAG users may find useful.

- SI NTEM sub-models (https://www.gov.uk/government/publications/webtag-si-ntem-sub-models-july-2016)
- SI mixed logit models (https://www.gov.uk/government/publications/webtag-si-mixed-logit-models)
- SI bespoke mode choice models (https://www.gov.uk/government/publications/webtag-si-bespoke-mode-choice-models)
- SI land use/transport interaction models (https://www.gov.uk/government/publications/webtag-si-land-use-transport-interaction-models)

Changes

- forthcoming change to TAG Data Book (https://www.gov.uk/government/publications/tag-forthcoming-change-to-the-data-book)
- forthcoming change to interim carbon values for scheme appraisal (https://www.gov.uk/government/publications/tag-forthcoming-changes-to-carbon-values)
- forthcoming change to optimism bias guidance (https://www.gov.uk/government/publications/tag-forthcoming-change-to-optimism-bias-guidance)
- forthcoming change to the Uncertainty Toolkit (https://www.gov.uk/government/publications/tag-forthcoming-change-to-the-uncertainty-toolkit)
- forthcoming change to landscape monetisation guidance (https://www.gov.uk/government/publications/tag-forthcoming-change-to-landscape-monetisation-guidance)
- forthcoming change to appraisal period guidance (https://www.gov.uk/government/publications/tag-forthcoming-change-to-appraisal-period-guidance)

Information on the most recent changes to TAG (https://webarchive.nationalarchives.gov.uk/20191204020845/https://www.gov.uk/guidance/transport-analysis-guidance-webtag#forthcoming-changes) is available on the National Archives website.

Information on changes to TAG before 2019 (https://webarchive.nationalarchives.gov.uk/20190302203044/https://www.gov.uk/government/publications/tag-forthcoming-changes) is also available.

Feedback and contact

Email contact is used to report a problem with TAG or to join our mailing list, which requires your name, your organisations name and email address, which sends notifications of when when new information is available or when new TAG units are made.

Data protection regulations

The Department for Transport (DfT) will use your contact details to send you emails regarding developments to TAG, invitations to engagement events and feedback surveys. Your information will be kept secure and will not be used for any other purpose without your permission.

Find out more about how DfT looks after personal data, your rights, and how to contact our data protection officer (https://www.gov.uk/dft/privacy-policy).

To remove your details from our mailing list email us at tasm@dft.gov.uk.

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1. 19 May 2021

   Added research reports and information on forthcoming changes to TAG.
2. 22 October 2019

   October 2019 forthcoming changes for the active mode appraisal toolkit, functional urban regions, marginal external costs and matrix building published.
3. 1 May 2019

   Release of April 2019 forthcoming changes to transport analysis guidance, the guidance being altered is: A1.3, A2.1, A3, A4.1, M4, and the data book.
4. 31 May 2018

   May 2018 WebTAG updates.
5. 21 December 2017

   TAG unit A1-1, A4-1, A5-1, A5-3, data book, environmental impacts worksheets, advice for the technical project manager and advice for senior responsible officer updates.
6. 18 December 2017

   Forthcoming changes to wider impact guidance released.
7. 11 July 2017

   TAG units A1-2, A5-3, A5-4, M4, TAG data book and 'Forthcoming changes' updated.
8. 28 March 2017

   TAG unit A1-3, TAG unit M2 and TAG data book updates.
9. 28 July 2016

   Updated forthcoming changes, unit 2-3 and SI NTEM sub models.
10. 10 November 2014

    Autumn 2014 updates released.
11. 29 October 2013

    First published.

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Related content

- Transport business case: assessment and process procedures

  (https://www.gov.uk/government/publications/transport-business-case)

- TAG: transport appraisal process (https://www.gov.uk/government/publications/webtag-transport-appraisal-process-may-2018)
- Post Opening Project Evaluation (POPE) of Major Schemes (https://www.gov.uk/government/collections/post-opening-project-evaluation-pope-of-major-schemes)
- TAG: capturing local context in transport appraisal (https://www.gov.uk/government/publications/tag-capturing-local-context-in-transport-appraisal)
- Transport appraisal and modelling tools (https://www.gov.uk/government/collections/transport-appraisal-and-modelling-tools)

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