Forthcoming Change to TAG

Details

<table>
<thead>
<tr>
<th>Description</th>
<th>Updates to TAG Unit M4, the Uncertainty Toolkit and the introduction of a Common Analytical Scenarios (CAS) data book to enable implementation of the CAS. Associated update of NTEM/TEMPro to version 8.0, providing updated trip-end projections for the core scenario as well as the necessary variant projections for the CAS.</th>
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</thead>
<tbody>
<tr>
<td>Units</td>
<td>TAG Unit M4, TAG Uncertainty Toolkit and a new CAS data book.</td>
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<tr>
<td>Change announced</td>
<td>August 2022 (with further additions to follow)</td>
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<tr>
<td>Expected release date</td>
<td>November 2022</td>
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Description

This Forthcoming Change sets out a suite of changes to the Department’s recommended modelling and appraisal toolkit, to enable greater consideration of uncertainty within appraisal. This follows the publication of the Uncertainty Toolkit in May 2021. The changes will be in two tranches.

Please note if you are working on business cases for schemes in the Devolved Administrations (Scotland, Wales and Northern Ireland), this guidance does not directly apply. Please follow the guidance and seek advice from the relevant government offices.
Tranche 1 (announced herein)
Updates will be made to TAG Unit M4, providing guidance on the use of the CAS for appraisal, alongside existing guidance on reflecting uncertainty in forecasts. The Uncertainty Toolkit will be updated to provide more detailed guidance on the proportionate application of scenarios. Summary narratives for each CAS will be provided, alongside additional clarification regarding their use for modelling and appraisal. A CAS data book will be published, storing the key modelling and appraisal values and parameters underpinning the CAS.

To support the implementation of the CAS, NTEM/TEMPro version 8 has been released, containing updated projections of trip-end growth in the core scenario, as well as variant projections used for running the CAS. Please see the TEMPro webpage on GOV.UK for the release notes, which contain further detail on how to access and use the new datasets. There are also specific technical issues related to interpolation of TEMPro trip end growth factors spanning the Covid-19 period, which are discussed in the TEMPro release notes.

In order to assess the potential impacts of Covid-19 on travel demand in the long-term, DfT continues to monitor outturn data on travel demand, with the intention being to release updated formal guidance on accounting for Covid before the May 2023 TAG update.

Tranche 2 (being announced later in the year)
Later in the year, following the publication of the 2022 National Road Traffic Projections (NRTP22), further changes will be made to TAG M4 and the new CAS data book to reflect the NRTP22 results consistently within the appraisal framework. These will include: any revisions needed to ensure the TAG M4 low and high growth scenarios (which are being retained as a proportionate alternative to the CAS) are consistent with the range of outcomes for future demand presented in the NRTP22, a CAS data book for uni-modal appraisal,
and any minor modifications to CAS modelling inputs needed to align with the NRTP22 (these will be released in an updated CAS data book).

**Contact**

For further information on this guidance update, please contact:

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Detail: Tranche 1

TAG Unit M4

The following changes will be made to TAG Unit M4 in order to formally introduce the CAS into our recommended appraisal framework. A draft ‘Forthcoming Changes’ version of TAG M4 has been released alongside this Forthcoming Change document.

- The definition of the core scenario will be clarified, emphasising that it should reflect ‘firm and funded’ government policy commitments (meaning all policies to which the government is already committed and has funding), and be based on central projections of key exogenous drivers of demand such as GDP, population and fuel prices.

- Increased emphasis placed on the fact forecasting future demand is extremely challenging, and that while the ‘core’ scenario is intended to represent the ‘best’ basis for decision making, in practice it is often not possible to robustly identify a ‘most likely’ or expected outcome with any certainty. As a consequence, the guidance places greater emphasis on scenario analysis.

- Clarifying that the core scenario does not seek to model fundamental shifts in the underlying relationships between drivers of travel demand, nor major technological, environmental, or economic shocks, but rather represents a world in which future deviation from historic trends and current government policies is minimal (not a world that is necessarily desirable).

- Addition of text recommending promoters run the CAS, and the proportionality considerations around this. These are aligned to the ‘proportionality framework’ which has been introduced to the Uncertainty Toolkit (discussed below).

- Clarifying in Box 1 ‘Implementing National Traffic Forecast Uncertainty’ that, when implementing the low and high growth scenarios, it is post-
variable demand model trip matrices which are adjusted, then re-
iterated with the assignment (supply) model to achieve convergence.

- Noting that, as with the existing low and high growth scenarios, any
  CAS run should be subject to a full appraisal. Currently, it is not
  possible to calculate Wider Economics Impacts in WITA for all of the
  CAS. The Department is undertaking work to expand the capabilities of
  WITA to permit this, but in the meantime there is no requirement to
  undertake Wider Economic Impacts appraisal for the CAS. Promoters
  are free to develop their own approaches, and to contact
  tasm@dft.gov.uk for advice on this.

TAG Uncertainty Toolkit

The following changes will be made to the TAG Uncertainty Toolkit. A draft
‘Forthcoming Changes’ version of the Toolkit has been released alongside
this Forthcoming Change document.

- The update of a proportionality framework for applying the CAS,
  recognising that, depending on the project and decision being
  appraised. The table below summarises the framework.

<table>
<thead>
<tr>
<th>Requirement for all schemes</th>
<th>Low Impact Projects</th>
<th>Medium Impact Projects</th>
<th>High Impact Projects</th>
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<tbody>
<tr>
<td>Qualitative discussion of how the options developed could be impacted by the different Common Analytical Scenarios</td>
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<table>
<thead>
<tr>
<th>Recommended for Strategic Outline Cases</th>
<th>Low Impact Projects</th>
<th>Medium Impact Projects</th>
<th>High Impact Projects</th>
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<tbody>
<tr>
<td>Qualitative discussion of Common Analytical Scenarios</td>
<td>Qualitative discussion of Common Analytical Scenarios supplemented by proportionate quantitative analysis</td>
<td>Qualitative discussion of the Common Analytical Scenarios supplemented by proportionate quantitative analysis on a subset of longlisted options</td>
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<table>
<thead>
<tr>
<th>Recommended for Outline Business Cases</th>
<th>Low Impact Projects</th>
<th>Medium Impact Projects</th>
<th>High Impact Projects</th>
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<tbody>
<tr>
<td>TAG M4 Low/High to be run</td>
<td>Critical Common Analytical Scenarios to be run plus scenarios relevant to scheme, on a subset of options.</td>
<td>Critical Common Analytical Scenarios to be run, with justification on why not running other scenarios e.g. previous analysis of</td>
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The decarbonisation CAS now has two variants: (i) ‘vehicle-led’, with high EV uptake but where EVs retain their advantage in vehicle operating costs relative to ICE vehicles; and (ii) ‘mode-balanced’, with high EV uptake, but where their running costs are set equal to those of ICEs. These two scenarios have very different implications for traffic growth, given the sensitivity of road traffic to fuel costs in most transport models.

- Minor clarifications to the descriptions of the scenarios at Annex B of the Uncertainty Toolkit.
- The introduction of ‘summary narratives’ for each CAS, describing their basis in greater detail. These may be used to help explain the CAS to others, or to support their application in qualitative analysis.

**CAS data book**

A new CAS data book, containing the key modelling and appraisal parameters needed to implement the CAS, will become part of TAG. This is designed to sit alongside the existing TAG data book, which focuses on the core scenario, and provide promoters with ‘off the shelf’ values to use in their appraisals. It will include a scenario grid, detailing the assumptions in each scenario and where they can be found (either in the TAG or CAS data book). A
‘Forthcoming Change’ version of the CAS data book has been released alongside this FC.

**TUBA and other appraisal software**

We will be making TUBA files available to run the CAS, alongside associated detailed guidance for using these files alongside standard TUBA analyses, with the next TUBA release. We expect to release as soon as possible after publication of this Forthcoming Change.

As set out in the updated TAG Unit M4, at present there is no version of WITA available to support the estimation of Wider Economic Impacts under each of the CAS. The Department is undertaking work to expand the capabilities of WITA to permit this, but in the meantime there is no requirement to undertake Wider Economic Impacts appraisal for the CAS.

Accident analysis using COBALT can be straightforwardly undertaken for each CAS, by feeding the relevant link demand data into the software. All relevant economic valuations used in COBALT do not vary across the CAS.

**Reviewing the technology scenario**

We are currently finalising the implementation details for the Technology scenario, including finalising the assumed rates of car occupancy (draft occupancy figures have been provided in the CAS data book for use in the interim), and the potential effects of connected and autonomous vehicles (CAVs) on road capacity. Further details will be made available by November 2022, as part of ‘Tranche 2’ discussed below.

**Accounting for the long-term impacts of COVID in the NTEM and scheme appraisal guidance**

Apart from in the Behavioural Change scenario, none of the CAS (or the core) NTEM projections take account of the potential impacts of the Covid-19
pandemic on travel demand which are likely to be complex and vary significantly by mode, purpose, day of week and time of day.

DfT continues to monitor outturn demand data as well as a wide range of other evidence on travel demand. When sufficient data and evidence are available to make a reasonably robust estimate of the likely longer-term impact of Covid, we plan to develop and issue guidance on accounting for this in appraisal. Our intention is to approach this consistently across modes. Making premature changes to TAG, which could be subject to multiple revisions, would be more disruptive for scheme promoters and business case development.

In the meantime, promoters should use existing scenario analyses to test the robustness of scheme benefits to lower levels of demand. This could be by running the existing TAG M4 low growth scenario, or the Behavioural Change CAS. We expect that either should be sufficient to cover the potential downside risk of long-term Covid impacts alone.

While the Behavioural Change scenario applies a 10% trip rate reduction to all trip purposes, intended to reflect the potential impact of Covid, this is not true of the TAG M4 low growth scenario. As result, where the TAG M4 low growth appraisal results are reported, it should be emphasised that the potential long-run impact of Covid is an additional risk on top of those (non-Covid related) risks represented by the TAG M4 low growth scenario.

Eventually, we expect that promoters will rebase their transport models post-Covid, which will account for observed Covid impacts at that particular point in time. Where and when this is done, there can be greater confidence that the potential longer-term impacts of Covid have been accounted for.

**Detail: Tranche 2**

A number of key modelling and appraisal values, and aspects of guidance, depend on outputs from the DfT’s National Transport Model (NTM). We plan
to update these later in the year, following the publication of the 2022 National Road Traffic Projections (NRTP22). These will comprise:

- Required revisions needed to ensure the TAG M4 low and high growth scenarios (which are being retained as a proportionate alternative to the CAS) are consistent with the range of outcomes for future demand presented in the NRTP. This is likely to entail changing the “p” parameters in TAG Unit M4 section 4.2.
- Providing a ‘uni-modal’ CAS data book, containing the key modelling and appraisal parameters for implementing the CAS where standard four-stage multi-modal models are not used. These will include, for each CAS:
  i. car and bus journey time indices, and car cost indices, for rail forecasting;
  ii. marginal external costs for use in appraising mode shift to/from highway; and
  iii. associated traffic splits underpinning the MECs.
- Finalising implementation details for the Technology scenario, including updating vehicle occupancies based on the final NRTP runs, and considering the effect of CAVs on road capacity.
- Enabling the use of NRTP22 projections within TEMPro 8 without a formal transport model (as explained in TAG M4 section 9). In the interim, promoters are advised to use TEMPro 7.2 for this type of analysis.
- Any minor updates to input assumptions to align with final NRTP runs, or updates to data/projections from the ONS and OBR which are being brought forward into the main TAG data book.

For promoters who rely on national road traffic projections for forecasting freight growth, as set out in TAG Unit M4 section 7, the Road Traffic Forecasts 2018 should continue to be used until NRTP22 results are available. We appreciate this means that, for most promoters, the CAS cannot be implemented ‘in full’, inclusive of the effects on freight demand, until NRTP22 are published. In the interim period, promoters can make use of the
existing low and high growth scenarios (as per TAG Unit M4 section 4.2) to assess uncertainty around freight demand.

The details of these changes will be confirmed later in the year, with users given sufficient notice of any further TAG changes becoming definitive in November 2022.