WCC Modelling Protocol

Advice Note 02a.1 – Expected Model Scenarios

Purpose of This Note

1. This note sets out the rationale behind the model scenarios which have been produced across the Warwickshire area as well as providing guidance on selecting the appropriate model scenarios to inform any forthcoming development and/or scheme assessments.

Background

2. WCC hold a large suite of models across the county that are at various stages of development. The status of the models largely reflects the status of the Local Plans across the county.

3. Local Plans have been compiled for a number of the districts and boroughs within Warwickshire, some have been adopted, others are going through examination whilst those in the early stages are simply out for consultation.

4. In line with TAG guidance[1] it is considered pertinent to ensure any assessment which relies upon the traffic models considers at least the **Core Scenario** and potentially an **Alternative Scenario** which is reflective of the **High Growth** option.

5. A development which has permission should be considered as **near certain** and therefore included within the **core scenario.** Similarly, if a development planning application has been submitted with recommendation to approve from Warwickshire County Council, then it is reasonable to consider such developments and **more than likely** and again these developments should be included within the **core scenario**.

6. Through the development of the **Reference Case** model WCC will ensure that all developments which should be included within the **core scenario** are included. This will be achieved either prior to the model release or as a request made at the point of release for the model user to considered within their scoping exercise.

7. In most cases, it is likely that a Reference Case will have been compiled for more than one year. Often a Reference Case is derived for +5 years from Base (the year the model was calibrated and validated to) and to the horizon year of the Local Plan. In most cases this is 2031 although it is 2029 for the models which cover the Warwick Area.

8. Local Plans which are either being consulted or have been adopted are considered appropriate representations of the High Growth scenario on the basis that the promotion of development in the manner identified makes them likely to come forward but the status cannot be considered near certain as few allocated sites have fully published plans until they reach planning application stage.

[1] TAG Unit M4 Forecasting and Uncertainty

9. Until planning permission has been achieved for a site which is being promoted within the Local Plan process it is considered appropriate to classify the development as **reasonably foreseeable** and on that basis, it should be excluded from the core scenario but included within the high scenario.

10. The deterministic nature of Paramics means that the High Growth scenario must still contain a realistic development and growth profile. Developments which are considered to be unrealistic and/or too optimistic at this stage are excluded from the high growth testing as they are not afforded the necessary status to justify consideration in the testing.

11. The purpose of undertaking an assessment of impacts in the high growth scenario alongside the reference case is to ensure that development and/or interventions that are proposed will not prejudice the delivery of the Local Plan.

12. It is not the purpose of a high growth assessment to demonstrate that any cumulative infrastructure identified through that Local Plan (i.e. measures listed within the Infrastructure Delivery Plan) can be relied upon to mitigate development specific impacts.

Test Scenarios

13. When scoping out the scenario model requirements, it is an expectation that this will be agreed in advance with Warwickshire County Council.

14. If more than one reference case scenario year is available, then the number of years to be assessed will be agreed with WCC as part of the scoping exercise.

15. All testing should, in the first instance, consider the impact of any scheme proposals on the **core scenario** network. It may be necessary to utilise outputs from this scenario to determine a mitigation scenario which will demonstrate the benefits, or otherwise, of associated interventions brought forward to mitigate the development proposals.

16. Subject to the status of the Local Plan it is likely that is will also be necessary to consider the impacts of development proposals within the High Growth scenario. Traditionally this is a model forecast to the end of the local plan horizon year and inclusive of all sites being promoted within the Local Plan alongside the near certain developments (committed developments and 'more than likely' other developments, such as those with a recommendation for approval from WCC).

17. Therefore, as part of any scoping exercise, WCC recommend that developers and site promoters consider a series of tests which incorporate the following principles:

- **Test 1** – The Year 1 Reference Case (run & report only) to provide the baseline conditions for comparison.
- **Test 2** – The Year 1 Development Case Do Minimum (The Test 1 network with the minimum infrastructure requirements and, if appropriate, the development trip generation proportionate to the year of assessment)
- **Test 3** – The Year 1 Development Case Do Something (comparing Test 1 and Test 2 networks and including targeted mitigation where necessary).
- **Test 4 to 6** – If required, repeat test 1 to 3 using the second-year reference case)

- **Test 7** – The High Growth Scenario (more often termed Local Plan Sensitivity Test, if the development being considered is also an allocated site then it is justifiable to consider its removal from this network prior to testing)
- **Test 8** – The High Growth scenario with additional development assumptions as identified within test 2/3 and 5/6.

Note: Year 1 – would be the first identified forecast reference case year

18. It is recognised that impacts identified within the Reference Case Testing (Test 1 to 6) may identify impacts and or interventions which correlate with areas already mitigated via the infrastructure delivery plan (IDP) identified within the Local Plan.

19. Where there is a correlation of infrastructure it is for the site promoters to liaise with WCC to determine what is considered the optimum set of proposals for anyone area.

20. It is essential that developers demonstrate an effective development specific mitigation strategy can be delivered but it is recognised that it may be more desirable to secure contributions for a wider mitigation scheme to be delivered (where one exists within the existing Local Plan IDP schedule) and the modelling should be used as a means to assist in the decision-making process in this regard.

21. Measures identified within the IDP, cannot be relied upon wholly as development specific mitigation except in circumstances where the development is proposing to fund and deliver the mitigation measure either in in full or by an appropriate level of funding contributions.

APPENDIX A

Definition of Terms

Throughout the previous advice note the following definitions have been adopted in line with the WCC Model User Protocol (MUP) and TAG unit M4 (Forecasting & Uncertainty).

Alternative scenario is the set of background assumptions and with scheme and without scheme forecasts that may have different supply and/or demand assumptions form the core scenario. These differences will reflect the uncertainties in the core scenario assumptions.

A **background assumption** is an assumed change between the base year and future year conditions (e.g. national demographic changes, or changes to the transport network) that are assumed to happen independently of the scheme.

Base Model refers to the initial model which will have been developed using observed data to inform the calibration and validation checks. The year which the model was calibrated to is referred to as the **Base Year**.

Core scenario is a scenario based on the most unbiased and realistic set of assumptions. This is the approved basis upon which an assessment should be judged and, furthermore, would also form the central case that is presented in the appraisal summary table (AST).

A **forecast** is a single run of the transport model for a single year, under a set of forecasting assumptions that may or may not include the scheme in question.

High and **Low Growth Scenarios** are part of the set of alternative scenarios. The high and low growth alternative scenarios will test the impact on the schemes of high and low background growth.

Near Certain proposals that are included within the modelling will be based on published plans (not speculative proposals), they will be unbiased (TAG definition being unlikely to be over or under achieved based on existing plans). They will be coherent and self-consistent (if X is unlikely to go ahead unless Y also goes ahead then, X should only be included if Y is included) and the will be considered realistic and plausible by the relevant stakeholders (WCC, Highways England and relevant Districts and Boroughs).

Reference Case Usually derived for one or more forecast years, Reference Case is an alternative name for core scenario [see core scenario for further information]

A **scenario** is a set of forecasts under a single set of assumptions. It is likely that this will include two forecasts for each of several designated modelled years (the 'with scheme' and 'without scheme[2]' forecasts).

WebTAG / TAG (Web-based Transport Analysis Guidance) is the Department's transport appraisal guidance and toolkit. It consists of software tools and guidance on transport modelling and appraisal methods that are applicable for highways and public transport interventions[3]. These facilitate the

[2] Scheme in this context refers to the test subject(s) being considered within the assessment and covers both development proposals and interventions for appraisal.
[3] The word 'interventions' is used to cover the entire range of measures from demand management measures through to major engineering projects.

appraisal and development of transport interventions, enabling analysts to build evidence to support business case development, to inform investment funding decisions.