

WCC Modelling Protocol

Advice Note 012 – Traffic Modelling for Infrastructure Phasing

Protocol Category	Model Licensing	Version	001
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Introduction

1. This Advice Note (AN) has been produced to explain Warwickshire County Council's (WCC) current position with regards to undertaking traffic modelling to determine the order and timing of infrastructure delivery with specific regard to schemes identified through planning as being necessary to facilitate the delivery of developments within Warwickshire.

Overview

2. WCC recognises that some applications come forward which are dealing with large scale developments where both the infrastructure requirements and the development build out period may be significant.
3. In such circumstances, WCC recognises that delivery of infrastructure associated with the development will come forward in phases. These phases are not always identified at the point at which outline consent is granted to the development proposals. Similarly, they may be identified within the conditions attached to the consent but not necessarily based on traffic modelling at that time.
4. WCC requires developers to consider phasing and infrastructure triggers within the outline consent process to ensure all parties have as much certainty as is practicable around the order in which schemes will need to come forward as well as the maximum quantum of development which can be occupied prior to a scheme being required.
5. This advice note sets out WCC's requirements with regards to the assessment of infrastructure to inform decisions around scheme phasing (i.e. the point in time at which a scheme is required) and trigger points (i.e. the quantum of development which can be delivered prior to a scheme being in place).

Use of Traffic Models to Inform Phasing

6. WCC recognises that traffic impact is only one element of the information which is used to determine when a scheme should be delivered. Constraints such as the availability of road space for works, the relationship with other schemes and whether further work is required for a design to be finalised, will all contribute to the decision-making process.

7. At times, issues around when a scheme can fit within a wider timetable of works may be the determining factor but, even so, utilising traffic modelling to understand the likely implications of delivering schemes at a certain point in the development process is necessary

Principles of the Approach to Traffic Modelling

8. WCC considers that the approach to using traffic modelling to support and identify scheme delivery phases should be scoped out prior to commencement. The advice set out within the following section provides WCCs requirements on the approach to traffic modelling which should be considered through the scoping process.
9. WCC recognises that testing can be completed as part of the evidence base submitted in support of an outline application, subsequently when conditioned to do so and, on occasion, when developers are seeking to revisit previously agreed conditions pertaining to scheme delivery.
10. Model Licence applications must be calculated in accordance with Advice Note 000 – Model Licensing. To avoid higher costs of having multiple Model Licences, the band of the development’s associated trips can include the sum of the trips for all the periods considered in the modelling (i.e., 7 to 10 and 16 to 18 for weekdays; and/ or 11 to 14 hrs for interpeak and weekends). If more than one scenario has been tested, then the band for that development should consider the sum of the trips for all scenarios tested (e.g. Scenario 1: 1,000 trips + Scenario 2: 2,000 trips = Band D – A development that generates 3,000 trips).

Timing of the Traffic Modelling

11. WCC considers that the approach to using traffic modelling to support and identify scheme delivery is best completed as part of the outline planning application, but it is recognised that this is not always practical. Therefore, WCC accepts that, on occasion, testing of the stages of delivery for key development infrastructure may be completed after outline permission has been granted but it is expected that this would be reflected within any planning agreements.
12. If the phasing assessment is completed after outline permission being granted, then WCC considers that the assessment must make use of the most up to date version of any models and this should be confirmed with WCC in advance.
13. If further local developments have granted planning permission since this work was undertaken, models may have been updated to reflect new development consents and/or subsequently approved highway infrastructure changes¹ then these changes must be considered within subsequent assessments. Therefore, It is not acceptable to rely on the models used for the outline application. If WCC considers that the current suite of models available does not contain all appropriate development and planning assumptions, then it is

¹ WCC Advice Note 001 suggests 6 months as the maximum time that should be allowed between checks concerning the validity of the models.

the licensee's responsibility to update the model in the interim prior to undertaking any subsequent analysis.

14. If the phasing assessment is being completed as part of the outline application, then it would be advisable to ensure that the years considered within the assessment accord with those used to support the development impact assessment.
15. If the phasing assessment is being completed subsequent to the development having been consented, then WCC may accept a phasing assessment which is completed within the final year model scenario but this should be confirmed as part of the scoping exercise.
16. The phasing assessment should predominantly make use of the Reference Case scenarios. WCC considers that a Local Plan scenario may only be necessary, when reviewing infrastructure phasing, if there has been a significant change (i.e. major modifications / a new Plan) to the Local Plan status.
17. Sensitivity testing may be required in instances where other developments have subsequently come forward and have been assessed inclusive of the development proposed infrastructure², WCC may request a sensitivity test to understand the relationship between development proposals and the associated infrastructure. Such sensitivity testing may be particularly useful when considering assessments intended to investigate variations to existing consent conditions.
18. WCC recognises that, within the phasing assessment, the network conditions, inclusive of all scheme proposals and the fully consented development proposals should be considered as the benchmark for the acceptable position. This is likely to be the Reference Case if the development has been approved and then captured within subsequent model updates. Alternatively, this will be the final year development case scenario if the assessment is being conducted to support the planning application, herein referred to as the 'Do Something' (i.e. inclusive of all development trips and schemes).
19. A 'Do Nothing' benchmark is also considered beneficial, and this would be based on the existing model scenarios but excluding any assumptions pertaining to the proposed development and its associated infrastructure.
20. Therefore, the assessment should consider the network performance across all different scenarios required by WCC and any other Highways Authority, whereby the Do Nothing presents the situation without any development and the Do Something presents the agreed position, either as part of the planning submission or following development consent.

Scheme Assessment

21. The approach to assessing scheme phasing may be completed within a single forecast year or a series of forecast years depending upon what was agreed with WCC at the point of scoping.

² If it has not been agreed in advance, WCC may make judgements within the development of future year models as to when schemes associated with developments may be included within the model network.

22. Scheme phasing is frequently linked to quantum of development and, as such, it is considered appropriate that the need for a scheme to be delivered would be tested via the incremental assignment of demands associated with the development proposals. Incremental adjustments to the development trip generation and infrastructure assumptions can be applied within the 'Do Nothing' scenario, thereby creating a series of 'Do Minimum' and 'Do Something' (i.e. with mitigation) scenarios to inform the discussions around when schemes will be required.
23. This may adopt the following stages:
- The lowest level development demand and the associated access strategy should be included within the model (Do Minimum 1).
 - The operation of the network in the vicinity of the development proposals and schemes should be assessed against the Do Nothing and the Do Something scenarios.
 - A judgement should be made on the level of additional impact observed within DM1 compared to the 'Do Nothing' scenario to determine if a scheme is required. Scheme delivery may be considered essential at the point at which the junction/network operation levels fall below those observed within the Do Something model.
 - This will result in the identification of a set of schemes which will need to be delivered alongside the quantum of development assessed as part of the DM1 testing. Thereby creating a Do Minimum 2 scenario.
 - A larger level of development may then be assigned within the model network. This time the network will include those infrastructure proposals identified within the DM1 testing and, again, the operation of the network in the vicinity of the development proposals and schemes should be assessed against the Do Nothing and the Do Something scenarios.
 - A judgement should be made on the level of additional impact observed within DM2 compared to the 'Do Nothing' scenario to determine if further schemes are required.
24. WCC expects this process to be repeated until all development demands have been assigned to the model and the trigger point for each scheme identified.
25. WCC expects the model scenarios to be reported to accord with the requirements set out within Advice note 03³ with additional elements of reporting pertaining to the key areas of interest also being agreed with WCC through scoping prior to commencement.
26. Completion of testing in the manner set out previously within this note would result in the identification of a phasing strategy which is informed entirely based on highway impact and operation.

³ Model Analysis and Reporting.

27. This information should then be presented alongside all other factors which have been considered when identifying a new phasing strategy or seeking to vary one which has previously been conditioned.