

WCC Modelling Protocol

Please find below our model licensing notes and comments for the vehicle trip generation, trip distribution methodology and modelling as set out in our [protocol](#).

(a) Site Access Strategy

Prior to commencing the modelling, we would be grateful if you would confirm the site access strategy and your proposed methodology for assigning development trips via the primary and secondary access points onto the surrounding highway network, so that we can comment on its suitability. It would also be helpful if a suitable masterplan layout of the site could be provided indicating the likely number of units and area in each development parcel.

(b) Trip Generation

For a detailed vehicle trip generation estimate, we usually recommend locally-observed proxy data for the trip rates corresponding to the residential development according to the characteristics of your site.

The survey data should be used to derive average vehicle trip generation for the proposed residential component of your development during a neutral month on neutral weekdays (i.e. excluding Mondays and Fridays where trip profiles tend to differ from those on the other weekdays). The trip rate should consider the following hourly periods indicated in the protocol:

- Weekday AM Peak: from 7:00 to 10:00
- Weekday PM Peak: from 16:00 to 19:00
- Saturday Peak: from 11:00 to 14:00

Local data should then be validated with TRICS trips rates. Please make sure that your TRICS data is with the following requirements:

1. On TRICS you must select the land use according to each classification (<http://www.trics.org/websystem/doc/TRLAND761.PDF>).
2. On the land use and trip rate selection you must exclude trips outside of mainland England and the cities due to the provision of public transport.
3. Your primary filter should be considering only surveys done on neutral weekdays (excluding Monday and Friday).
4. Finally, your secondary filtering should exclude any unclassified land use class.

Education trip generation for pupil trips should follow the advice set out in our [Education Trip Calculations Advice Note](#). Please also include an allowance for staff and visitor vehicle trip generation in your assessment.

(c) Trip Distribution

For use of Mobile Network Data (MND) please refer to our [Mobile Network Data Advice Note](#) which sets out the key principles. We would look to agree the LSOAs to be included in the MND analysis with you prior to you commissioning VM to extract the data.

In order to source the MND, we would ask you to commission our modelling consultants, Vectos Microsim, (VM) to produce this data for use in your Paramics assessment - please see their contact details are set out below.

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Director
Vectos Microsim
7th Floor, 36 Great Charles Street, Birmingham, B3 3JY
0121 289 5610 (T)
james.edwards@vectos.co.uk

Please note that VM's costs associated with deriving the MND would need to be borne by your client in full and are not covered by the model licence fee.

(d) Model Licensing and Access Fee

In order to access the model for use in your assessment, you would be required to sign and return the licence agreement on behalf of the licensee. Warwickshire County Council (WCC) will countersign the final page and return a copy to you for your records.

The model licence fee is based on the total number of vehicle trips entering and leaving the development site over the 6-hour modelled weekday period (i.e. 0700-1000 and 1600-1900) or 3-hour modelled Saturday period (i.e. 11:00 – 14:00), whichever is higher. We will need to agree this with you before the model licence fee may be confirmed and prior to making the models available for use - please see our comments on trip generation in (a) above. We will also review model performance in the vicinity of the site prior to issue to ensure there are no coding anomalies which are likely to affect the validity of the assessment results.

Once we have agreed the licence fee, we would require you to complete and return the fee schedule and supply a Purchase Order. We will then arrange for an invoice to be raised for payment (please confirm who this should be sent to with their contact details).

(e) Model Validity

WCC has taken all reasonable steps to ensure the models are fit for purpose for local development assessments and is satisfied that this is the case.

Please note however that the developer is responsible for ensuring Highways England is satisfied that the proposed modelling methodology and use of the current models is acceptable from its perspective.

If this is not the case, we would recommend that you agree an alternative modelling methodology which is acceptable to Highways England to supplement the Paramics modelling referred to in this note.

(f) Model Scenarios

Please refer to Expected Model Scenarios.

(g) Model Outputs

We would request you present the following model outputs ideally in spreadsheet format with supporting commentary in your TA:

1. Network Statistics (for each modelled scenario)

- a. Network Mean Delay
- b. Completed Trips
- c. Network Mean Speed

2. Queuing (for each modelled scenario)

Please provide average maximum queues by time period for each arm for all key junctions in the model, and junction throughput data. The queue routes will be included in the models prior to issue.

3. Delays (Journey Time Routes) (for each modelled scenario)

The model includes a set of journey time routes (journey paths) which will be included in the models prior to issue. Please present delays for each hourly period and section of route by direction.

4. Link Flows (for each modelled scenario)

We would request that directional and two-way flows on all key links in the model are reported on for this assessment. We will ask VM to provide a plot showing link locations.

(h) Interpretation of Results

We would expect you to interpret the results from your modelling and to present these ideally in Excel spreadsheet format with supporting commentary in the TA.

Should the results indicate that there are discernible impacts at particular locations, we would normally ask you to provide confidence interval (CI) analysis primarily to show whether the impacts are directly attributable to the proposed development. You would need to provide the CI outputs and charts in Excel format and submit your interpretation of the results. Please refer to [Model Analysis and Reporting](#) for further details.

(i) New Transport Infrastructure

Once the new transport infrastructure has been identified from the Paramics Model or any other model required by the WCC, the design notes should be according to WCC Designs Guide¹ and aligned to the transport strategy of the area.

¹ Please contact Development Management for further information.

(j) Summary of Model Protocol and Model Licence Documents:

- Advice Note 000 –Model Licensing
- Advice Note 001 –Education Trip Calculations
- Advice Note 002 – Expected Model Scenarios
- Advice Note 003 – Model Analysis and Reporting
- Advice Note 004 – Model Guidance for New Road Infrastructure
- Advice Note 005–Mobile Network Data
- Traffic Model Licence
- Traffic Model Licence Schedule