

## Protocol for the use of Reading Borough Council Transport Models

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## General Information

The purpose of this protocol is to provide guidance to developers, their consultants and others on the use and access of the Reading Transport Model as well as other transport models prepared by or on behalf of Reading Borough Council (RBC). These models are managed and operated by the Council's commissioned framework consultant and are the property of the Council; models themselves, networks and matrices will not be released to external bodies.

Reading Borough Council is the Highway Authority for all planning and highway matters within its administrative boundary and should be contacted directly with regard to the required Transport Assessment (TA) procedure.

For any queries that arise from this document, or any request for transport model information, the following should be contacted in the first instance:

Transport Planning  
Reading Borough Council  
Civic Offices, Bridge Street  
Reading, RG1 2LU  
[transport@reading.gov.uk](mailto:transport@reading.gov.uk)

## Requirements for the use of Transport Models

In accordance with *National Planning Policy Framework (NPPF)*, Section 4 Paragraph 32, developments that generate a significant amount of movements and therefore have an impact on the transport system should be accompanied by a Transport Assessment (TA) or Transport Statement (TS), depending on the likely level of impact and subject to initial discussion with the Planning Department.

Judgement on whether a development proposal would generate significant amount of movements and therefore requires a TA or TS is at the discretion of the Planning Department and will be decided on a case by case basis.

To provide a consistent basis on which all applications can be assessed, development proposals which require transport modelling work for the supporting TA or TS and which are within the Reading Transport Model (RTM) Model area (Figure 1), are recommended to use the data from the RTM.

The RTM as well any other transport model prepared by or on behalf of the Council are managed and operated by the Council's 's commissioned framework consultant and are the property of the Council.

## Traffic Models

### Reading Transport Model (RTM)

The Council maintains the Reading Transport Model (RTM), a highway network model developed using SATURN software. The model consists of an AM peak hour model (08:00 to 09:00), an average Inter Peak hour model (10:00 to 16:00) and a PM peak hour model (17:00 to 18:00). The model consists of five user classes comprising car commute, car employer business, car other, Light Goods Vehicles (LGV) and Heavy Goods Vehicles (HGV).

The area covered by the model is shown in Figure 1. The model includes the whole of the Reading urban area, therefore covering areas included within Wokingham Borough Council and West Berkshire Council areas.

### Base Year Model

The model has been developed with a base year of 2015 as the majority of the data used in the model development was collected in October 2015.

The model has been developed in compliance with the Department for Transport (DfT) web based Transport Analysis Guidance (WebTAG) and the Design Manual for Roads and Bridges (DMRB).

The model has been developed and validated using Automatic Traffic Counts (ATC), Manual Classified Traffic Counts (MTC), Journey Time data (TrafficMaster and Bluetooth), Mobile Phone data and Traffic Signal Data. A Local Model Validation Report (LMVR) for the base year can be provided on request.

## Forecast Models

Future year do-minimum (DM) forecast models are available for 2021 and 2031. These cover the same time periods as the base year model.

The future year models include all known committed developments and highway infrastructure schemes at the time of development and are regularly updated when new large commitments or infrastructure schemes come forward. The latest update of the DM models was undertaken in summer 2017.

As part of the upkeep of the models, regular discussions are held with the Planning Department to allow any new commitments to be added when they come forward.



Figure 1: Reading Transport Model - Model Area

## A33 Corridor Model

In addition to the RTM, the Council maintains a Microsimulation VISSIM Model for the A33 corridor to the south of Reading.

This 2015 base year model covers the area along the A33 corridor starting north of the M4 junction 11 up to the IDR in the centre of Reading. As well as the A33, this model also includes the Basingstoke Road corridor. The model also includes all bus services and bus priority along the corridor. The model area and network is shown in Figure 2.

The model utilises outputs from the RTM, and has been validated separately for flows and journey times.

There is currently no future year model in place and forecasting assumptions would be taken from the SATURN model and fed into the VISSIM model as part of any development control work for the required years and assessment.

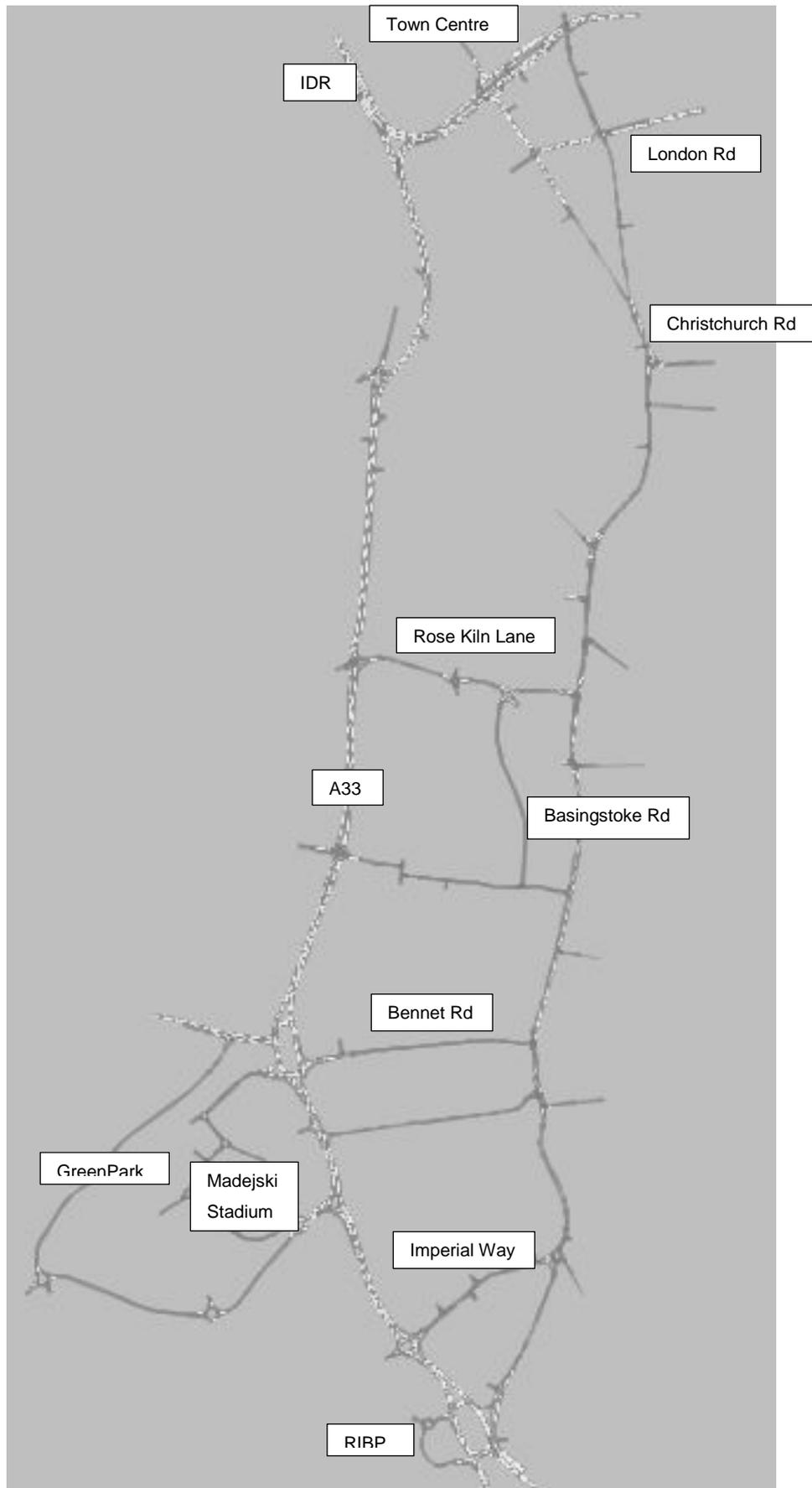


Figure 2: A33 Corridor Model Area

## Modelling Brief

When agreement is reached with a developer that the RTM model outputs are required to inform the production of a TA or TS, the developer or their consultants should provide a brief which outlines the required testing needed. This will then be discussed and agreed with the Planning Department.

Forecast models include a growth in the level of background trips along with planned / committed developments. If the specific development being tested is already included within the model a revised future year model will be produced without the development, to remove double counting. Details of the development assumptions and forecast infrastructure are provided in the Model Forecast Report, which can be provided, along with the Local Model Validation Report.

The brief should include the following information at a minimum:

- a. Forecast year and time periods that are to be assessed (As agreed as part of the TA/TS scoping).
- b. Development location plan, including proposed access arrangements along with details of highways improvements by agreed forecast years and remaining interim improvements.
- c. Scaled outline plan of highways and junctions within and adjacent to the proposed development. This plan should outline the current and proposed road network as well as controls to highway movements, including bus priorities, design speed and entry capacity/green-time of junctions as appropriate.
- d. Scope of the development - number and indicative location of residential and commercial units; including Gross Floor Area (GFA), planning use class, anticipated staff/visitor/customer figures, parking provision, access and parking control, number of dwellings by number of bedrooms.
- e. Trip rates and trip generation for highway traffic to include allowance for trip internalisation, demand management measures, modal shift, travel plan measures – as agreed with the Council as part of the Transport Assessment process). Along with any trip distribution information that is available.
- f. Timescales for the proposed development, including any phasing.

Following consideration of the proposed scope of works and receipt of development details, the Council will confirm the modelling approach to be adopted. Work will commence once the scope of work and the timescales are finalised between the Council and the developer. At this point an inception meeting is recommended, so there is agreement on assumptions and approach, prior to formal commencement. This would be face to face or via a teleconference as appropriate. This should be noted within the brief sent by the developer as appropriate.

It should be noted that without the above information, the model test will not be undertaken and the Council will be required to consider/determine applications based on information supplied.

## Modelling Outputs

Model outputs will be agreed prior to commencing the work and will generally be in the form of:

- g. Details of the inputs and assumptions made;
- h. Junction turning flows for base year and forecast models for agreed locations/junctions;
- i. Base year flow plots and flows in spreadsheet format for agreed geographical locations;
- j. Forecast flows plots with and without the development (actual or demand);
- k. Development Flows;
- l. Flow difference plots (actual or demand);
- m. V/C (Volume over Capacity) ratio plots with and without the development;
- n. Delay plots at local junctions with and without the development;
- o. Queue data

The above list is not exhaustive and the developer should set out any additional outputs they require.

The brief should set out the geographical coverage of the outputs required.

Reading Borough Council will provide data directly from the model and it will be for the developer to use the data as necessary for their application.

## Additional Information

If changes are made to the development by the developer once modelling has commenced additional charges may be made to incorporate the changes to cover any abortive work already undertaken.

The models and any modifications made as part of this work will remain the property of the Council. All outputs produced from these tests should be provided to the Council who will retain the information and may use it in any form. These outputs will not be divulged to anyone other than the developer, unless they later form part of the publicly available information submitted as part of any planning submission.

Where the required assessment years are not standard in the existing model (i.e. 2016), bespoke future year traffic flows will be calculated and inputted into the RTM. Should the nature of the development be such that this is required for a specific development year, a fee estimate for this work will be provided.

Modelling work may require an iterative process between modeller and developer to tweak designs to reach maximum/expected capacity e.g. signal timings, number of lanes on junction approaches etc. Each iteration that is not specified in the initial brief will attract an additional charge as stated in Section 7.

In order to check the developer's highways proposals, it may be necessary for the developer to provide any operational assessments, junction redesigns and revised or new highway alignment information to the Council for further testing and assessment in the traffic model.

Copies of any reports or analysis generated by this work will be retained and may be used by the Council in any form. The models, including any modifications made

as part of this work, will remain the property of the Council. The Council will undertake not to divulge this information to any other third party without first gaining the developer's agreement.

## Charges

Charges apply for the use of the traffic models owned by the Council. These charges assist with the ongoing maintenance work required to keep the traffic models up to date.

Requested traffic modelling and required analysis work will be carried out with a 30% uplift of the Council's term contractors' fee to undertake the analysis. The processing of the request will be charged with an admin fee of £500.

Charges dependent on the work required to amend and run the traffic model(s) for the development scenarios requested. Once a brief has been provided and agreed with the developer, the Council will provide a fee on a case by case basis for undertaking the modelling work required and to provide the necessary outputs.

Work will commence after a purchase order from the developer (or consultant) has been received and will be progressed in line with the Council's standard terms and conditions.

Should any further reviews or amendments to the modelling work be required (e.g. because of revised layouts) then the Planning Department will record these separately and assess the further work and charges on a case by case basis.

## Protocol Updates

The Council reserves the right to update the model and the model protocol as necessary.

Updates of the traffic model to incorporate committed developments will be undertaken periodically and will be communicated to all relevant parties.

The reference scenario for each request will be discussed prior to the work carried out.