

# **Committee:** Street Management Advisory Committee

**Date:** 15<sup>th</sup> January 2008

**Agenda item:**

**Wards:** Village and Hillside

**Subject:** Wimbledon Area Traffic Model

**Lead officer:** Lyn Carpenter, Director of Environment & Regeneration

**Lead member:** Councillor Tariq Ahmad, Environment & Traffic Management

**Key decision reference number:** N/A

## **Recommendations:**

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That the Committee considers the issues detailed in this report and

- 1) Notes the actions taken to date, the consultants' report on the traffic model for Wimbledon area (available on the Council website) and the proposals for future options testing.
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### **1. EXECUTIVE SUMMARY AND PURPOSE OF REPORT**

- 1.1 This report informs the committee of the Traffic Model that has been developed for the Wimbledon area and outlines the main findings in relation to through traffic movements.

### **2. DETAILS**

- 2.1 During early 2005 a Steering group made up of Officers, Members and representatives from the local Residents' Associations, businesses and other local groups in the Wimbledon TC and Wimbledon Village areas was set up to examine and determine a traffic management plan for the area. This group was subsequently disbanded in July 2005.
- 2.2 At that time the Ward Councillors gave the local community an undertaking that detailed examination of traffic movements in the Wimbledon area would be carried out in order to further explore a number of initiatives identified by the Steering Group to address traffic intrusion and through traffic problems within the area.
- 2.3 Each member of the Steering Group was given an opportunity to put forward views and concepts as to the traffic management problems and the possible solutions for the area. These were then debated, sometimes with general acceptance other times with rejection.
- 2.4 There has been a general acceptance of the following points :-
  - ❖ Measures must be introduced to reduce the currently unacceptably high numbers of vehicles that pass through the Belvedere area.
  - ❖ Reduction of traffic speeds on Ridgeway Place.
  - ❖ Traffic should be encouraged to use the London and Local Distributor Road network.

- 2.5 Following the last meeting of the Steering Group a report was presented to the Cabinet Street Management Committee on 29<sup>th</sup> September 2005. Including issues surrounding the bus lane on Wimbledon Hill Road, the report detailed the background and the request from the Steering Group to examine and determine a traffic management plan for the area. The Committee resolved that the proposals identified by the Steering Group and additional / alternative proposals discussed within the Steering Group would be further investigated through the development of a traffic model and the examination of various options to primarily resolve the rat running through the Belvederes and Ridgeway Place.

### **3. Traffic Model**

- 3.1 In January 2006 JMP Consulting was commissioned by the London Borough of Merton to develop a transport model for Wimbledon. The primary objective in developing the model was to create a robust tool that would allow a realistic and accurate assessment of existing traffic flows combined with the capability of assessing the impact of future traffic management proposals in the Wimbledon area. To enable the creation of the model selective traffic surveys were commissioned in April 2006 and integrated with earlier survey data collected in 2004.
- 3.2 The VISUM Transport Model Package, a software system for transportation planning and travel demand modelling was used by the Consultant to develop the Wimbledon Area model. This package integrates demand modelling with traffic engineering and the completed traffic model is a strategic model capable of reflecting the overall traffic behaviour in the network with critical sections of the network (the A219) and the main junctions being given a higher calibration priority. The VISUM model is also capable of predicting any traffic re-distribution and performs capacity evaluations on the links. When assessing the impact of any new traffic management proposals the model assigns trips to a route based on the minimum travel time / cost.
- 3.3 Full technical details from the completed model were displayed at an unmanned exhibition held at the Civic Centre between 16<sup>th</sup> –27<sup>th</sup> July and also made available on the Council's website. A presentation was also made by the consultant on 25<sup>th</sup> July and all known Associations and Ward Councillors were invited to this event. Following the presentation and the exhibition a number of representations were received from Associations and individual local residents. Representations included queries regarding the validity of some data and recommendations regarding traffic measures.
- 3.4 The validity of the model was reassessed and modified as necessary in response to the queries raised. In addition the consultant has been requested to undertake additional analysis to specifically identify the pattern and volume of through traffic movements. The preliminary results and findings from this additional work are attached as appendix 2 and available on the Council website <http://www.merton.gov.uk/wimbledon-area-traffic-model> . It must be noted that the report has not been finalised and is subject to amendments. The website will be updated with the final version of the report and any other information that may become available.
- 3.5 The next stage in the overall development of the model will be testing the impact of selected traffic management options that could be effective in reducing the

volume of through traffic in the area and seek guidance from the Consultant on other options based on their detailed assessment of the current through traffic patterns. It is anticipated that up to four options may be tested. The results of the options testing and any initial proposals for traffic reduction measures will be reported to a future meeting of the Street Management Advisory Committee.

#### **4. FINANCIAL IMPLICATIONS**

- 4.1 The future cost associated with options testing; consultation and the implementation of any agreed proposals will be subject to funding being made available through the Council's own Capital Programme.

#### **5. LEGAL IMPLICATIONS**

Any proposals would need to be dealt with under The Road Traffic Regulation Act 1984.

#### **6. HUMAN RIGHTS & EQUALITIES IMPLICATIONS**

- 6.1 None for the purpose of this report

#### **Appendices – the following documents are to be published with this report and form part of the report**

Appendix 1 – Additional technical information on the VISSUM software

Appendix 2 – Draft reports prepared by consultant.

#### **Background Papers – the following documents have been relied on in drawing up this report but do not form part of the report**

Cabinet Street Management Committee report dated 29<sup>th</sup> September 2005 titled Wimbledon Steering Group – Traffic Management Plan

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#### **Useful links**

Merton Council's Web site: <http://www.merton.gov.uk>

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<http://www.merton.gov.uk/legal.htm>

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### Development of the VISUM Model

The traffic model allows the operational assessment of a wide range of traffic management proposals for any given area. The VISUM model is capable of reflecting the overall effects on traffic behaviour in the network from any traffic management schemes. They are particularly useful in simulating any traffic re-distribution due to, for example: a road closure, the incorporation of one-way operations on some roads etc. Traffic flows from any proposed and committed developments will be included in future models and background flows will be growth up to reflect any increase in traffic for future years.

### Network and Matrix calibration

- Calibration was carried out on whole network against all available observed flows (2004 and 2006 Traffic Surveys)
- Calibration is based on directional link flows.
- VISUM synthetically fills in other parts of the network.
- Matrix calibration was carried out using Tflow Fuzzy. The process takes an initial assignment and recalibrates the matrix against observed turning and link flows.
- Road characteristics and junction characteristics (Signals, turns capacities) are considered in the assignment process.

The accuracy of the model is tested using a validation process by comparing simulated results with the observed data subject to an acceptable error margin. Both the AM and PM VISUM models have been calibrated and validated according to DMRB (Design Manual for Road and Bridges) standard. Calibration was carried out on the models by adjusting the VISUM parameters (e.g. junction capacities, speed and highway characteristics) in order to achieve a close match between simulated traffic behaviour with the observed traffic behaviour.

There will always be small discrepancies between the values shown in the Origin/Destination (OD) Trips Analysis and the values shown on the directional link flow diagrams of the models at the cordon points. Both the VISUM models and the OD Trips Analysis were based on observed origin – destination surveys carried out in 2006, however, the OD trip matrices have been refined in VISUM through the 'matrix estimation' process, which slightly adjusts the OD trip matrix in order to calibrate/validate any observed internal link counts in the network.

### Option Testing with VISUM

The VISUM model can be used to assess the following Measures:

- Effects of road closures
- Effects of prohibited movements at junctions
- Major traffic management proposals
- Major changes on parking
- Major development proposals
- Trip growth / generation