

Beckenham Town Centre Major Scheme Report on Traffic Modelling

The London Borough of Bromley (LBB) commissioned Hyder Consulting to undertake traffic modelling of Beckenham Town Centre in order to test proposed carriageway alignment options previously developed by East Architects. Specifically, the modelling assesses the impact of the options along the three signalised junctions of High Street and options at the War Memorial roundabout.

To assess the proposed options, the first step was to develop base traffic models for the road network affected by the proposals. To ensure the validity of the base modelling, TfL undertook independent audits on the models. Once this approval process was complete the base modelling could be completed and subsequently taken forward to test the proposals.

Base modelling Results

The base modelling, which was backed up by on-site observations, concluded that the majority of the junctions operated under capacity although the High Street/Rectory Road junction was identified as the pinchpoint, where more than one approach operates close to capacity during each of the peaks.

LBB is content, therefore, that the base modelling replicates the normal traffic and congestion.

Modelling Results – High Street Options

The proposed options along the High Street include at-grade pedestrian crossings including other pedestrian crossing improvements, junction footprint reductions and carriageway width reductions. These are the options shown in the consultation documents.

The traffic modelling shows an increase in delay of less than a minute in each direction along the High Street caused by these improvements.

Given that the aim of the project is to improve the shopping environment, and that relatively few vehicles traverse the full length of the High Street, LBB is content that the additional delay caused by the proposals is within acceptable limits. From a traffic point of view, therefore, there are no objections raised to the proposals. The modelling will need to be undertaken with the final proposals for TfL's approval, but unless there are significant alterations to the design, the modelling results shouldn't noticeably change.

Modelling Results – War Memorial Roundabout Options

Three options have been developed by East Architects at the War Memorial roundabout.

- Option 1 reduces the size of the central island, allowing the kerb to be built out between the northwest and north eastern approaches. Zebra crossings are retained on all four arms.

- Option 2 involves maintaining the existing traffic island but with a raised table structure along the eastern side to encourage pedestrian access to the central island and memorial. Zebra crossings are retained on all four arms with an additional pedestrian crossing allowing access to the central island from the western footway.
- Option 3 converts the roundabout to a signalised crossroads junction.

The traffic modelling has showed that all of the proposed options create significant additional traffic delay. Option 1 experiences an increase in journey time of a minute along Rectory Lane Southbound. Option 2 experiences an increase in journey time of nearly 3 minutes along Rectory Lane Southbound. For Option 3 the modelling showed the design would operate well over capacity resulting in huge queues developing during the peak periods.

Given the volumes of traffic using Rectory Road/the roundabout, it is felt that this level of delay would be unacceptable and lead to rat-running along the High Street. LBB does not, therefore, recommend that any of these options are taken forward from a traffic perspective. This does not, however, preclude aesthetic improvements being made to the roundabout/public realm in the vicinity of the roundabout.