

A428 Black Cat to Caxton Gibbet improvements

TR010044

Volume 9

9.38 Joint Position Statement with the Local Highway Authorities on
Junction Modelling

Planning Act 2008

Rule 8(1)(k)

Infrastructure Planning (Examination Procedure)
Rules 2010

October 2021

Infrastructure Planning

Planning Act 2008

**The Infrastructure (Examination Procedure)
Rules 2010**

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Development Consent Order 202[]**

**9.38 Joint Position Statement with Local Highway Authorities on
Junction Modelling**

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1 Introduction

- 1.1.1 This Joint Position Statement (the Statement) has been produced by National Highways (the Applicant) in response to concerns raised by Local Highway Authorities at the Issue Specific Hearing 2 (ISH2) held on 23 September 2021 **[EV-024 to EV-027]**. The concerns related to the methodology used by the Applicant in relation to junction modelling.
- 1.1.2 The following Interested Parties have prepared this Joint Statement:
- a. The Applicant.
 - b. Bedford Borough Council (BBC).
 - c. The Cambridgeshire Authorities.
 - d. Central Bedfordshire Council (CBC).
- 1.1.3 An initial draft of the Joint Position Statement was developed by the Applicant and then shared with the Local Highway Authorities on 1 October 2021 in order that their position on the matters set out could be confirmed. The positions of the Applicant and the Local Highway Authorities are set out in **Table 1-1** of this document.

Table 1-1 Joint Position Statement between the Local Highway Authorities and the Applicant at Deadline 3 (05 October 2021)

The Applicant	Bedford Borough Council	Cambridgeshire Authorities	Central Bedfordshire Council	Current Position
<p>Base models for the new 'Scheme' junctions were not developed because the Scheme will fundamentally change junction layouts in the future and therefore the operation of the existing junction (where it exists) will have no bearing upon the operation of the proposed new junction. In other locations, while base models could have been developed, this was not felt necessary or proportionate as the assignment and routeings of the traffic flows extracted from the Strategic Model indicated that for all these junctions the Scheme would reduce flows/ improve operation or that the junction would operate well within capacity with the Scheme in place.</p>	<p>Bedford Borough Council (BBC) has stated that the modelling is acceptable, and no issues have been raised in either the LIR [REP2-002] or Written Representations [REP1-045]</p>	<p>The base models were not developed and calibrated/ validated for most of the junctions.</p>	<p>It is noted that a hybrid of model and observed flows were used to assess the operation of the Biggleswade North junction (A1 / Hill Lane), and that the base model was not validated. In addition, junction surveys associated with recent planning applications show higher levels of queuing than modelled within the Transport Assessment Annex for this junction, which raises queries over the confidence that can be given to the modelling. Traffic surveys available on public file (as part of these planning applications) include queue lengths - it is considered they represent a suitable data source for model validation – the applicant has been provided with</p>	<p>The Applicant has agreed to undertake sensitivity tests for a selected group of junctions by changing the input parameters to reflect the base year counts and turning proportions in the forecast year demand inputs. In addition, some of the other modelling parameters highlighted by the Cambridgeshire Authorities and CBC will be amended to consider the potential impact of those changes on the model outputs and transport assessments of the Scheme. The detailed scope and methodology of the sensitivity tests are outlined in the Scoping Note as 9.44 [TR010044/EXAM/9.44] submitted at Deadline 3.</p>

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The Applicant	Bedford Borough Council	Cambridgeshire Authorities	Central Bedfordshire Council	Current Position
			links to the relevant data and CBC request that a validation exercise is undertaken. CBC would further request that a sensitivity test based upon observed turning movements to provide an updated base, with the addition of modelled growth for forecast assessment, is undertaken.	
<p>The Applicant relied on the forecast flows taken directly from the strategic model as inputs for the forecast year junction models for the following reasons:</p> <ul style="list-style-type: none"> For the new 'Scheme' junctions the layout changes fundamentally. This means that existing turning flows cannot inform future junction operation because the turning proportions and 		<p>The 2025/2040 DM/DS forecast flows were taken directly from the strategic models, which are not calibrated to individual turning flows, and the method followed did not take account of surveyed turning flows. Hence the Cambridgeshire Councils do not have adequate confidence on the operation of the junctions for the forecast years.</p>	<p>Whilst reference is made to the reduction of flows or improved operation, this is not the case for junctions on the A1, where flows are predicted to increase following the opening of the scheme. In addition, the junctions in question are over capacity and subject to congestion and delay. As such accurate modelling of the junctions current and future operation is considered to be essential. The junctions of concern within CBC are not new 'Scheme'</p>	<p>The Applicant has agreed to undertake sensitivity tests for a selected group of junctions by changing the input parameters to reflect the base year counts and turning proportions in the forecast year demand inputs. In addition, some of the other modelling parameters highlighted by the Cambridgeshire Authorities and CBC will be amended to consider the potential impact of those changes on the model outputs and</p>

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The Applicant	Bedford Borough Council	Cambridgeshire Authorities	Central Bedfordshire Council	Current Position
<p>routings change significantly between the base and forecast years.</p> <ul style="list-style-type: none"> For the junctions on the wider network, the strategic model flows indicated that the Scheme would reduce flows/ improve operation, or that the junction(s) would operate well within capacity. Hence, adopting forecast turning flows from the strategic models to assess the junctions is a reasonable approach. This enables consideration of the Scheme impact on the overall junctions rather than on individual approach arms or turning movements, which is appropriate given the scale and nature of the Scheme. 			<p>junctions and therefore existing baseline operation can be assessed.</p> <p>The junctions of concern in the CBC area (those on the A1 within CBC and at M1 J13) are also expected to experience increases in flow as a result of the proposed scheme and are predicted to operate over capacity.</p> <p>In addition, the operation of the local road approaches to these junctions are considered to be sensitive to increases in flow on the A1 Strategic Route, and as such the schemes impact upon individual turning movements is considered to be both relevant and important for CBC to have a full understanding of potential scheme impacts.</p>	<p>transport assessments of the Scheme. The detailed scope and methodology of the sensitivity tests are outlined in the Scoping Note as 9.44 [TR010044/EXAM/9.44] submitted at Deadline 3.</p>

2 Joint Position Statement

- 2.1.1 The statement below is based upon the information and positions summarised within **Table 1-1** of this document.
- 2.1.2 In summary, while the applicant considers that the methodology adopted for modelling the Scheme and wider area junctions are robust, the Applicant has agreed to undertake sensitivity tests for a selected group of junctions in order to provide the Cambridgeshire Authorities and CBC with greater confidence in the modelling results.
- 2.1.3 A Scoping Brief for the Sensitivity Tests [TR010044/EXAM/9.44] submitted at Deadline 3 will be submitted to the Examining Authority at Deadline 3. This will form the basis for further discussion with the Cambridgeshire Authorities to agree a methodology, program and deliverables for the sensitivity testing.