

Comments on any other information and submissions received by D1 and D2

This document sets out the comments on any other information and submissions received by D1 and D2 not otherwise covered by other representations submitted to D3 by Cambridgeshire County Council (**CCC**), Huntingdonshire District Council (**HDC**) and South Cambridgeshire District Council (**SCDC**) (together, the **Councils**). Set out below is the relevant respondent and document reference number.

Except where expressly stated otherwise below, the Councils reiterate and rely on their comments submitted to the ExA at Deadline 1 and Deadline 2.

Highways England – TR010044-000997 9.10 Junction Modelling Technical Note [REP1-030]

Topic	Paragraph Number	Comment
Junction Locations	Figure 6.1	Not all of the junctions listed in the text are shown on figure 6.1.
Scheme junctions	6.3.8	<p>The Applicant states that <i>“a comparison has been undertaken and which shows that the SATURN base flows (including HGV flows) are significantly aligned with the surveyed flows”</i></p> <p>Not all of this analysis has been provided to CCC. CCC wishes to discuss the detail of this comparison exercise with the Applicant.</p> <p>CCC understands that this only compares modelled & NH’s observed flows at B1046/Potton Rd and one of the 2 Eltisley jns B1040 St Ives Rd/A428 CCC analysis of these 2 counts concludes that the counts are not sufficiently aligned with the modelled flows to justify the Applicant’s approach.</p> <p>Furthermore, CCC analysis of modelled vs observed counts at the remaining junctions, Black Cat, Caxton Gibbet and Cambridge Rd arrives at the same conclusion.</p> <p>The key differences are in turning movements at the junctions, although some link flows are not sufficiently aligned either. See the example provided in the LIR [REP2-003].</p>

Existing junctions with no calibrated/ validated base models	6.4.2	<p><i>“The junction modelling did include base year models, but the flows used were extracted from the 2015 base year SATURN model”</i></p> <p>CCC queries why observed counts were not used to validate the SATURN model.</p> <p>CCC is aware that the Applicant has existing count data at a number of locations including:</p> <ul style="list-style-type: none"> - Wyboston roundabout - Barford Rd roundabout - Madingley Mulch roundabout <p>CCC requests further clarification as to why these counts were not used to validate the model, given the ease with which they could be accessed.</p> <p>CCC analysis of modelled against observed flows at these junctions concludes modelled flows do not align sufficiently well with the modelled flows to justify the Applicant’s approach, reducing confidence in the modelling methodology proposed.</p>
	6.4.5	<p><i>“The initial modelling analysis indicated that the Scheme would result in either a significant capacity improvement at junctions with existing capacity issues”</i></p> <p>If turning movements in the base SATURN model do not match observed counts at individual junctions then the initial modelling analysis using SATURN turning flows is flawed in terms of assessing junction capacity. The modelling is important as it informs the design of the junctions and gives the Councils confidence that the design is appropriate for future traffic flows on the Councils road network.</p>
	6.4.5	<p><i>“where the Scheme increases traffic flows, the junctions were predicted to operate under capacity by a large margin”</i></p> <p>If SATURN turning flows in the base year model do not match observed counts then SATURN forecast flows may be too small. Any junction assessment using the SATURN forecast flows is unlikely to be accurate.</p>
	6.4.6	<p>CCC disagree that the use of the SATURN model flows is a proportionate and reasonable approach to assessing the scheme in the wider area.</p>

	6.4.6	<p><i>“In any case, further data collection would not have been appropriate at the time, since traffic conditions would have been affected by restrictions imposed during the Covid19 pandemic”</i></p> <p>As noted above, the Applicant had existing counts at 3 of the locations listed in this section. Those could have been used as a minimum. CCC accept that new data collection during Covid pandemic would have been inappropriate.</p>
Existing junctions with calibrated/ validated base models	6.5.2	<p><i>“As there were no significant network changes in the wider area locations where Vissim models were developed, it was considered appropriate to develop and calibrate/ validate base models to assess the impact of flow changes predicted due to the Scheme”</i></p> <p>This approach is inconsistent with the explanation provided by the Applicant in relation to the use of SATURN flows, as noted at paragraph 6.4.6 if the Junction Modelling Technical Note [REP1-030]. All of the junctions should be based on validated base models to enable a robust assessment of the operation and design of the local road network.</p>
Scheme Junctions – Junction Layout Comparison	7.2.1 a)	<p>CCC agrees that none of the base year coding would be appropriate but by developing a base model, the correct levels of base year demand could be calibrated. This base year demand should then be used to generate future year demand for the Vissim model.</p> <p>Existing movements should be factored up using strategic model flows while new movements could be taken directly from the strategic model. This has not been done so CCC are unconvinced by demand used in the future year models, and thus by junction performance and hence junction design. This observation applies equally to all junctions listed.</p>
	7.2.1 c)	<p>Comparison of results between existing and proposed junctions are not of relevance. It is how the proposed junction operates (queues, delays) that is of key importance to the operation of the local road network.</p>
	7.2.2	<p>Comparison of results between existing and proposed junction are not of interest. It is how the proposed junction operates (queues, delays) that is of key importance to the operation of the local road network.</p>

<p>Scheme Junctions – Forecast Traffic Flows</p>	<p>7.3.2</p>	<p>The base year SATURN model is calibrated/validated to link flows, not turning flows. For junction design it is turning flows that are of key consideration.</p> <p>CCC agrees with the Applicant’s view that none of the base year coding would be carried forward to the future year but by developing a base model, the correct levels of base year demand could be calibrated. This base year demand should then be used to generate future year demand for the Vissim models.</p> <p>Existing movements should be factored up using strategic model flows while new movements could be taken directly from the strategic model. This approach has not been followed so CCC are unconvinced by demand used in the future year models, and thus base year junction performance and hence junction design.</p> <p>This argument applies equally to all junctions assessed, but for junction design it is the change in turning movements at individual junctions that are key. As such flows taken directly from the strategic model should be used to modify observed turning movements as the most robust approach. This is important as it provides confidence that the assessment is robust and that the proposed design can adequately accommodate the proposed levels of traffic.</p>
	<p>7.3.3</p>	<p>CCC conclude that modelled flows do not match observed flows sufficiently well to justify using unaltered modelled flow, as set out in the LIR [REP2-003].</p>
	<p>7.3.4</p>	<p>This is an interesting comparison but it is precisely the reason a strategic model was developed - to get flows for new movements. It does not preclude validating junction models to observed turning flows though, which is important in aiding understanding that the correct design is being implemented to accommodate future traffic on the local road network.</p>

	7.3.5	<p>Spread sheet A428_MCTC_Analysis_SATURN Flows_Scheme Vissim Junctions was supplied to CCC in support of TN81_BC_to_CG_Local Junctions Modelling Approach_Detailed.</p> <p>CCC's review of this information which is outside the Examination shows that the turn proportions are not comparable and therefore CCC does not agree that the SATURN flows accurately reflect the observed base year data, as set out in the LIR [REP2-003].</p>
	7.3.7	<p>CCC analysis suggests otherwise. The observed flows should be used to modify key movements in the local junction models that the strategic SATURN does not model accurately. This is needed to ensure that the junction design is sufficient to cater for the level of traffic projected on the local road network.</p> <p>This then needs to be carried forward to the future year demand as well.</p>
	7.3.8	<p>The differences are significant at a turning flow level. Junction capacity is heavily reliant on the turning flows, if the flows are wrong, the capacity assessment is wrong. As set out in the LIR [REP2-003] whilst the link flows are reasonable the turning proportions are not representative of the observed data.</p>
	7.3.9	<p>In view of the above concerns, CCC disagree that the assessments undertaken is based on robust data.</p>
<p>Table 8-1 – Summary of Existing Junctions without calibrated base models</p>	<p>Row 5: A428/A1303 Madingley Mulch Roundabout</p>	<p>CCC analysis of counts at this junction shows base year SATURN flows are only 76-79% of observed counts during AM and PM peak hours. Individual turns do not correspond well to the observed count data with some examples indicating GEH values of up to 18 at this junction (GEH is the industry standard methodology for assessing the correlation between observed and modelled data and for a junction turning count should be less than 4).</p> <p>The SATURN flows are therefore not representative of observed flows at this junction. The junction capacity assessment is therefore unreliable as the traffic flows from the strategic model do not correspond to those seen in the observed traffic data.</p>

	Row 6: Wyboston Roundabout	<p>CCC analysis of counts at this junction show base year SATURN flows are only 80-82% of observed counts during AM and PM peak hours. Individual turns have GEH values of up to 16 at this junction. (GEH is the industry standard methodology for assessing the correlation between observed and modelled data and for a junction turning count should be less than 4).</p> <p>The SATURN flows are therefore not representative of observed flows at this junction. The junction capacity assessment is therefore unreliable as the traffic flows from the strategic model do not correspond to those seen in the observed traffic data.</p>
	Row 7: Barford Road Roundabout	<p>CCC analysis of counts at this junction show base year SATURN flows are only 89-90% of observed counts during AM and PM peak hours. Individual turns have GEH values of up to 19 at this junction. SATURN flows are therefore not representative of observed flows at this junction. The junction capacity assessment is therefore unreliable.</p>
Existing Junctions with no calibrated base models	8.1.4	<p>CCC has significant concerns in relation to the approach taken by the Applicant as the conclusion that the junctions would operate well within capacity or would result in an overall flow reduction (which is used as a justification not to use survey data) is flawed if turning flows in SATURN do not match observed flows accurately.</p> <p>The only way to find this out is to do a comparison of the turning movements indicated by both the observed data and the strategic model as set out in the LIR. If such a comparison is to be carried out, this ought to use observed flows instead as the most reliable source of data.</p>
	8.1.7	<p>NH state <i>"if survey data was incorporated into the analysis and/or base models were validated, this conclusion would not change"</i></p> <p>CCC questions how can this be stated without doing the work to prove it?</p>

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9.13 Eversden and Wimpole Woods SAC Technical Note [REP1-032]

Topic	Paragraph Number	Comment
Barbastelle bat survey methodology	General	The Councils welcome the commitment from the Applicant to undertake further barbastelle bat survey work and accept that the applicant has supplied

		<p>further information about the methodology of future barbastelle bat surveys in relation to the SAC. The Councils will follow Natural England's lead on this issue.</p> <p>The Councils look forward to further engagement with the Applicant and Natural England in light of the outputs of the survey work. The Councils encourage the Applicant to provide early sight of the findings of the surveys and, if required, early discussion on any additional mitigation options being considered as part of the Habitats Regulations Assessment.</p>
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Highways England – TR010044-000995

9.8 Traffic Routeing Impacts at Coton Technical Note [REP1-028]

Topic	Paragraph Number	Comment
A428 Strategic Model Calibration	2.1.7 I.	<p>This paragraph sets out the existing speed limits through Coton village. It is noted that the changes to the speed limits that were made in 2017 and are not in either the base year or future year models. CCC are of the opinion that not including this in the base year is acceptable, but the future year should include the changes as without this change the road is too attractive to traffic in the future year model which could lead to a further distortion of the traffic patterns through Coton.</p>
	2.1.7 II.	<p><i>At the junction of Grantchester Road and the M11 J12 southbound off-slip, the turn saturation flow for traffic from the slip road is set too low.</i></p> <p>The Councils welcome the acceptance that the coding of this junction is wrong in the strategic model and this results in the incorrect performance off the road network being shown in this location. If the coding of the junctions in this section of the model cannot be redone to fix this issue that the Councils will require monitoring of this location to prove that the predicted model flows do not occur, and mitigation provided if they do.</p>
Traffic Origins and Destinations and Forecast Growth	3.1.1	<p><i>The fact that the southbound problem at Coton is due to insufficient capacity on the M11 J12 off-slip reduces the likelihood that the model is routeing longer distance traffic through Coton. Of the 360 PCUs [passenger car units] in the 2015 AM peak travelling southbound only 146 join the M11 at J12 and only 94 of these continue south of Junction 11 as displayed in Figure 3-1. Therefore, almost 75% of traffic in the model passing Coton in</i></p>

		<p><i>the AM peak is traffic accessing the west and south-west areas of Cambridge and local villages.</i></p> <p>The origin and destination of the traffic using the roads through Coton is not the issue here. The issue is that the coding in this area of the model is wrong and this results in the incorrect performance off the road network being shown in this location. The result being that the performance of the local road network in this area is not reliable.</p>
	3.1.2	<p>The Applicant argues that as the traffic using the roads through Coton are going into Cambridge they are not long distance traffic on the strategic road network and therefore it would be logical for traffic to use this route. However, traffic was not using this route in the observed data and therefore the model is incorrectly modelling the performance of this area of the local road network In the base year and future year Do Minimum Scenarios and therefore it is not possible to gauge the impact of the propopsed scheme in this location.</p>
	3.1.4	<p>This is an increase based on an incorrect assumption in the base year and therefore this is the root cause of the issues being experienced and not any changes in the network and development areas. This point highlights the importance of validating turning movements based on observed traffic data.</p>
	3.1.6	<p>Due to the issues with the base model it is not possible to separate out changes in the congestion on this section of the local road network as a result of the proposed scheme as the base model significantly over estimates the level of traffic using the roads through this area due to in accuracies in the base model.</p>
	3.1.7	<p><i>Growth in the northbound direction would probably be greater if it were not for delay occurring to traffic on the Cambridge Road approach at the A1303 junction.</i></p> <p>This conclusion cannot be drawn as the base flows are not representative of the observed count data. Therefore it is not possible to assess the impact of the scheme on this section of the local road network.</p>
	3.1.8	<p>The Applicant repeats the comments about the volume of traffic continuing south on the M11 but it is important to note that the origin is not the issue as the base year flows are not accurately treflecting the</p>

		<p>performance of the local road network and therefore it is not possible to draw any conclusions as to the performance of the road network in this area in the future years.</p>
	3.1.10	<p>The Applicant repeats the comments about the volume of traffic continuing south on the M11 however, the issue here is the model is showing an incorrect increase in traffic as the base model is significantly overestimating the volume of traffic in both directions.</p> <p>This is due to inaccuracies in the base year model. The scheme would not be adding traffic to this route if the model was validated better in this area.</p>
Conclusions	4.1.1	<p>The Applicant states that <i>“As it is a strategic model, there is a limit to how well it represents the local road network beyond the extents of the Scheme as there are necessary ‘trade-offs’ in terms of the network and traffic zone detail. Therefore, it would not be expected to model perfect representation of traffic behaviour on local roads some 10-15 kilometres from the Scheme.”</i></p> <p>CCC wishes to clarify that its comments on the model are intended to ensure that the projections made by the model are robust and that the outputs can be relied upon, rather than seeking perfection.</p> <p>CCC notes and agrees with the limitations on the representation of the local road network within a strategic model. CCC highlighted in the Councils’ Written Representation (WR) [REP1-048] that there are issues with strategic model flows being used directly to build the local junction models as these flows have not been validated for this purpose.</p> <p>As part of the checks on the base model the importance of this routing should have been clear as this is a key linkage into the scheme and is an important area of concern for CCC.</p>
	4.1.2	<p><i>[T]he base year model overstates volumes to some degree with southbound volumes on Grantchester Road in the AM peak being around 219 PCUs (156% of the count data) too high and in the PM peak around 102 PCUs (72% of the count data) too high in the northbound direction and about 61 PCUs (103% of the count data) too high southbound.</i></p> <p>The discrepancies set out above between the observed data and the strategic model are</p>

		significant and this discrepancy is magnified through to the future years meaning that it is not possible to accurately assess the impact of the scheme in this location.
	4.1.3	<p><i>A review of 2015 origins and destinations of this traffic has demonstrated that the majority of modelled traffic passing through Coton is travelling to or from locations in the Cambridge area</i></p> <p>The origin and destination of the traffic using the roads through Coton is not the issue here. The issue is that the coding in this area of the model is wrong, and this results in the incorrect performance of the road network being shown in this location. The result being that the performance of the local road network in this area is not reliable.</p>
	4.1.5	<p><i>A review of 2040 model forecasts does show the volumes through Coton to be greater than those in the 2015 models.</i></p> <p>This is due to the discrepancies in the base year. The level of growth in this area of the county is unlikely to lead to the level of increases shown. Therefore, the strategic model is not accurately reflecting the performance of the road network in this area and it is not possible to gauge the impact of the scheme on the local road network in this area.</p>
	4.1.6	<p><i>The strategic modelling indicates the A428 Scheme will have a small impact on the route through Coton as there is some transfer from alternative east-west routes to the A428.</i></p> <p>Due to the issues with the base model it is not possible to assess the impact of the scheme.</p> <p>The base model shows trip making patterns are not as observed so it is not possible to verify this situation.</p>
	4.1.7	<p><i>In summary, while the model is over-predicting the traffic routeing through Coton, this traffic is local traffic with [sic] origins/destinations within Cambridge and is not affected by the Scheme.</i></p> <p>The Councils acknowledge the shortcomings with the strategic model in this location. It is clear that the model has not been validated properly on this key route for CCC which is remote from the proposed scheme. Problems in the base model are carried forward in to forecast years, with and without the scheme. CCC acknowledge this may be a purely</p>

		model related issue but to mitigate any problems that may occur, CCC will need traffic through Coton to be monitored prior to, during and after construction of the scheme. If traffic is shown to be increasing, then mitigation measures to reduce traffic will have to be provided by the Applicant.
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Highways England – TR010044-000996

9.9 Assessing the Potential Impacts of COVID 19 – the implications for traffic forecasts for the scheme [REP1-029]

Topic	Paragraph Number	Comment
Short-term impacts of COVID-19 on Travel Demand - DfT Travel Statistics	2.2.4	The assessments in this note are based on national figures which is reasonable in the first instance but going forward the assessment should be made based on more local data for both the strategic road network and the local road network as the national data could be masking any specific local issues. This could have impacts for both the reason for the scheme and the performance of the local road network.
Short-term impacts of COVID-19 on Travel Demand - National Travel to Work	2.3.1	The reliance on national figures is reasonable for a high-level analysis but the final assessment should be based on more local data from the area affected by the scheme, to enable the impact on the local road network to be assessed.
Short-term impacts of COVID-19 on Travel Demand - Working from Home	2.3.9	Again needs to refer to local data once available, to enable the impact on the local road network to be assessed.
Short-term impacts of COVID-19 on Travel Demand - Local Traffic Monitoring	2.4	This data only refers to the strategic road network and there is no mention of the local road network. This means that it is not possible to draw any reliable conclusions as to the impact on the local road network.
Approach Adopted for A428 Scheme Assessment	5.1 Current Forecasts	The data used in the assessment to date is agreed.
Sensitivity Testing	5.2	<p>The Councils acknowledge that the DfT Uncertainty Toolkit is not yet available. The impact of the scheme should be reassessed once the toolkit is available.</p> <p>The Councils would like to be consulted as part of this process to enable the impact of the scheme on the local road network to be included in the</p>

		assessment so as to provide certainty on the performance of the local road network.
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Highways England – TR010044-001003

9.15 Applicant response to actions arising from Issue Specific Hearing 1 on 18 August 2021 [REP1-034]

Topic	Paragraph Number	Comment
Response to Action Point 3 - Further justification for de-trunking of the existing A428, including the application of any strategic criteria relating to the function of the strategic road network, to support the case.	1.1.7	CCC as local highway authority (LHA) has no objection to the de-trunking of the existing A428 in principle. CCC as LHA objects strongly to the proposal that the roads described in Part 8 of Schedule 2 of the dDCO [REP1-003] on a date determined by the Applicant. De-trunking should take place only once CCC as LHA has certified that the road to be de-trunked meets the relevant standards for local highways. CCC as LHA's concerns are set out in detail at section 3 of the Councils Written Representation (WR) [REP1-048].
	1.1.9	CCC as LHA agrees with the Applicant that the powers to de-trunked are better placed in the dDCO [REP1-003] so that all parties (including members of the public) are aware of the elements to be de-trunked. It is in part for this same reason that CCC as LHA considers it appropriate that the principles applying to the de-trunking process are also contained within the dDCO so that all parties are aware when de-trunking takes place.

Highways England – TR010044-001001

9.16 Applicant response to submissions made at Open Floor Hearing 1 [REP1-035]

Topic	Paragraph Number	Comment
Construction phase impacts of the proposed scheme.	Page 3, Table 1-1, row 3	CCC as LHA shares the general concerns of Central Bedfordshire Council (CBC) in relation to the effects of construction on local roads. Please see the Councils' detailed comments on this matter at sections 2.4.1 to 2.4.7 of the Councils' WR [REP1-048]. It is questioned whether strategic traffic will have a detailed knowledge of the local road network as assumed by the model and noted by the Applicant.