Introduction

This rebuttal statement has been prepared in response to certain points raised in the Witness Proof (Transport & Access) prepared by Jon Tricker of Phil Jones Associates and dated 19th May 2015. I have structured this statement with reference to those sections of Mr Tricker’s evidence in respect of which I wish to comment. However, where I do not respond to a particular section of Mr Tricker’s evidence, it is no indication that I accept the points made.

SECTION 3 – PLANNING POLICY

Relevant Guidance

1. At paragraph 3.3.6 Mr Tricker refers to the Guidelines for the Environmental Assessment of Road Traffic (IEA, 1993) which suggest two broad rules for identifying an assessment area:
   - Rule 1 – include road links where traffic flows would increase by more than 30% (or the number of HGVs would increase by more than 30%); and
   - Rule 2 – include any other specifically sensitive areas where traffic flows would increase by 10% or more.

2. I do not consider that the above guidance is relevant to the severity test in this case. In my view it is relevant to the assessment of the environmental impact of road traffic (such as road safety, noise, vibration, dust and dirt) but not vehicular capacity. The relevant guidance is instead Guidance on Transport Assessment (DfT, 2007) [CD-139] which provides suggested thresholds above which a formal assessment would be needed. Thresholds are based on scenarios which would typically generate 30 two-way peak hour vehicle trips, and I make reference to this in paragraphs 3.27 and 4.20 of my Proof of Evidence.

3. In any event, Mr Tricker’s suggestion at paragraph 3.3.7 of his evidence that, considering the IEA impact criteria, increases in traffic of less than 30% are considered ‘negligible’ is in my view untenable even if the IEA guidelines were relevant. Rule 2 would apply, since sensitive areas are defined by the presence of sensitive receptors, such as congested junctions as is the case here.

Appeal Decisions

4. At paragraphs 3.3.9 and 3.3.10 Mr Tricker refers to an appeal decision for Marnel Park, Popley, Basingstoke [CD-111] where the Secretary of State agreed with the Inspector’s decision to grant permission, finding that the proposals would “fall far short of the ‘severe’ test set by the Framework” (IR 9.3.10). Mr Tricker notes that this was despite an increase in traffic of up to 600 vehicles per hour on some links – a level not reached in Hardingstone, implying a high threshold for severity. However, having reviewed the appeal decision, I note that the issue of traffic impact related primarily to link rather than junction capacity as is the case at Hardingstone. Increases in traffic were significant and adverse in percentage terms but from a very low base. This situation is very different to Hardingstone where base traffic flows are very high and the network is already congested. Therefore, I do not consider this decision relevant to the Hardingstone appeal.
5. At paragraphs 3.3.11 to 3.3.14 Mr Tricker refers to an appeal decision for Grange Farm and School Land, Hartford, Cheshire [CD-112] where the Secretary of State agreed with the Inspector’s decision to grant permission and his finding that the transport effects would not be severe. However, in that case, the impact of the proposals had been ascertained through modelling, and it appears the Council did agree that the effects would not be severe (IR 14.63). In the present case, the Appellant has not ascertained the real effects of the development and any mitigation measures. Further, it is my professional opinion that the effects of the development are indeed likely to be severe. Mr Tricker draws attention at paragraph 3.3.14 to a statement by the Inspector that it is not the aim of policy to protect the convenience of commuting car-drivers. I make two observations in relation to that point. First, that statement was made in the context of known effects where, as the Inspector said the proposals would cause “minimal additional average delay” (IR 14.63). In the present case, the extra delays have not been established by the Appellant, but I would expect them to be substantial. My second observation is that in the present case the concern includes the impact on the functioning of an important industrial estate, and not simply the impact on commuters. I do not therefore think the Grange Farm decision assists the Appellant.

6. At paragraphs 3.3.15 to 3.3.17 Mr Tricker refers to an appeal decision for Whittingham Road, Longridge, Preston. The Inspector dismissed the appeal because the residual cumulative highway problems would be extreme, counter to the Framework Policy. In that case, the results from the LinSig models for the Broughton Cross junction (A6 / B5269) assumed that vehicles had a clear exit from the junction, but in reality vehicles that exited the junction and travelled southbound on the A6 were impeded by traffic queuing back from the A6 / M55 junction to the south. This meant that the junction operated well below its theoretical or practical capacity and queues predicted by the model were much less than observed on-street. This case is therefore very similar to Hardingstone. At paragraph 20 of the decision, the Inspector states: “In summary, the LINSIG outturns cannot be relied on as reasonable indicators of conditions on the ground. Crucially, it seems that Officers of the City Council and Lancashire County Council relied on these in reaching their conclusions, which informed the positive Officer recommendation on the appeal proposal. It would seem that neither had checked fully at the decision date to see if the outturns correlated with actual site conditions … Thus, as a consequence of the observed operation of Broughton Cross over several days, I have no hesitation in concluding that the current situation at the Broughton Cross junction is one stage worse than severe and, even today, should be categorised as extreme”. At paragraph 39 the Inspector considered that the proposals to improve traffic movement through Broughton Cross as part of the appeal scheme, by upgrading the MOVA settings, “… will do nothing to offset the increase in traffic demand from the appeal site during the peak hours and beyond”. At paragraph 37, the Inspector firstly states that this is because “the queues being managed will extend beyond the key detection points”. Secondly, the Inspector states that “the minor junction improvements envisaged are to improve approach capacity. This is all very well, but if the exit from the signals along the A6 southbound is ‘gated’ during the peak hours all the improvements in the approach widths and signal timings will do nothing to relieve the situation and the additional traffic will merely add to the approach queues”. This is very much the case at the Queen Eleanor and Brackmills Interchanges on the A45 at Hardingstone where no improvements are proposed to address the current problems with exit blocking on some roads leading away from the junctions. The improvements proposed by the Appellant to the approach widths, circulatory carriageway and changes to the method of signal control will be negated by the ‘gating’ strategy proposed by the Northampton Growth Management Strategy (NGMS); they will do nothing to relieve the situation, such that additional traffic will merely add to the approach queues. I return below to the problems with elements of the NGMS such as the proposed gating strategy.
Development Plan Policies

7. At paragraph 3.7.5 Mr Tricker makes reference to Policy INF2 of the West Northamptonshire JCS which confirms that new development will only be permitted if the necessary infrastructure that is required to support it is in place or will be delivered by a reliable mechanism. I consider that the necessary infrastructure required to support the development will not be delivered, and therefore the development is contrary to Policy INF2.

SECTION 4 – DEVELOPMENT AND AGREEMENT OF THE TRANSPORT ASSESSMENT

8. At paragraph 4.2.2 Mr Tricker suggests that comprehensive traffic surveys were undertaken across the study area. However, in my view, the surveys undertaken were far from comprehensive. I have highlighted the deficiencies with the traffic data collection exercise undertaken by the Appellant in paragraphs 4.24 to 4.30 of my Proof of Evidence.

9. At paragraph 4.4.7, Mr Tricker refers to the Inspector’s report on the JCS [CD-27] which comments on the Hardingstone SUE and concerns of local residents regarding a number of issues including traffic generation. At paragraph 142 of the report, the Inspector states that the concerns “can all be satisfactorily addressed through appropriate technical analysis and on site measures, as well as contributions to offset impacts elsewhere. This should include through a full Transport Assessment looking at all traffic movements likely to occur on the local road network in the context of the agreed NGMS for the A45 route. Consequently, none are sufficient, individually or collectively, to indicate that the site is unsuitable in principle for a SUE”. However, I consider that “appropriate technical analysis” has not been undertaken and therefore these concerns have not been “satisfactorily addressed”.

10. At paragraph 4.4.24 Mr Tricker states that MOVA control is recognised to deliver a capacity benefit of over 10% compared to traditional signal controllers. Whilst this may be correct where junctions have free exits and where entries are not fully saturated, it will not be the case where exits are blocked, where queues being managed extend beyond the key detection points or when a gating strategy is employed that will not allow the junction to operate at maximum capacity as will be the case at the A45 junctions near Hardingstone. The Inspector makes precisely this point in paragraph 37 of the appeal decision for Whittingham Road, Longridge, Preston.

11. At paragraph 4.4.25 Mr Tricker suggests that ramp metering delivered along the whole A45 corridor will assist in ensuring steadier flow conditions on the A45, by regulating the entry flow (which he later refers to as a ‘gating’ strategy), and that this strategy will require some additional lane storage at roundabouts and their approaches and that the NGMS thus includes some widening on entry arms to act as storage and to manage current exit blocking issues. I consider that ramp metering may well assist in ensuring steadier flow conditions on the A45, but whilst widening on the entry arms may increase storage it will not address the cause of exit blocking and will instead simply shift queuing traffic from the exit to the entry. This would improve flow conditions on the A45 but would not increase the capacity of the A45 or the local road network. In fact, the reverse would be true for the local roads: capacity will be reduced and additional queues will be stored in the widening proposed on the roundabout approaches. Development traffic would merely add to the queues on the roundabout approaches. The effect of such a gating strategy combined with the development has not been tested by the Appellant and I cannot see how the mitigation measures proposed would avoid a severe effect at the Queen Eleanor and Brackmills Interchanges.
SECTION 5 – RESPONSE TO COUNCIL’S CASE

Traffic Survey Assumptions

12. In paragraph 5.2.3 Mr Tricker notes that visual observations of traffic were undertaken on a number of occasions prior to submission to help understand the pattern of local traffic. Based on these observations, the Appellant considered the traffic surveys to be representative of the local traffic conditions. However, there is no evidence of this in the Transport Assessment, nor any evidence that the surveys are representative. In fact the reverse is true given the difference between the results of the base LinSig models and Glanville’s observations of queue lengths referred to in paragraphs 4.52 and 4.53 of my Proof of Evidence.

13. In paragraphs 5.2.4 to 5.2.7, Mr Tricker seeks to address my concerns with the reliability of the traffic data collected by the Appellant, as set out in paragraphs 4.24 to 4.30 of my Proof of Evidence. I have reviewed the additional data provided by Mr Tricker in Appendix A of his Witness Proof and as summarised in Chart 1. Whilst I note that Chart 1 presents the 5-day weekday average traffic flows as recorded by the Automatic Traffic Counts (ATC) whereas the manual count was undertaken on a Wednesday (29th February 2012), I am satisfied that the ATC data confirms that the manual counts for Newport Pagnell Road used in the Transport Assessment are representative of flows on this road. However, a similar comparison of data has not been provided by Mr Tricker for other links or junctions, including the A45 junctions which are the principal area of dispute between the parties, and therefore I am unable to accept that traffic flows at these junctions as used in the Transport Assessment are representative.

Zone of Impact

14. In paragraph 5.3.2 Mr Tricker states that testing was undertaken to develop mitigation schemes on the County network (i.e. the roundabouts and not the A45 nor the slip lanes) and not the trunk road network. However, I consider that the effectiveness of the mitigation measures on the County network is reliant upon the exits from the junctions being free and the junctions being allowed to operate at full capacity (and not gated). As such, the performance of the junctions on the County network is intrinsically linked with the performance of the A45 and associated slip roads and the effects of the gating strategy. Therefore, Mr Tricker’s approach that seeks to separate the two on the assumption that the NGMS will resolve all the issues with the trunk road and allow the A45 junctions to operate at full capacity is simply inadequate.

15. Mr Tricker’s paragraphs 5.3.4 to 5.3.20 seek to address my concerns with the study area of the traffic assessment, as set out in paragraphs 4.15 to 4.23 of my Proof of Evidence. I have reviewed the additional data provided by Mr Tricker in Table 1 of his Witness Proof and set out my conclusions below against each junction.

Barnes Meadow Interchange

16. The traffic assignment and flow diagrams included at Appendix B of Mr Tricker’s Witness Proof do not extend to include the Barnes Meadow Interchange, so the impact of the development at this junction is still not apparent. Details of the assignment were requested in point 6 of my letter to Mr Tricker dated 10 April 2015 [CD-92] and I make reference to this in paragraph 4.16 onwards of my Proof of Evidence. The north facing slip roads at the Queen Eleanor and Brackmills Interchanges will take development traffic to and from the Barnes Meadow Interchange. Mr Tricker’s Table 1 shows that in the AM peak these slip roads will take 150 additional vehicles towards Barnes Meadow (i.e. 49 from Queen Eleanor and 101 from Brackmills) and 127 additional vehicles from the direction of Barnes Meadow (i.e. 52 towards Queen Eleanor and 75 towards Brackmills). In the PM peak these slip roads will take 150 additional vehicles towards
Barnes Meadow (i.e. 31 from Queen Eleanor and 129 from Brackmills) and 146 additional vehicles from Barnes Meadow (i.e. 72 towards Queen Eleanor and 74 towards Brackmills). What Mr Tricker has not confirmed is how much of this traffic gets on or off the A45 at Barnes Meadow and how much remains on the A45 and passes over Barnes Meadow. In the absence of this information, I cannot draw a firm conclusion as to the impact of the development on the operation of the Barnes Meadow Interchange although some development traffic will inevitably pass through the interchange resulting in an adverse effect.

**A428 / Liliput Road**

17. Although the traffic assignment and flow diagrams included at Appendix B of Mr Tricker’s Witness Proof do not extend to include the A428 / Liliput Road junction, based on the figures provided in Mr Tricker’s Table 3, I can now accept that the development will have a minimal impact on this junction and therefore I am satisfied that no further assessment is required in this respect.

**Pavilion Drive**

18. Mr Tricker’s conclusion at paragraph 5.3.17 that, having considered the assignment of development trips further, he “cannot see why any traffic from the application site would wish to use Pavilion Drive. In my view, any traffic wishing to access the A45 southbound, from the application site would use the QE interchange” is contradicted by the traffic assignment provided at Appendix B of his Witness Proof. That shows that 13% of outbound traffic from the development will access the A45 southbound via the Brackmills Interchange in the AM peak, and therefore travel on the slip road and through the Pavilion Drive junction. In the PM peak this figure is 11.5% of outbound traffic from the development. This equates to 80 vehicles in the AM peak and 49 vehicles in the PM peak according to the figures in Mr Tricker’s Table 1. These figures are much higher than the threshold of 30 vehicles per hour in the DfT’s Guidance on Transport Assessment.

19. Mr Tricker’s evidence also fails to address a further significant point in relation to Pavilion Drive. As stated in paragraph 4.22 of my Proof of Evidence, irrespective of the increase in traffic at this junction, observations of existing traffic conditions undertaken on-street, as described in Section 2 of my Proof of Evidence, have identified that a queue forms on Pavilion Drive that extends back up the slip road and affects the performance of Brackmills Interchange during the weekday morning peak period. As the Pavilion Drive junction has not been modelled, this interaction and exit-blocking has not been taken into account and the performance of the Brackmills Interchange will have been over-estimated in the models as a result. Mr Tricker’s Witness Proof does not engage with this point.

20. At paragraph 5.3.19 Mr Tricker refers to the signalisation of the A45 Southbound On-slip / Pavilion Drive junction that is proposed as part of the NGMS. However, the effect of signalising the Pavilion Drive junction has not been modelled in conjunction with the Appellant’s mitigation measures for the Brackmills Interchange, so the combined effect has not been quantified. The effect of signalising this junction may well be to exacerbate the current queuing problem on the slip road section of Pavilion Drive that reduces the capacity of the Brackmills Interchange. Furthermore, signalising the Pavilion Drive junction will not address the problems observed in the AM peak when queues block back from the car park entries to the business premises on Pavilion Drive and reduce the capacity of the Brackmills Interchange.

21. Therefore, I must conclude that the development will create an impact on Pavilion Drive that has not been properly assessed or mitigated and may well be severe.
Census Data Assumptions

22. In his Table 7 Mr Tricker presents a comparison between traffic assignment based on 2001 Census data (as assumed in the Transport Assessment) and 2011 Census data (the latest available). I accept Mr Tricker's conclusion in his paragraph 5.5.5 that the assumptions used in the Transport Assessment are reasonable and no change to distribution patterns is warranted in light of the 2011 data.

Assignment of Development Traffic

23. Mr Tricker has now provided in Appendix B of his Witness Proof the assumed assignment patterns for development traffic at the remaining junctions assessed within the Transport Assessment – i.e. Queen Eleanor Interchange, Brackmills Interchange and Caswell Road / Rhosili Road Roundabout. Assignment has been based on 2001 Census travel to work data for the Nene Valley ward. At paragraph 5.6.6 Mr Tricker states that, due to the relatively broad census distribution, the existing traffic distribution at the A45 interchanges was applied to reflect existing traffic patterns. I accept that this is a reasonable approach to adopt.

LinSig Models for Queen Eleanor and Brackmills Interchanges

24. In paragraph 5.7.7 Mr Tricker suggests that the context of the modelling has been misunderstood by the Council and Glanville. Mr Tricker states that the LinSig modelling was requested by NCC in order to assess the impact of the appeal scheme on the County network only. As I have said above in relation to Mr Tricker's paragraph 5.3.2, the effectiveness of the mitigation measures on the County network is reliant upon the exits from the junctions being free and the junctions being allowed to operate at full capacity (and not gated). As such, the performance of the junctions on the County network is intrinsically linked with the performance of the A45 and associated slip roads and the effects of the gating strategy so an approach that seeks to separate the two is simply inadequate. Neither the Council nor Glanville has misunderstood the context of the modelling. It is the Appellant that has failed to appreciate the link between the mitigation measures on the County network and those that form part of the NGMS, assuming incorrectly that the NGMS will resolve all the issues with the trunk road and allow the A45 junctions to operate at full capacity, and thus has failed to properly assess the combined effect.

25. In paragraph 5.7.9 Mr Tricker acknowledges that the LinSig modelling was never submitted in order to fully test the trunk road and County impacts together. I have to question why the combined effects of the mitigation measures on the County network and the trunk road have not been tested by the Appellant. The fact that Highways England has undertaken microsimulation modelling (using VISSIM) to test the effects of the NGMS strategy (as recognised by Mr Tricker in his paragraph 5.7.8) adds weight to my argument that the Appellant should have assessed the effectiveness of their proposed mitigation measures at the A45 junctions using VISSIM so that the combined effect of their measures and those that form part of the NGMS could be properly determined. I make this point in paragraph 4.44 of my Proof of Evidence. In paragraph 5.7.9 Mr Tricker also states that "some assumptions" were included in the LinSig model to ensure that NGMS benefits were taken into account. However, no details of these assumptions have been provided.

Controller Specification

26. In paragraph 5.7.11 Mr Tricker considers controller specifications for the current junctions to be irrelevant as the junction will be upgraded to MOVA control as part of the NGMS. However, I consider it important to prepare base models that accurately recreate traffic conditions as observed and measured on-street, such that they are
suitable for use in analysing current network performance and as a benchmark against which other modelling scenarios can be tested. I make this point in paragraph 4.47 of my Proof of Evidence, and this is supported by guidance provided by Section 5 of the Department for Transport’s Local Transport Note 1/09 Signal Controlled Roundabouts [CD-141] and paragraph B2.1.2 of Transport for London’s Traffic Modelling Guidelines [CD-142].

27. Whilst I acknowledge that cycle times for future models could vary from the current specification and that it is helpful to maintain a consistent cycle time in all scenarios to aid comparison between different scenarios (as suggested by Mr Tricker in his paragraph 5.7.13), I cannot accept Mr Tricker’s assertions in his paragraph 5.7.14 in relation to the improvements MOVA will make to the overall capacity position. As I have said in my response to paragraph 4.4.24, MOVA control will not deliver a capacity benefit over traditional signal control where junction exits are blocked, where the queues being managed extend beyond the key detection points or where it is being used as a gating strategy as is the case at the A45 junctions near Hardingstone.

Saturation Flows

28. Mr Tricker explains the process followed to derive saturation flows in his paragraph 5.7.16. User-specified saturation flows have been used in the 2012 base LinSig models with saturation flows for the Queen Eleanor Interchange being 2100 PCU/Hr for circulatory lanes and either 2100 PCU/Hr or 1800 PCU/Hr for entry lanes. Similar user-specified saturation flows have been used for the 2012 base models for the Brackmills Interchange. Section 7 of Parson Brinckerhoff’s Technical Note 1 [CD-85] confirms that no on-site observations have been undertaken to support the assumed saturation flows, as is normal practice. Instead saturation flows have been increased so that the junctions operate at or just exceeding 90% Degree of Saturation. I consider that this process is flawed as it has not yielded results that compare at all well with site observations. As I explain in paragraphs 4.52 and 4.53 of my Proof of Evidence, there are significant anomalies between modelled and observed queue lengths, with observed queue lengths being significantly longer in many instances. Rather than increasing saturation flows, lower values should have been used which would have resulted in longer queues on the approaches, as observed in reality.

29. Also in paragraph 5.7.16 Mr Tricker claims that observed traffic flows from actual survey counts have been used to “validate the models”. However, validation should be carried out by comparing a model’s output against independently measured data that was not used during the model development and calibration process. Traffic flows are used during the model development and calibration process so should not be used for validation purposes. Observed degrees of saturation or queue lengths should be used to validate the results. I make this point in paragraphs 4.49 and 4.50 of my Proof of Evidence.

Exit Blocking and Queuing

30. In paragraph 5.7.23 Mr Tricker acknowledges that exit blocking does occur at both interchanges, but he considers that this is generally for short periods within the peak hour and related to staff shift patterns. This is not consistent with Glanville’s observations which suggest that exit blocking occurs for a prolonged period at peak times.

31. In paragraph 5.7.26 Mr Tricker acknowledges that the LinSig models do not represent exit blocking but suggests that the analysis must be viewed in the context of the NGMS. He explains that congestion on the A45 and its slip lanes and associated junctions will be managed by way of a ‘gating’ strategy achieved through the use of MOVA control, further signalisation and ramp metering designed to ensure that junctions do not lock up
and queuing is managed into less sensitive locations. I have significant concerns that the implementation of such a gating strategy will worsen conditions on the County road network. Managing queuing into “less sensitive locations” acknowledges that the NGMS measures will not solve the existing congestion problems on the A45 corridor, but rather will simply shift queues from the main carriageway and entry slips roads on exit from the junctions to the junction approaches where the proposed road widening will only serve to provide additional storage and not increase capacity. The Inspector makes a similar point in paragraph 37 of the appeal decision for Whittingham Road, Longridge, Preston.

32. In paragraph 5.7.27 Mr Tricker states that the LinSig models which have been prepared to assess a ‘nil detriment’ mitigation scheme must be viewed in the context of the NGMS and should not be considered in isolation. However, the Appellant’s models do not enable the mitigation schemes to be viewed in the context of the NGMS measures but rather only in isolation. Again, this adds weight to my argument in paragraphs 4.44 and 4.45 of my Proof of Evidence that the Appellant should have assessed the effectiveness of their mitigation measures and those that form part of the NGMS could be properly determined. In particular, the effect on the County road network of the measures that comprise the gating strategy referred to in the paragraph above has not been quantified. I note that the Appellant’s LinSig models have been optimised to maximise Practical Reserve Capacity and minimise queue length and delay. This does not reflect a gating strategy such as that proposed in the NGMS, which will not allow the junctions to operate at full capacity and increase queuing and delay on the local roads as a result.

33. In paragraph 5.7.28 Mr Tricker states that the issue of exit blocking does not in his view need to be considered in the sensitivity model, given the presence of the NGMS. However, none of the NGMS measures with the possible exception of ramp metering will assist in addressing the problems with exit-blocking. Ramp metering will assist in ensuring steadier flow conditions on the A45 and thus may be beneficial in reducing the likelihood of queues forming on the entry slip roads, it will not be brought forward in the first phase of NGMS measures and in any event offers only a partial solution to the problem of exit-blocking, because it does not deal with the problems on Pavilion Drive in the AM peak. I make this point in paragraphs 4.96 to 4.98 of my Proof of Evidence.

34. In any event, whilst exit blocking may be partially resolved by the ramp metering proposed as part of the NGMS, the wider gating strategy referred to by Mr Tricker that will restrict access to the A45 through signal control and the use of MOVA at the associated junctions will increase queuing and delay on the local roads. This will have a significant impact on the future performance of the A45 junctions making it much more difficult to avoid a severe impact, and its effect has not been modelled.

35. In paragraph 5.7.29 Mr Tricker acknowledges that the proximity of Pavilion Drive to the Brackmills Interchange is such that queuing on Pavilion Drive could interact with the operation of the Brackmills junction due to queuing traffic along the A45 southbound on-slip. He suggests that alterations to how traffic enters and exits the business park, in particular on access to the on-site car parks, could significantly reduce this peak time queuing issue, particularly when considered alongside the proposals to signalise the left-in / left-out junction of Pavilion Drive and the A45 on-slip as part of the NGMS. However, the Pavilion Drive junction has not been included as part of the LinSig model for the Brackmills Interchange and therefore the combined effect of the development and the NGMS proposals to signalise the junction has not been tested. Furthermore, no details have been provided by the Appellant of any alterations to how traffic enters and exits the business park’s on-site car parks and there is no evidence as to what these alterations might be, how they would be undertaken or of how effective they would be if they were.
Sensitivity Tests

36. I have reviewed the results of the sensitivity testing provided in Appendix G of Mr Tricker’s Witness Proof and described in his paragraphs 5.7.30 to 5.7.39. Sensitivity testing has been carried out on the base models (2012 for Queen Eleanor Interchange and 2013 for Brackmills Interchange) to test the effect of taking on-board the comments made in Glanville’s note of 13th May 2015 [CD-92]. The results of the sensitivity testing presented in Mr Tricker’s Tables 8 and 9 are worse than the original assessment, with the exception of Brackmills Interchange in the PM peak where there is a slight improvement in delay but no change in Practical Reserve Capacity. However, crucially, the sensitivity testing takes no account of exit blocking and, consequently, the results still do not correlate with observed queue lengths. Furthermore, no sensitivity tests have been provided for the future scenarios, with or without the development. I would expect the effect of the changes made to the models to become increasingly pronounced with higher traffic flows at the junctions such that the results become significantly worse in future scenarios, and this would be exacerbated by the NGMS gating strategy that would restrict access to the A45, again making it harder to avoid a severe effect.

37. In paragraph 5.7.38 Mr Tricker contends that exit blocking and the interaction of the A45 on junction operation have been considered, in so much as: (i) they will be managed through the NGMS; and (ii) exit blocking is not relevant as the Appellant’s mitigation schemes must be seen in the context of the NGMS. I cannot agree with that contention, for the reasons set out above under the sub-heading “Exit Blocking and Queuing”: in short, whilst exit blocking may be partially resolved by the NGMS measures, the associated gating strategy will increase queuing and delay on the local roads. Thus, it cannot simply be assumed that the NGMS will resolve all the issues with the trunk road and allow the A45 junctions to operate at full capacity when some measures will restrict junction capacity.

38. The views of the Borough Council on the modelling work are indeed at odds with that of the County Council (NCC), as noted by Mr Tricker in his paragraph 5.7.39. Whilst I am aware that NCC considers the modelling work to be “fit for purpose”, I do not agree and can only conclude that NCC’s review of the modelling work was not thorough, given the number of deficiencies I have highlighted that I would expect to have been identified during the audit process. I make this point in paragraph 4.60 of my Proof of Evidence.

Traffic Engineering Design Work

39. In paragraph 5.8.3 Mr Tricker accepts that Stage 1 Road Safety Audits are "sometimes" required to support traffic engineering layouts with Transport Assessments, but notes that practices differ between Highway Authorities. First, I consider that such audits are usually rather than sometimes required. Secondly, whilst I accept that practices do differ between Highway Authorities, my experience when working in Northamptonshire is that Stage 1 Road Safety Audits are required and therefore I am surprised that such audits were not required at the planning application stage here.

40. In the remainder of this section Mr Tricker largely repeats verbatim the contents of Parson Brinckerhoff’s Technical Note 2 [CD-86]. As such, I have dealt with these issues comprehensively in paragraphs 4.72 to 4.85 of my Proof of Evidence and do not respond further at this time.

Impact on Brackmills Industrial Estate and Future Growth

41. In paragraph 5.9.1 Mr Tricker fully accepts there is existing heavy traffic congestion on and near the A45 during peak periods and states that he can see that this affects the Brackmills Industrial Estate. However, he considers that the proposed development has no role in managing or removing these existing problems. It remains the case, though,
that the effectiveness of the Appellant’s mitigation measures at the A45 junctions is entirely reliant upon the exits from the junctions being free of congestion, and therefore upon existing congestion problems being resolved, and the junctions being allowed to operate at full capacity, which will not be the case if a gating strategy is employed.

42. In paragraph 5.9.5 Mr Tricker describes the mitigation measures proposed at three junctions near the A45 – Caswell Road / Rhosili Road Roundabout, Queen Eleanor Interchange and Brackmills Interchange. With regard to the Queen Eleanor and Brackmills Interchanges, for the reasons described above and in my Proof of Evidence, the Appellant has not provided any convincing evidence to demonstrate what the real effects of the development and mitigation measures will be. In the absence of this, it is my professional opinion that, given the heavy congestion that exists and what is known about the likely impacts of the development, it is likely that a severe impact will result at the Queen Eleanor and Brackmills Interchanges (and certainly the proposed mitigation measures will not be effective in avoiding such an impact).

43. In paragraphs 5.9.7 to 5.9.11 Mr Tricker introduces the concept of ‘interim benefit’ to represent the surplus capacity benefit which he claims the initial Section 278 works will deliver on the network on first occupation of the development. These alleged capacity benefits are however unproven and there may well be no benefit at peak times, in the interim or otherwise.

SECTION 6 – THIRD PARTY REPRESENTATIONS

44. In paragraphs 6.2.14 to 6.2.18 Mr Tricker responds to comments from Hardingstone Parish Council regarding link capacity, including the link between Newport Pagnell Road and the Queen Eleanor Interchange. I raise the issue of the capacity of this particular link in paragraphs 4.61 to 4.64 of my Proof of Evidence. Mr Tricker has not addressed this issue in his Witness Proof and therefore my concern that the link flow will exceed capacity remains.

45. In paragraph 6.2.18 Mr Tricker suggests that the focus of the NGMS is about managing flow onto the A45 through junction control and potential ramp metering. At paragraph 6.2.19 he considers that the technical evidence base for the NGMS demonstrates that the strategy has been correctly assessed and will provide an appropriate mitigation strategy. For the reasons I have described previously, I am concerned that the NGMS measures will improve the situation on the A45 at the expense of the County road network and junctions that provide access to the A45. By restricting access to the A45 through a gating strategy, the NGMS measures will simply shift queues from the main carriageway and entry slips roads on exit from the local junctions to the junction approaches where the proposed road widening will only serve to provide additional storage and will not increase capacity. Development traffic will merely add to the queue.

46. In paragraph 6.3.10 Mr Tricker challenges the assertion by the Hardingstone Village Action Group (HVAG) that the NGMS measures are aimed at maintaining flow on the A45 at the expense of traffic on the contributing junctions and feeder roads stating that there is no evidence to suggest the NGMS will have a detrimental impact upon the operation of the wider network. However, it is very difficult to envisage that the NGMS would not have a detrimental impact upon the wider network given that the gating strategy will introduce measures to restrict access to the A45 through junction control and potential ramp metering, as stated by Mr Tricker in his paragraph 5.7.26 and again in paragraph 6.2.18.

47. Finally, in paragraph 6.2.21 Mr Tricker states that base models for the two A45 junctions have been based on survey data collected recently with queue lengths calibrated. This is both incorrect and misleading. Firstly, paragraph 4.2 of Parson Brinckerhoff’s Technical Note 1 [CD-85] confirms that base models have not been calibrated or
validated. Secondly, no evidence of observed queue lengths has been provided by the Appellant. Thirdly, a comparison between the results of the LinSig base models and my site observations as set out in paragraphs 4.52 and 4.53 of my Proof of Evidence show significant anomalies between the observed and modelled queue lengths with observed queues significantly longer than modelled queues in many instances.

Summary & Conclusion

48. My proof of evidence and this rebuttal evidence have identified numerous shortcomings with the transport assessment carried out by the Appellant, which I summarise below.

A. To begin with, there are shortcomings in the assessment of base and generated traffic.

1. The defects in the baseline data are dealt with in my main proof at paragraphs 4.24 to 4.30 and in this rebuttal at point 13.

2. The generated traffic does not include traffic attracted to the proposed primary school; see my main proof paragraphs 4.31 and 4.32.

3. The Appellant has not addressed the effect of additional traffic growth to 2029, the end of the Local Plan period; see my main proof at paragraphs 4.35 to 4.38.

4. No allowance has been made for traffic generated by allocated developments beyond the boundary of the 34UF2 Wootton / Hardingstone (Main) area that is likely to travel through the local junctions; see my main proof at paragraph 4.39.

B. In any case, there are fundamental defects in the Appellant’s assessment of the effect of the traffic which it has assumed the development will generate.

1. The development’s impact on the Queen Eleanor and Brackmills Interchanges has been modelled. However:

   i. The modelling does not adequately assess the impact of the development on those interchanges and the local road network leading to and from them. Exit blocking occurs at those junctions. LinSig, the modelling package used, is unsuitable for such situations, as demonstrated by the fact that the base modelling does not accurately recreate observed traffic conditions. Microsimulation modelling should have been used instead. See my main proof at paragraphs 4.40 to 4.60 and rebuttal at point 25.

   ii. It is wrong to suggest that measures in the NGMS, in particular restricting access to the A45 through junction control (i.e. a gating strategy), will resolve any problems with the local road network. This, together with ramp metering, may assist the flow of traffic along the A45 but will exacerbate problems on the local road network, to which the development traffic will add. The proper way to assess the road network with the development in place would have been to consider the effect of the development traffic and the NGMS measures together. It is likely that a severe impact on the road network around these interchanges will result from the proposals. See my main proof at paragraphs 4.86 to 4.98 and rebuttal at points 24 to 38 and elsewhere.

2. Particular aspects of the road network in the vicinity of the Queen Eleanor and Brackmills Interchanges have not been adequately assessed; in both cases the effect of the development is likely to be severe:
i. Newport Pagnell Road between the Queen Eleanor Interchange and Hermitage Way; see my main proof at paragraphs 4.61 to 4.64 and my rebuttal at point 44.

ii. The A45 On-Slip / Pavilion Drive junction and its effect on the performance of the adjacent Brackmills Interchange; see my main proof at paragraphs 4.15 to 4.23 and my rebuttal at points 18 to 21 and 45.

3. The impact on the Barnes Meadow Interchange has not been modelled; see my main proof at paragraphs 4.15 to 4.23 and my rebuttal at point 16.

C. Highway improvement measures proposed by the Appellant have not been shown to have the effect claimed by the Appellant; see my main proof at paragraphs 4.65 to 4.85, and rebuttal at points 39 and 40.

49. To summarise overall, the Appellant has not demonstrated what the effects of the proposal will be, and has not considered together, as it should have done, the combined effects of the development and of the NGMS. It is my professional opinion based on the evidence before me that the effects of the proposal are likely to be severe. I therefore remain firmly of the view that the appeal should be dismissed.