

M3 Junction 9 Improvement Project

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Comments re NH ISH2 Summary

<p>Item 3i first bullet</p>	<p><i>The Winchester Friends of the Earth queried the deviation limits included in the model was surprising, and not statistically significant, the Applicant confirmed that deviation limits were due to observed variations in traffic flows and journey times which were obtained over a period of time, from typical weekdays and in neutral months. The Applicant confirmed it would provide additional clarification as to the observed and modelled flows from the calibration and validation of the base model in Winchester.</i></p>	<p>I am not clear what the NH argument is here. My observation was that there is a standard deviation of observation and there is a standard deviation of model-observation fits. Those standard deviations need to be added in the normal statistical way ($\sqrt{(\sigma_1^2 + \sigma_2^2)}$) in order to get a variance against which DS-DM differences can be assessed as statistically significant. I indicated that there was a high variance (σ_1^2) for the model-average-observation fit, which already put in question the significance of any assertion about benefits on the streets of Winchester. NH have not provided here a measure of the additional variance of observations (σ_2^2). There remains no reason to give credibility to the assertions about benefits to the streets of Winchester and certainly no reason for the positive AQ benefit within the economic case.</p>
	<p><i>The strategic modelling and operational modelling have not explicitly considered post COVID-19 travel patterns. A series of three sensitivity tests were undertaken in addition to the core scenario which are described in Section 4.3.2 of the Combined Modelling and Appraisal Report (7.10, Rev 1). This included a 'low growth' scenario that was used in the preparation of economic appraisal.</i></p>	<p>Pre-Covid analysis and limited post-Covid analysis merely signifies an additional uncertainty variance to the above. The reference is to three sensitivity tests, which all refer to the main corridor movements. This says nothing about the usefulness of the traffic model in making assertions about benefits or otherwise to the streets of Winchester.</p>
<p>Item 3(i) – third bullet</p>	<p><i>The Applicant noted that the scheme is to provide free flowing links and reduce bottlenecks rather than being a road widening scheme, that the benefit is largely just to the gyratory itself and that there is a limited impact of induced demand primarily due to congestion on the M3 itself. The Applicant confirmed it would provide further information regarding induced demand.</i></p> <p><i>Appendix B (Impact of VDM) of the Combined Modelling and Appraisal Report (7.10, Rev 1), provides model results noting the impact of the Variable demand model for both the Do Minimum (without Scheme) and Do Something (with Scheme). The Difference, Grand Total column in Appendix B provides the modelled change in overall travel demand as a result of the variable demand model, noting very little predicted change in overall travel demand.</i></p>	<p>The induced traffic argument of the Applicant is baffling and contrary to all known evidence (including especially SACTRA) on the subject. Essentially it has to be recognised that claims of journey time improvements and congestion relief must map to journey induction. If it does not then there is something essentially wrong, by definition, with the computation.</p> <p>I was wrong to assert that the VDEM model should demonstrate the level of induction, not because the variable demand trip matrix ought to arise out of the elementary considerations of the shift in the demand-supply curve, but because the VDEM model is clearly not measuring this shift in any sensible way. The warning sign is that the Appendix B data seems to show additional trips from the VDEM data even in Do-Minimum, and that these trips are much the same as those in the Do-Something. This is ludicrous. So what is happening here?</p> <p>Having since consulted the literature, I see that the problem arises (though it shouldn't do, if the Applicant or TAG is doing the right modelling) from the future baseline traffic assumed in the model. What the baseline traffic signifies, is that a predicted</p>

		<p>level of traffic occurs such that the network as a whole cannot accommodate it. By then doing a variable demand matrix calculation one is measuring the ability of a super-congested network to support additional trips. In fact, those trips can only occur because the scheme allows them to occur. Induced traffic is hidden within the forecast traffic increases, which largely could only occur with the building of a scheme. The induced traffic merely figures as traffic, re-assigned from a trip matrix unrealisable without the scheme. If VDEM cannot show such manifest induction as induction, then there is something wrong with the modelling.</p> <p>The way that NH used to look at traffic in their post opening project evaluation (POPE) reports was to compare forecast traffic levels with actual outturn traffic levels. Because the forecasts were invariably overestimates, that meant the outturn traffic levels often appeared to be in line with the forecasts, and they could conclude there was little induced traffic.</p> <p>This distortion was analysed in the 2017 CPRE report (<i>The Impact of Road Projects in England</i>; Sloman et al) that compared the outturn traffic with background traffic trends at local, regional and sometimes national level. This showed that the growth in traffic levels associated with the scheme were often much higher than the growth in background levels. NH changed their methodology in response to that report and now the post 2018 POPE reports compare outturn traffic with background traffic.</p> <p>The Lisa Hopkinson/Phil Goodwin submission to the consultation on NNNPS, showed that the POPE reports continue to show evidence of much higher traffic than background traffic growth.</p> <p>[by the way: the baseline assumptions of general traffic growth across the network, lead to some of the erroneous assumptions of benefit in the Winchester street network. All of the future modelled DM flows for Winchester’s streets are above current levels, even though some roads (e.g. Andover Road AM) are already at a standstill at peak hours – the DM-DS difference is thus meaningless]</p>
Item 3(ii)	<p><i>The Applicant confirmed that the crash data used was for a period of 5 years from 2015 to 2019 (inclusive) and that Hampshire County Council were satisfied with this set of data. The Applicant confirmed that it could provide analysis of accident data post 2019 and for pre-2015 following a request from the Examining Authority. The Applicant confirmed that it had considered an assessment area for predicted changes in accidents that is larger than the application area. The scope of the area was defined by analysing predicted changes in traffic flow</i></p>	<p>We make comments on this in our response (a separate D5 submission) to the rebuttal of our D3 submission. NH (or TAG) have never demonstrated that there is an overall accident benefit from their mode of calculation. No attempt has been made to examine how accident rates on the rest of the network (especially in the near vicinity of a junction with a new scheme) are affected by the introduction</p>

	<i>between the with and without Scheme scenarios. Where applicable (depending on sample size), observed accident data was then used to derive local accident rates which could be used instead of default (Department for Transport) accident rates for each link type.</i>	of a new road scheme. Statistical correlations do not support the contention that overall road safety improves with road building.
Item 3(iv) – first bullet	<i>The Applicant confirmed that there had been no modelled information extracted for Twyford and that none was anticipated to be required.</i>	Since the Applicant has not validated its traffic model in the Twyford area, it is extraordinary that a claim is made that modelling is unnecessary there. No response has been made to our observation that the effective reduction of capacity on M3 south, as a result of the cancellation of the SMART motorway (which cancellation does not figure in the modelling for this scheme) would likely lead to congestion, with the traffic this scheme induces. That congestion would likely have the effect of diverting traffic to the Twyford – Colden Common route. This route has had huge increases (especially of HGV) traffic since the Twyford Down scheme.
Item 6(i) – first bullet	<i>The Applicant confirmed it agreed with Winchester City Council's summary of the position regarding the Air Quality Management Areas (AQMA). Rather than being neutral, the Applicant considered that the Scheme had a slight beneficial effect. This is because, of the 17 representative receptors in the City 11 experienced a perceptible benefit and 6 a perceptible disbenefit. These disbenefits are around Easton Lane and Wales Street. On a wider scale the Applicant highlighted the findings of the 'local air quality workbook' presented in the Combined Modelling and Appraisal Report (7.10, Rev 1) which shows an overall air quality benefit associated with the Scheme due to predicted decreases in exposure to NO2 and PM2.5 at residential receptors within the Study Area.</i>	We have already pointed out that the modelling of Winchester streets is subject to so much error that any of the results claiming a DS-DM benefit can have no statistical significance. The 17,11,6 statement is a very curious way of looking at data – what point is being made? That 6 is less than 11? How does that map on to any measure of harm?
Item 6(i) – second bullet	<i>The Applicant confirmed that the assessment of PM2.5 in Section 5.4.7 in Chapter 5 (Air Quality) of the Environmental Statement (ES) (6.1, Rev 2) was in accordance with Design Manual for Roads and Bridges (DMRB) LA 105 Air quality (Highways England, 2019) and assessed against a 20mg/cu.m limit. The 2040 target of PM2.5 introduced earlier this year by DEFRA is not for individual schemes to show compliance against, and instead is for DEFRA to review national compliance from monitoring data. The Applicant confirmed that the 2040 target of 10mg/cu.m for PM2.5 is indicated as achievable against the modelling undertaken by DEFRA, and the monitoring for 2022 in Winchester recorded concentration below 10mg/cu.m of PM2.5.</i>	I have responded to this separately within a D4 submission on AQ. As this comes under the latest ExA questions, we wait to see whether the Applicant is right in assuming it has no duty to meet the more stringent particulate thresholds. What modelling of PM _{2.5} has been undertaken by DEFRA that looks at the consequences of moves to EV fleet with likely higher tyre emissions that total emissions of ICE vehicles? The St George's Street particulate monitor (the only one in Winchester) does not currently record below 10µgm ⁻³ . [It would be a little more reassuring if the Applicant got the right units for this] How does the Applicant deduce that PM _{2.5} pollution will decline in Winchester, when all its traffic forecasts show significant increase of traffic on the local network, while the mix of vehicle type moves towards greater particulate pollution?
Item 6(i) – third bullet	<i>In response to comments made by Winchester Friends of the Earth, the Applicant said that it would confirm in a posthearing summary regarding the significance of minor increases in nitrogen deposition in areas of chalk grassland where there is an existing overload of nitrogen.</i>	The Applicant persists in not recognising that an overloaded habitat should not get additional load, however small.

	<p><i>Applicant's post hearing note: The assessment of potential effects from nitrogen deposition to designated sites, including those containing chalk grassland, is set out in Appendix 8.3 (Assessment of Operational Air Quality Impacts on Biodiversity) of the ES (6.3, Rev 1). The assessment confirms that these sites currently receive high background levels of nitrogen deposition. However, the UK Air Pollution Information System (APIS) confirms that road transport only makes up a small proportion of this. For example, at St Catherines Hill Site of Special Scientific Interest (SSSI), road traffic contributes 9.69% of total nitrogen deposition to the SSSI, compared to 21.5% for livestock and 27.1% imported from Europe¹</i></p> <p><i>The assessment shows that, whilst there will be some small increases in nitrogen deposition from the Scheme, these are small, typically most noticeable at the road edge and are below the level at which a theoretical reduction in species diversity might occur. As such, effects from changes in traffic emissions from the Scheme will be not significant. As effects to the sites assessed are not significant, no specific mitigation is required or provided.</i></p>	<p>The assertion that the levels are below the levels at which species diversity might occur, is not credibly backed up in the Appendix 8.3. How is it appropriate to assume that chalk grassland has the same species response to nitrogen as heathland, when NE are already concerned about invasive species on St Catherine's Hill? When a site is getting on for 3 times overloaded, that means something presumably – why would the biodiversity experts talk about these maximum loading factors if they have no meaning for species diversity?</p>
<p>Item 7(i) – first bullet</p>	<p><i>The Applicant is not aware of any evidence that low noise road surfacing has an impact on PM2.5 emissions resulting from road or tyre wear. If the ExA would like the Applicant to respond further the Applicant would request further information from the Interested Party in order to comment on this matter in more detail, and for them to indicate the source of such information.</i></p>	<p>I have provided a reference to this in my post-hearing submission.</p>

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Comments on 8.16 Applicant Comments on Deadline 3 Submissions

<p>Submission re 7.10 Modelling and Appraisal Report</p>	<p>[D3 Winchester Friends of the Earth (AS-010)] <i>appears to relate, in large parts, to the merits of government policy and the methodology of assessment for transport schemes. It is considered this information is not relevant to the Examination of this Scheme as it focuses on government policy.</i></p> <p>TAG <i>The Scheme appraisal and business case development... has been undertaken in line with TAG which the Applicant considers is appropriate and proportionate. The Applicant disagrees that the methodology is a 'black-box' and notes that extensive TAG documentation and related software manuals are available including detailed description of the methods, data sources, and calculations. In relation to the Scheme traffic forecasting and economic appraisal this includes but is not limited to the following documents published by the DfT:</i></p> <ul style="list-style-type: none">☐ TAG Unit M4 Forecasting and Uncertainty☐ TAG Unit A1.3 User and Provider Impacts and supporting TUBA software TAG Unit A2.4 Appraisal of Productivity Impacts and supporting WITA software☐ TAG Unit A3 Environmental Impact Appraisal☐ TAG Unit A4.1 Social Impact Appraisal and supporting COBALT software <p>Traffic Forecasting: <i>The Examining Authority and the Secretary of State do not need to be concerned with the national methodology and national assumptions around the key drivers of transport demand.'</i></p> <p>Wider Economic Benefits: <i>Report (7.10, Rev 1) outline the economic narrative that supports the quantification of wider economic benefits, which have been calculated in accordance with TAG.</i></p> <p>Construction Costs: <i>'costs accounted for project risk and uncertainty and the effects of construction related price inflation and, therefore, optimism bias was not applicable.'</i></p>	<p>Since I was at pains to stress that citing something as a policy or normal practice was no indication of its truth or rationality, I do not see that reiterating that citation answers the point. ExA, I hope, has to come to a conclusion about the merits of a scheme, in relation to its objectives, not whether the methodology of the Applicant and its use of black-box churning has been religiously adhered to. The merits of the scheme must surely be determined against the facts and with rationality.</p> <p>'Proportionate' is the new cant word of politicians and must rank in the lexicon of Orwellian distortion with 'sustainability'. My whole point about TAG is that, while it may be full of data, it has never addressed or justified the basic economic or transport assumptions that underlie it. None of the documents cited here give any basis in research for any of its basic assumptions. TAG is a gigantic edifice founded on sand. It is interesting that the Applicant can find no other basis in research to support its point.</p> <p>So what is being said here is that ExA is required to accept the national traffic forecasts as <i>ex cathedra</i> infallible statements of fact? Even when all the evidence is that national traffic forecasts have always been porcupine graphs. The fact that we get massive traffic growth on 'improved' corridors (as we have done with M3 Twyford Down) is not an indication of accuracy of forecast of background national or regional ('natural') traffic growth, but the consequence of induction brought about by the road schemes the process brings about.</p> <p>Is the Applicant seriously asserting that 7.10 represents a proper economic narrative to justify its completely unevicenced hand-waving assertions of agglomeration benefits or of non-displacement results?</p> <p>Does Applicant rebuttal merely mean repeating the statements that have been criticised? The Applicant has not answered the question about 'Most likely' assessment of costs, not having a statistical risk error bar, nor that the NH routinely bias optimistically the estimates of most-likely costs. That is what optimistic bias addition is all about. How big is the risk of this</p>
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