

PUBLIC HEALTH ENGLAND

WRITTEN REPRESENTATION

HIGHWAYS ENGLAND'S RESPONSE

ADDITIONAL COMMENTS FROM PUBLIC HEALTH ENGLAND

- 1.1 *Thank you for inviting Public Health England (PHE) to the subject specific hearing on 17th November. PHE's role is to assess proposed nationally significant infrastructure developments to ensure that they do not have a significant detrimental impact on public health. When assessing such schemes PHE is supportive of any environmental improvements benefiting public health, including improvements in local air quality.*
- 1.2 *As stated at the meeting, PHE has previously maintained a position that the proposer had followed UK guidance and good practice in undertaking an Environmental Impact Assessment and assessing the significance of impact on sensitive receptors. On this basis PHE had raised no objection to the scheme as proposed.*
- 1.3 *During the hearing, a number of questions were raised by other parties regarding the traffic modelling process. This included the identification of other schemes that were scoped out or excluded from the assessment of cumulative impacts and the possible need for local junction modelling to fully inform the traffic model. This position is further complicated by discussions that took place with regard to the 'worst case' assumptions regarding future emissions from the vehicle fleet, based on Euro 6 emissions standards. PHE noted that some parties were of the opinion that the figures used in the modelling were not suitably precautionary and that this would under-estimate the impact on nearby populations.*

Highways England Comment

- 1.3.1 The approach to the inclusion or otherwise of development proposals for consideration within the cumulative assessment has been in accordance with the guidance set out in the Department for Transport's ("DfT") Transport Analysis Guidance ("TAG"). Further clarification was submitted to the Examination at Deadline IV. Some local authorities have requested additional information on the impacts arising from the M4 Junctions 3 to 12 Smart Motorway scheme (the "Scheme") on local roads and junctions. These concerns relate principally to the effects on capacity arising from the forecast traffic flows and the impacts of construction activities.
- 1.3.2 A meeting was held with Buckinghamshire County Council ("BCC") on the 25 November 2015 at which Highways England demonstrated to the County Council's satisfaction that there was no material impact during operation of the Scheme on the 17 junctions on BCC's local road network that were of concern to the Council. However, for the year 2020, during the second construction phase for the Scheme, the assessments undertaken by Highways England of the effects during construction of the Scheme had indicated some potential use of the A4, A355 and A412 by traffic diverting from the M4 during construction. BCC does not have traffic data for the majority of junctions on these routes with which to contradict the findings of Highways England's modelling and assessments. However, as a sensitivity test, it was agreed that Highways England would undertake traffic surveys during the first available neutral month for traffic flows,

March 2016, to verify the modelling and assessment undertaken by Highways England.

- 1.3.3 It is expected that the surveys will demonstrate that there is no requirement for further appraisal. However, should that not be the case and the surveys reveal the need for further modelling, then a verification appraisal will be undertaken. This will be secured by paragraph 7.4.5 of the updated Construction Traffic Management Plan ("CTMP"), which is provided with the Deadline V submission. Were that appraisal to predict capacity problems at a particular location, traffic management measures on the M4 will be reviewed to mitigate these issues. This will be carried out in conjunction with a review of temporary signage and traffic management measures on the local road network to be agreed through consultation with the relevant local authorities and emergency services. This will be secured by paragraph 7.4.5 of the CTMP.
- 1.3.4 Wokingham Borough Council has requested representation of 6 local highway schemes within the Scheme's traffic model. Details of each of the schemes has been provided by the Borough Council. Further information has been requested from the Council from their local traffic model to enable verification assessments to be carried in a compatible manner. This information was received from the Council on the 6 January 2016 and the results of the assessment will be completed by Deadline VII.
- 1.3.5 Slough Borough Council and the London Borough of Hillingdon have requested details of the impacts arising from the Scheme on their respective local highway networks. Details have been provided to each of these Councils for their consideration. A meeting was held with London Borough of Hillingdon on the 21 December 2015 at which the additional information requested was presented by Highways England. An update to the Council's position will be provided via a revised Statement of Common Ground, latest version of which was submitted to the London Borough of Hillingdon for its review on 4 January 2016.
- 1.3.6 Highways England has responded to concerns raised by the Campaign for Better Transport and Reading Friends of the Earth over the range of traffic forecasts considered. Highways England has confirmed that it has developed the forecasts in accordance with Department of Transport guidance and accordingly no changes are required to the forecast numbers.
- 1.3.7 The only authorities to independently assess the traffic modelling, the Greater London Authority ("GLA") and Transport for London ("TfL"), have confirmed that they are satisfied that the impact on traffic and journey times (on both surrounding local roads as well as destinations in central London) would be minimal and acceptable.
- 1.3.8 With regard to Euro 6/VI emission standards, further information was submitted to the Examination at Deadline IV. This information on Highways England's approach used in the Scheme assessment sets out that a conservative approach to future air quality predictions has been used by Highways England (specifically pursuant to Interim Advice Note 170/12v3).
- 1.4 *During the meeting PHE was asked to provide additional information relating to the health impact of small increases in exposure to Nitrogen Dioxide (NO₂), and to advise if the Health Impact Assessment that was submitted at deadline III would need revision in light of the uncertainties identified in the traffic and air quality modelling.*

1.5 *In responding to these questions PHE is still satisfied that the proposer has followed current UK guidance and good practice. However, in light of the issues raised at the hearing with regard to the traffic and air quality modelling PHE will address the following questions:-*

- 1) *Can a small increase in exposure to nitrogen dioxide (NO₂) have a measurable or quantifiable impact on human health? This question is in the context of a person or persons who currently either reside in a location which exceeds the Air Quality Standards (AQS) for NO₂ or is marginally below the threshold of exceedance.*

The quantification of health impacts of NO₂ is currently being considered by the Committee on the Medical Effects of Air Pollutants (COMEAP).

The current advice suggests a likely impact on mortality associated with increases in long-term average concentrations of NO₂, with the increase in risk depending upon the increase in concentration. However, the confidence in this increased risk would depend upon whether the proposed changes in traffic management would result in higher concentrations of NO₂ alone, or would also result in increases in exposure to other co-varying traffic-related pollutants (e.g. ultrafine particles, black carbon, VOCs etc.) more generally. If increases in pollutant concentrations are likely to be relatively short-lived (e.g. a few years) then the increases in mortality risk would be less than if they were permanent (e.g. resulting in higher exposures for many years or a lifetime).

Nonetheless, the Air Quality Standards were designed to be protective of health and this, in conjunction with the recent advice from COMEAP, leads PHE to the conclusion that any increase in exposure to NO₂ in locations where the standards are currently exceeded, or where a predicted increase in exposure would result in a new exceedance, should be viewed as undesirable and avoided if practicable.

Whilst the exact health impact of a small increase may not be quantifiable PHE would recommend that the Planning Inspector gives consideration to the need to ensure that the local overall air quality is not worsened. PHE would encourage the planning Inspector to consider, if practicable and cost effective, opportunities to secure improvements in local air quality related to this development, particularly in areas currently exceeding the air quality standards and designated as Air Quality Management Areas.

PHE notes the request made at the hearing, by one of the other interested parties, that the proposer should be required to provide fixed air quality monitoring sites, operating for a number of years after the scheme comes into operation. PHE would support the principle of this long term monitoring as it would allow the assessment of actual air quality impacts arising from the scheme on sensitive receptors, allow the validation of the modelling methodology and provide valuable baseline data that could be used in the assessment of potential air quality impacts from similar road schemes in the future.

Highways England Comment

- 1.5.1 Highways England notes that Public Health England is still satisfied that the air quality assessment has followed current UK guidance and good practice.
- 1.5.2 The Scheme is not predicted to result in a significant air quality effect nor affect the UK's reported ability to comply with the Air Quality Directive. However,

Highways England has set out in its Delivery Plan and Strategic Business Plan a commitment to support improvements to the environment, including air quality, where it can.

- 1.5.3 Highways England has developed a National Air Quality Monitoring Strategy, and in the future is rolling out a National Air Quality Monitoring Network ("NAQMN"). It is expected that the M4 will be included in the monitoring network.
- 1.5.4 For any monitoring installed as part of the NAQMN in this area, Highways England will engage with the local authorities.

- 2) *A Health Impact Assessment has been submitted by the applicant at Deadline III. Table 22 states that a minor negative impact for air quality is expected in the operational phase and that no mitigation is recommended. In the light of uncertainties in traffic forecasting and air quality does the applicant consider that this should be reviewed? Can the LPAs and statutory authorities, in particular Public Health England (PHE), give their considered opinions? As stated at the hearing, PHE initially reviewed the Health Impact Assessment in the context that the traffic and air quality modelling was considered to be satisfactory and sufficient, based on UK guidance and good practice.*

During the hearing, a number of parties voiced concerns regarding the scope and extent of the traffic modelling used in the assessment. PHE was not directly involved in this debate but would advise that should the traffic model be amended or altered there is likely to be a subsequent impact on the air quality modelling process, and thus, on the original conclusions drawn about the air quality impacts..

PHE can confirm that should the Planning Inspector agree that supplementary traffic modelling is required, and/or that the vehicle emissions assumptions should be reviewed, there would then be a need to update the air quality modelling and subsequently review the Health Impact Assessment in the light of the new model predictions.

Highways England Comment

- 1.5.5 The concerns raised during the hearings, regarding the accuracy of the traffic forecasts, were not substantiated by the provision of any conflicting data. Moreover, the independent modelling assessment undertaken by TfL supports Highways England's predicted traffic flow impacts.
- 1.5.6 Highways England does not agree that supplementary traffic modelling is required, and does not agree that vehicle emissions assumptions should be reviewed. The modelling has followed current UK guidance and good practice and the air quality assessment, as set out in Chapter 6 of the ES (Application Document Reference 6-1, APP-146), concludes that the Scheme will not cause a significant impact on air quality during the operational phase. Accordingly, no mitigation is required.