Dear Simon

Thank you for your e-mails of 7 August. I refer to your questions, and also to the report I enclosed with my letter of 7 August, "M4 Bus Lane Revocation Order - Environmental Assessment Report.

Q1 and 2. Of 784 receptors modelled within 200m of the M4, 450 receptors exceeded the annual mean NO2 limit value of 40 µg/m3, both with and without the Bus Lane (report reference 4.7.2). For locations, see Appendix E of the report. The M4 Bus Lane scheme is located in Defra's Greater London Zone and Defra have currently reported to the European Commission that this zone is likely to exceed the EU Limit Values beyond 2030.

Q3. At the meeting last September, we agreed to look at mitigation measures, which we have done. You will find the results in Appendix F of the report.

Q4. We do take into account the current monitoring trends and previous published trends issued by Defra through our published advice on future NOx and NO2 projections in Interim Advice Note 170/12(a) (recently updated in 2013). This provides additional guidance for use with the Design Manual for Roads and Bridges (v11, s3, p1 - HA207/07(b)). The advice set out in IAN 170/12 is informed by Defra's note on future NO2 projections published in April 2012 (c).

For example a scheme has a base year of 2011 and an anticipated opening year of 2015. The air quality modelling work is undertaken using Defra's vehicle emissions for 2011 and 2015 respectively from the Emission Factor Toolkit (EFT) (currently v5.2c).

The base year model results are verified (the comparison of modelled and monitoring results) and adjusted as required. These same verification factors are then applied to the modelled concentrations in the opening year for with and without the proposed scheme.

The advice set out in IAN 170/12 is then applied to the verified modelled concentrations to take account of future NO2 projections. This process is informed by recent trends in monitoring data and which in part represent possible differences between real world vehicle emissions and those calculated by Defra's EFT.

In the case of the M4 Bus Lane the opening year (as defined in the experimental order) for the scheme was 2011; which is the equivalent to the base year. Air quality monitoring for nitrogen dioxide was undertaken in 2011 to inform the air quality assessment and to verifying the modelled NO2 concentrations. As the assessment year and monitoring year coincide then any differences in the modelled and monitoring concentrations, which could encompass a difference between real world vehicle emissions and emissions factors from the EFT, would be captured through the verification process.

As the assessment of the M4 Bus Lane did not need to consider a future opening year comparative to a base year, then advice set out in IAN 170/12 did not need to be considered and there was no need to adjust future modelled NO2 concentrations.

We have been unable to find the reference you raised to emissions being 20% higher than Defra's estimates [in the EFT v5.2]. But even if this were the case, then in this instance the impact would be to change the model verification factor. The reason for this would be that there would be 20% higher emissions than previously, which in turn would lead to higher modelled concentrations. As the monitoring data does not change, a comparison between the higher modelled concentrations and the monitoring data would result in a reduction in the verification factor. The same emission basis i.e. 20% higher emissions would have to be used for both assessments to allow for the verification factors to be applied. Consequently the absolute and change in mode concentrations would remain the same as reported to date.

You may find these links of use:

(a) http://www.dft.gov.uk/ha/standards/ians/pdfs/ian170r1.pdf
(b) http://www.dft.gov.uk/ha/standards/dmrb/vol11/section3/ha20707.pdf
(c) http://laqm.defra.gov.uk/review-and-assessment/tools/modelling.html#ProjectingNO2Note

Q5. Once a decision is made, a letter will be sent to you and to Hounslow. The decision will then be made public. The current Traffic Regulation Order expires on 10 October and an Order will need to be in place subsequently.

Q6. The Environmental Assessment Report has been produced following the guidance given in DMRB Volume 11, Section 2, Part 6, "Reporting of EIAs" and supplemented by Interim Advice Note (IAN) 133/10 Environmental Assessment and the Planning Act 2008 & IAN 125/09 Supplementary guidance for users of DMRB 11 "Environment Assessment".

The European Community (EC) Directive 2011/92/EU requires that an Environmental Impact Assessment (EIA) should be undertaken by the promoters of certain types of development to identify and assess the environmental consequences of projects before development consent is given. The requirements for qualification for a statutory EIA, and the process by which an EIA should be undertaken are detailed within Directive 2011/92/EU, and revises Directives 85/337/EEC, and its amendments 97/11/EC, 2003/35/EC and 2009/31/EC.

The proposed M4 Bus Lane Scheme has been classified as a relevant Annex II Project, under the directives. Developments listed under Annex II may need to be subject to EIA depending on whether the proposal qualifies as a 'relevant project' and could give rise to significant effects. Criteria and thresholds on what constitutes a relevant project are contained in Annex II of the Directive. Consideration must also be given to the potential to generate significant environmental effects as described within Annex III of the EIA Directive.

This Scheme, as an Annex II relevant project, requires an appropriate level of environmental review. The level of environmental review undertaken determined this scheme qualified as a "relevant project" but the impacts of the scheme as proposed would not give rise to significant effects.

I trust this is useful.