

# **Application by Highways England for an Order Granting Development Consent for A57 Link Roads**

## **The Examining Authority's third written questions and requests for information**

### **High Peak Borough Council's Response**

#### **Annex**

##### **7 Air Quality:**

**a) Please could High Peak Borough Council provide an update on the matters that it has noted [REP8-025] as not being resolved, including with respect to:**

- **speed band emission rates used in the air quality assessment**

Discussions between NH and High Peak have explained the use of speed bands, notably the emissions allocated to predicted speeds and how this compares with the Defra EFT v10.1. National Highways speed band emission factors typically represent the Defra EFT v10.1 emissions for the mid point of the speed band range. This means that National Highways speed band emission factors are likely to predict lower than Defra EFT v10.1 for speeds at lower range of a speed band, but overpredict Defra EFT v10.1, for speeds for upper range of a speed band e.g the "lightly congested" speed band is 20 – 40 kph, so roughly speaking below 30kph it will underpredict and above 30 kph it will overpredict, with the difference increasing as you move away from the midpoint.

*National Highways state that considering absolute modelled speeds in the study area the use of National Highways speed band emission factors on balance would provide an overall outcome consistent with Defra EFT 10.1 had these emission factors been used.*

It is difficult to validate this statement in the absence of sensitivity analysis but generally speaking, the speed band data used on roads provided in the study area provided by NH to High Peak did, anecdotally, appear did appear to be fairly evenly distributed across the speeds band which initially would appear to concur with NH statement.

The above noted, whilst the allocation of the speed bands is understood, the actual speed ascribed to the roads in the study area, is a function of the traffic model and how this interacts with the movement of the traffic, and / or how accurate this is, particularly as the traffic is considered to be lightly congested and that that only minimal changes from DM allocated speed band are expected as a result of the scheme (D/S) – see below

- routing of traffic in Glossop from the A57 onto Shaw Lane and Dinting Road

As noted HPBC still do not fully appreciate the criteria /logic in the Transport model that causes traffic to divert from the more direct A57 route through Glossop and use Dinting Road / Shaw lane. One would expect perhaps the traffic to divert from routes (speed bands) that are classed as "heavily congested" to routes perceived to be less congested "e.g lightly congested or free flowing" but this is not obvious in the initial speed band data provided by HE.

It is not yet agreed that for the forecast model to change significantly this would require these roads to become less desirable, as it is not yet clear to us that they the likely preferred route, for the reasons raised previously on numerous occasions. The crucial question is the forecast model representing likely traffic movements (I would also note traffic numbers here). To that end and as noted above, it would be desirable to not include a sensitivity tests on traffic flow should Shaw lane / Dinting Lane not be used to the extent predicted.

NH acknowledged at our meeting of 26<sup>th</sup> April that the model had not been calibrated to take account of on-street parking on Shaw Lane nor had the assumptions of traffic movement along (e.g limited constraints) along Shaw lane/ dinting road been validated directly.

There therefore remains concern that the model may be “overly optimistic” in its allocation of the percentage of the increased traffic as a result of the scheme onto Shaw Lane /Dinting Lane. The knock on effect of this assumption may mean that the changes in numbers as/ or speed bands, along the A57, may trigger the scoping criteria DMRB LA 105 for the assessment of the two AQMA’s

- **the inclusion of Air Quality Management Areas in the air quality study area**

HPBC’s key concern remains that impact of the scheme on the designated AQMAs, should have been included on a precautionary basis;

HPBC agreed that the appropriate scoping criteria for National Highway’ road schemes had been used (following DMRB LA 105) in the Air Quality assessment

However, as noted, there remains concerns over the accuracy of the traffic data that used to drive the scoping criteria, Notably, the changes in traffic numbers and/ or changes in speed bands.

- **human health receptors on the A57 in Brookfield**

Identification of the receptors (figure 5.4) used in the compliance risk assessment (using LAQM “conservative” forecast”) indicated that “large” change at some of the receptors along Brookfield.

However, it also highlighted that some of these were human health receptors that had not been included as receptors in the (less conservative) primary human health AQ assessment (DMRB LA 105). Therefore, HPBC have requested that these receptors are also assessed in accordance with the DMRB LA 105 . Following further discussion and clarification (virtual meeting held 8th April 2022) it was agreed that a sensitivity test will be undertaken to identify the air quality impact at relevant qualifying feature receptors located adjacent to the A57 Brookfield under the DMRB LA 105 human health assessment methodology (to be submitted by National Highways at deadline 11 – ref. TR010034/EXAM/9.86)

Results from the updated air quality assessment updated DMRB LA 105 indicated a “Large increase” in NO<sub>2</sub> DS compared to DM in 2025, at locations along Wooley Bridge with 1 location exceeding the AQO (40ug/m<sup>3</sup>) as a result of the scheme.

**b) What are the likely implications for the adequacy of the Applicant’s assessment and for their identification of significant effects?**

The accuracy of the model is extremely hard to predict and is only as accurate as the data provided / chosen. It is noted that the modellers did the best with the tools (and constraints) available to them, which includes using the data provided by the traffic model. Nevertheless, it is considered that the model does suffer from the fact that the adopted methodology (DMRB) is designed for the large schemes, and the validation of the model was not ideal (as discussed with regard to the historic data used and gradient effects) There still remain concerns over the traffic data / and or movement of traffic around Glossop area, which could lead to errors in both the screening criteria and / or changes in speed bands.

If the model(s) have underpredicted the impacts of the traffic flow (both directly & indirectly on AQ) , notably in the assumptions used to screen out the assessment of the AQMA's, then this could lead to continued exceedances in these areas/ further difficult in achieving compliance in these areas and or the declaration of new AQ management area should the possible exceedance in Brookfield be verified.

**c) Should further mitigation be provided?**

Yes, it would be anticipated that NH would work with HP in identifying and addressing any deterioration in AQ as a result of the scheme. A requirement could be applied to ensure appropriate monitoring of air quality within the AQMAs and Brookfield, post-opening of the scheme, is undertaken by the National Highways to validate the assumptions to screen out these areas, on the basis they will not significantly impact on air quality in these areas. Should this assumption prove incorrect, National Highways should ensure that mitigation is agreed with HPBC and delivered by National Highways if necessary.