

MEMO

TO	Richard Seaman	FROM	Stuart Bennett
DATE	07 June 2021	CONFIDENTIALITY	Confidential
SUBJECT	Calderdale Local Plan AQA - proofing commentary		

Richard,

On the 3rd June 2021, the Calderdale Council provided communication on the issue of changes to document CC132 during the 14-day consultation period which began on the 1st April 2021. The communication is as follows:

“The changes to CC132 were a result of the document moving from its draft to final version. The draft and final versions of CC132 followed one another in close succession and the Council was keen to put it into the public realm as soon as possible and then to update them when the final version became available. We recognise though that the version history should have been made clear on the Examination webpage because this has caused unnecessary confusion, and we therefore apologise for this. Although the Council does not consider that the changes between the draft and final versions of CC132 were substantive, in the interests of transparency, the Council will run an additional period for representations to be submitted on document CC132 and accompanying CC132a. Considering air quality is not part of the agenda at the Stage 3 Hearings the Council will hold the additional 14 day consultation once these hearings have closed. This will allow participants to prepare and focus on the forthcoming matters. The Council will also publish a note produced by consultants WSP which will set out the changes between the two documents and the reason for these changes.”

This memo section provides a summary of differences between the submitted reports and comment as to the reasons for the updates and implications for the air quality impact assessment.

The key updates made are summarised in **Table 1** followed by a summary and concluding statement.

Table 1: Summary of differences between submitted report drafts

Paragraph reference	First version	Latest version	Comment
3.3.4	Whilst 2030 projections maintain the westward pattern of increasing NO _x /NO ₂ and higher localised concentrations, a substantial reduction of background NO _x /NO ₂ concentrations is predicted over the next 10 years, with a maximum reduction of approximately 12-15µg/m ³ by 2030	Whilst 2030 projections maintain the eastward pattern of increasing NO _x /NO ₂ and higher localised concentrations, a substantial reduction of background NO _x /NO ₂ concentrations is predicted over the next 10 years, with a maximum reduction in NO ₂ of approximately 8µg/m ³ by 2030	Typographical errors corrected during proofing review.
3.3.4	PM ₁₀ – A clear reduction in background PM10	PM ₁₀ – A clear reduction in background PM10 concentrations is observed	The text was amended slightly to

Paragraph reference	First version	Latest version	Comment
	<p>concentrations is observed between 2019 and 2030 projections. This is particularly evident in localised zones such as Halifax, Brighouse, and Elland with a maximum reduction of approximately 2 µg/m³ by 2030.</p>	<p>between 2019 and 2030 projections. This is particularly evident in localised zones such as Halifax, Brighouse, and Elland.</p>	<p>reflect the alignment of the background maps with the assessment year during proofing.</p>
3.5.2	<p>The traffic reliability area covers those areas that are likely to be sensitive to changes in air quality is therefore appropriate for the air quality assessment.</p>	<p>The traffic network modelled covers those areas potentially sensitive to changes in ambient air quality, where the traffic predictions are considered to be most reliable and is therefore appropriate for the air quality assessment.</p>	<p>The text was expanded to provide greater depth of explanation for the non-expert reader.</p>
3.6.4	<p>The impact on air quality at all receptors within 4m of the ARN was therefore assessed. It should be noted therefore that the maximum predictions and impacts are predicted at the roadside, which is not necessarily where long-term exposure will occur. The focus of the impact assessment is therefore on roadside compliance.</p>	<p>The impact on air quality at all receptors within 4m of the ARN was therefore assessed as representative of receptors within the 200m envelope used to define the ARN in DMRB LA105. It should be noted therefore that the maximum predictions and impacts are predicted at the roadside, which is not necessarily where long-term exposure will occur. Where roadside compliance at 4m is achieved, it can be assumed that compliance is achieved elsewhere in the 200m envelope as pollutant concentrations fall with distance from the roadside.</p>	<p>The text was expanded to provide greater depth of explanation for the non-expert reader.</p> <p>Predicting receptors at 4m from the roadside provided a practical model with sensible run times which is consistent with compliance reporting under the ambient air quality EU Directive. To predict region wide receptors would have required tens of thousands of receptor predictions which would not have been practical in the time available.</p>
3.7.13		<p>Some areas of Kirklees and Bradford are not represented in enough detail in the transport model to apply specific development growth. Furthermore, Figure 3.2 of the Calderdale Strategic Transport Model Local Validation Report shows the focus of transport model calibration count sites is the urban areas of eastern Calderdale namely Halifax, Elland, and Brighouse. It can therefore be expected that transport model accuracy is lower on feeder roads leading into Calderdale at</p>	<p>The text was added to provide explanation as to the validity and derivation of the traffic data in consultation with the Transport Consultant.</p>

Paragraph reference	First version	Latest version	Comment
		<p>the margins of the study area which are outside of the borough. Of particular note are the locations along Tong Street to the south-east of Bradford and along a section of the M62 approximately 1,345m north-east of Chainbar Roundabout. Traffic flows are predicted to increase on Tong Street and the M62 by 23.1% and 37.5% respectively, from the Do Minimum to the Do Something With Local Plan scenarios. This includes increases in HDV traffic flows along Tong Street and the M62 of 72.4% and 69.2% respectively. As such increases yield non-representative results, the reporting of predicted concentration maxima in Section 4.2 Regional Results and the magnitude of increase therefore includes predictions made inside Calderdale only.</p>	
4.2.3	<p>For key pollutant NO₂, 13 exceedances are predicted in the study area but these are outside Calderdale south-east of Bradford and as shown in Figure 6-11. There are no exceedances in Calderdale. The maximum improvement in air quality (1.8µg/m³) will be lower than the maximum deterioration (24.7µg/m³). The maximum deterioration in NO₂ of 24.7µg/m³ is located outside Calderdale south-east of Bradford.</p>	<p>For key pollutant NO₂, 12 exceedances are predicted in the study area but these are outside Calderdale south-east of Bradford on Tong Street and on the M62 north-east of Cleckheaton as shown in Figure 6-11 and Figure 6-12.</p> <p>The exceedances north-east of Cleckheaton exist in the Do Something Without Local Plan scenario and There are no exceedances in Calderdale. The maximum improvement in air quality (1.8µg/m³) will be lower than the maximum deterioration (12.6µg/m³).</p> <p>The maximum deterioration in NO₂ of 12.6µg/m³ is located on the outskirts of Calderdale, at the eastern boundary, along Cooper Bridge Road.</p>	<p>This was reduced from 13 to 12 receptors as a result of a simple proofing error.</p> <p>Such is the design of the CSTM, predictions made in Bradford are not reliable or relevant to the Calderdale Local Plan so these were removed.</p>
Footnote to Table 4-1 and 4-5		<p>*The reported maximum improvement and worsening outside Calderdale are excluded due to the lack of reliability in the traffic data (see Limitations and Assumptions).</p>	<p>See response to paragraph 4.2.3.</p>
4.2.12	<p>For key pollutant NO₂, 13 exceedances are predicted in the study area but these remain outside Calderdale in south-west Bradford as shown in Figure 6-11. There are no exceedances</p>	<p>For key pollutant NO₂, Figure 6-13 shows 12 exceedances are predicted in the study area but these remain outside Calderdale in south-west Bradford</p>	<p>See response to paragraph 4.2.3.</p>

Paragraph reference	First version	Latest version	Comment
	<p>in Calderdale with the addition of traffic from the Local Plan.</p> <p>The maximum improvement in air quality (1.7µg/m³) will be lower than the maximum deterioration (25.9µg/m³). The maximum deterioration in NO₂ of 25.9µg/m³ is located outside Calderdale in south-west Bradford.</p>	<p>There are no new exceedances inside or outside Calderdale with the addition of traffic from the Local Plan. The maximum improvement in air quality (1.7µg/m³) will be lower than the maximum deterioration (13.2µg/m³).</p> <p>The maximum deterioration in NO₂ of 13.2µg/m³ is located on the outskirts of Calderdale, near the eastern boundary, along Cooper Bridge Road.</p>	
Table 4-6	13 substantial NO ₂ impacts	12 substantial NO ₂ impacts	See response to paragraph 4.2.3.
Table 4-7	>4 increase 207 properties	>4 increase 206 properties	See response to paragraph 4.2.3.
4.2.18	<p>Table 4-8 shows that there are 13 receptors where the NO₂ concentration worsens in locations already exceeding the objective. With the Local Plan no new receptors are predicted to have a worse PM₁₀ concentration than the one already in exceedance. There is no difference to the number of receptors exceeding the objective where NO₂ and PM₁₀ is predicted to worsen as a result of the inclusion of Local Plan traffic.</p>	<p>Table 4-8 shows that there are 12 receptors where the NO₂ concentration worsens in locations already exceeding the objective. In comparison to Table 4-4, this shows that the Local Plan produces no new significant NO₂ effects. With the Local Plan no new receptors are predicted to have a worse PM₁₀ concentration than the one already in exceedance. There is no difference to the number of receptors exceeding the objective where NO₂ and PM₁₀ is predicted to worsen as a result of the inclusion of Local Plan traffic.</p>	<p>See response to paragraph 4.2.3.</p> <p>Whilst both the Draft and Final versions show that the Local Plan produces no new significant NO₂ effects, this statement was added into the final version for further clarity upon review</p>
4.2.20		<p>The Local Plan will increase the magnitude of deteriorations due to increases in traffic as shown by the positive difference in NO₂ concentration between the with and without Local Plan results shown in Figure 6-16. However, the Local Plan it is not predicted to cause any new objective exceedances anywhere in the study area that do not already exist as a result of traffic from the Kirklees and Bradford local plans.</p>	<p>The text was expanded to provide greater depth of explanation for the non-expert reader.</p>
4.2.21	<p>For key pollutant NO₂, 13 exceedances are predicted in the study area outside Calderdale in southwest Bradford as shown in Figure 6-11. There are no exceedances</p>	<p>For key pollutant NO₂, 12 exceedances are predicted in the study area but these are outside Calderdale in south-east Bradford and north-east of Cleckheaton as shown in Figure 6-11.</p>	<p>See response to paragraph 4.2.3.</p>

Paragraph reference	First version	Latest version	Comment
	<p>in Calderdale with the addition of traffic from the Local Plan.</p> <p>As these predictions are made alongside road links at the margins of the Calderdale Strategic Transport Model, confidence in the accuracy of the traffic flows is lower in this location than inside Calderdale for the reasons described in the Limitations and Assumptions section.</p>	<p>There are no new exceedances in Calderdale with the addition of traffic from the Local Plan. As the predicted exceedances are made alongside road links at the margins of the Calderdale Strategic Transport Model, confidence in the accuracy of the predictions is lower in these locations than inside Calderdale for the reasons described in the Limitations and Assumptions section.</p>	
4.3.4	<p>Table 4-9 shows that in all AQMAs, compliance with the annual mean objective will be achieved without the Local Plan. The highest predictions in 2032 are in the Brighouse AQMA where 35.0µg/m³ is predicted without the Local Plan (Appendix C, Table C-1 and Plate C-25). In consideration of the maximum error in the model of +3.87µg/m³, and the roadside position of this receptor point, exceedances in the Brighouse area at residential receptors are unlikely. The Local Plan is predicted to reduce the concentration in Brighouse as traffic is diverted away from the town as a result of the Clifton and Rastrick Garden Suburb developments.</p>	<p>Table 4-9 shows that in all AQMAs, compliance with the annual mean objective will be achieved without the Local Plan. The highest predictions in 2032 are in the Brighouse AQMA where 35.0µg/m³ is predicted without the Local Plan (Appendix C, Table C-1 and Plate C-25). In consideration of the maximum error in the model of +3.87µg/m³, and the roadside position of this receptor point, exceedances in Brighouse at residential receptors are unlikely. The Local Plan is predicted to reduce the maximum annual mean concentration in Brighouse by 0.8µg/m³, however, this is accompanied by an equal increase (0.8µg/m³) in the average annual mean concentration predicted in wider the area (Table 4-12). These small changes in predicted concentrations are a function of general increases in traffic flow and variations in local traffic redistribution as a result of the Clifton and Rastrick Garden Suburb developments.</p>	Updated following consultation with Transport Consultants
Table 4.11	Data for all Calderdale AQMSs presented	Only the information for Brighouse is presented	All local result tables were updated this way to increase the clarity of the results. Full details on all local AQMA predictions available in Appendix C.
4.3.12	Brighouse and neighbouring Clifton, which are subject to increased traffic flows from the proposed garden suburbs, are	The local NO₂ results for the red and amber constrained areas are summarised in Table 4-12 with cross	During proofing, all local result tables were updated to increase the clarity of

Paragraph reference	First version	Latest version	Comment
	<p>the locations at which the highest NO₂, PM₁₀ and PM_{2.5} predictions are made. Although the Local plan modelling results indicate compliance with all statutory objectives in 2032, a specific planning application to develop these sites for housing would require a detailed impact assessment based on locally verified traffic data completed in accordance with the WYLES Air Quality & Emissions Technical Planning Guidance to ensure that appropriate mitigation to protect human health is secured.</p>	<p>reference to the Plates in Appendix C – Supplementary Local Results.</p> <p>(Table 4-12 – Local Results Summary (NO₂) added.)</p>	<p>the results. Full details on all local AQMA predictions available in Appendix C.</p>
4.3.13		<p>Table 4-12 shows the variability in model predictions on a local level.</p> <p>Maximum NO₂ concentrations above 30.0µg/m³ are predicted in the following four locations:</p> <ul style="list-style-type: none"> ▪ Halifax (36.4µg/m³) along Ovenden Road joining the Orange Street Roundabout ▪ Calderdale AQMA No.6 Brighouse (34.2µg/m³) on Huddersfield Road at the A641/A643/A644 junction ▪ Ainley Top (32.6µg/m³) along Ainley Top Roundabout ▪ Clifton (31.1µg/m³) along the M62/A644 Roundabout. 	<p>The addition of explanatory text to improve the clarity of the results.</p>
4.3.14		<p>The maximum predicted NO₂ concentration of 36.4µg/m³ occurs in Halifax within 200m of the constrained junction at Orange Street Roundabout (A58/A629). Whilst the maximum concentration falls within 10% of the NO₂ annual mean objective, it is not an exceedance and represents the worst-case concentration out of 424 roadside receptors within 200m of the junction. It is not a location at which long term human exposure will occur.</p> <p>The mean average annual concentration across these 424 receptors is 19.0µg/m³, which is under half the 40.0µg/m³ objective.</p>	<p>The addition of explanatory text to improve the clarity of the results.</p>

Paragraph reference	First version	Latest version	Comment
4.3.15		<p>The Local Plan is predicted to cause deteriorations in NO₂ concentrations above 4.0µg/m³ broadly corresponding with those areas where the above maxima are predicted</p> <ul style="list-style-type: none"> ▪ Halifax (Plate C-29) along Ovenden Road at the Orange Street Roundabout (~ 310m west of AQMA No. 8 New Bank) representing a maximum increase of 10.4µg/m³ in Halifax. ▪ AQMA No.6 Brighouse (Plate C-25) on Huddersfield Road at the A641/A643/A644 junction, representing a maximum increase of 8.4µg/m³ in Brighouse. ▪ Ainley Top (Plate C-15) along Ainley Top Roundabout, representing a maximum increase of 10.2µg/m³ in Ainley Top, and the surrounding areas of Elland and Westvale. ▪ Clifton (Plate C-20) along the M62/A644 Roundabout (~ 1,200m east-southeast of Brighouse AQMA), representing a maximum increase of 7.4µg/m³ for Clifton. <p>Even with these increases, the maximum and annual mean predicted concentrations are under the objective for the four identified locations with the contribution to local traffic from the Local Plan including that from the proposed Clifton and Rastrick Garden Suburb developments. There is no long-term human exposure where these roadside maxima are predicted to occur and by inference no exceedances will occur anywhere within a 200m envelope.</p>	The addition of explanatory text to improve the clarity of the results.
4.4.2	A total of 318 model links mapped on to 36 Defra PCM Compliance IDs. Of these, all 318 are predicted to experience Do-Something concentrations in excess of the PCM equivalent predicted Do-Something concentration. Whilst all of the Do-Something concentrations are below the limit value for NO ₂ of 40 µg/m ³ , the fact that the Do-	A total of 318 model links mapped on to 36 of the Defra PCM Compliance links. All 318 links are predicted to experience Do-Something concentrations in excess of the PCM equivalent predicted Do-Something concentration. Whilst all of the Do-Something concentrations are below the limit value for NO ₂ of 40 µg/m ³ , the fact that the predicted Do-Something concentrations are above the	Minor text added to improve readability.

Paragraph reference	First version	Latest version	Comment
	<p>Something concentrations are above the PCM equivalent Do-Something concentration suggests that achieving compliance could be slowed by the traffic contribution from the Local Plan.</p>	<p>concentrations at the Defra PCM Compliance links where they overlap, suggests that achieving compliance with the EU limit value could be slowed by the traffic contribution from the Local Plan.</p>	

As the air quality impact assessment is highly technical in nature, one requirement of the internal proof-reading process is to ensure the reported material can be understood by an informed but non-expert reader. **Table 1** shows that the majority of text changes were made to increase the clarity and readability of the results to make the text more accessible. However, one technical change was made (paragraph 4.2.3) after upload of the first draft due to a proofing error.

It should be noted that traffic flows for roads leading into Calderdale are outside the reliability area of the CSTM. Traffic flows for major roads leading into Calderdale are intended to be ‘feeder’ roads bringing traffic into the borough and are not validated by traffic counts. For this reason, the flows lack accuracy and human exposures outside Calderdale are outside the brief for assessing impacts of the Local plan.

We therefore conclude that the changes between the submitted drafts are non-substantive and do not change the conclusions of the impact assessment work.

Stuart Bennett
Associate Director