

Proof of Evidence regarding aspects of the proposed development

by Stephen Houston, BSc Hons Civil Engineering
(Chair PAULA residents group)

In relation to the Public Inquiry

into the A6 to Manchester Airport Relief Road Proposals

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1) One of the principal arguments for the scheme is that it improves air quality. Poor air quality in the UK is estimated to reduce life expectancy by 6 months. In the UK most of the exposure is caused by exhaust fumes from road traffic and in particular from heavy goods vehicles and public service vehicles. UK air quality law requires air pollution to be monitored, recorded and the results made publicly available. There are detailed rules to direct identifying sources of air pollution and subsequently monitoring it. The principle of making the results publicly available is important because any citizen is entitled to request an air quality management area is set up where there is a risk anticipated. Of course AQMAs are normally declared by local authorities but the open access to air quality data is a critical element of air quality law.

2) UK air quality law is largely derived from the AQ Directive 2008 which consolidated previous Directives concerning air quality. The basic principles of monitoring and control plans have therefore been a requirement in the UK since the late 1990s. In 2011 the Government was challenged in the High Court that 16 of the 43 UK AQ zones had not submitted their air quality control plans to the European Commission referencing articles 22 and 23 of the Directive. The Directive required compliance by 2010 or 1st January, 2015 provided corrective action plans acceptable to the Commission were put in place. The Government argued that they fully accepted pollution levels exceeded Directive limit levels but that the duration of the control plans was a matter for the UK Government and not the EU. The case went to appeal and then to the UK Supreme Court who in May 2013 made a judgement that the UK Government were not protecting their citizens from the harmful effects of air pollution and that fines from the UK courts and the EU were in order. In respect of the degree of non compliance in the UK they also requested the EU fast track the process. Since then the EC confirmed they had started the proceedings leading to fines against the UK and it is anticipated that the EU Court of Justice will shortly also confirm fines are in order. There is no reference in the application to the possibility of fines or the application's possible contribution such a liability. According to the Directive the fines have to be sufficiently severe to act as a deterrent. It has been estimated that London could be fined £300M for each continued year the non compliance

3) The applicants concede their will be locations in the Disley AQMA where, due to the A6MARR, pollution rises above Directive limits but that these do not constitute a breach because there is a control plan in place that will not be materially affected in its execution by the extra pollution load caused by the A6MARR.

This assertion raises a number of issues;

- The Directive requires that pollution is reduced in an AQMA irrespective of whether particular locations are exceedances or not. Planned increases are very likely to be breaches in their own right.
- This particular AQMA is within the UK0033 zone which is one of the 16 zones cited in the case put to the Supreme Court. IAN175/13 used by the applicants, advises that in this case, only a '*Viable, effective and quantifiable Scheme AQAP based on change in concentrations*' would lead to an expectation of low risk of non-compliance with the Directive. It is obvious from Disley NO₂ records approaching 60ug/m³ that the control plan will not achieve compliance by 2015 and has not therefore been a viable plan in terms of the Directive let alone been vetted by the EC for viability and effectiveness.
- The actual estimates of NO₂ at the 3 exceedance locations are very low compared to the estimated increase in traffic through Disley. This may well indicate an error in the numeric analysis or the initial parameters underpinning it.
- Despite the apparently very modest exceedances the applicants have promoted an 'enhanced mitigation' that halves the increase in traffic yet their recent calculations show a slight increase in NO₂, not the expected reduction. This is a further indication that the Disley exceedances described in the Environmental Statement were gross underestimates.

4) As noted above the Directive requires sources of pollution to be identified and monitored close to the source. For example a chimney has to be monitored down wind from the prevailing direction. A road has to be monitored within 10m of the kerb and preferably at head height. It has to be representative of 100m stretch flanking the monitored location (i.e. not at a local pollution hot spot) and not within 25m of an important junction. Calculated virtual measurements can be included but they can only be a certain proportion of the total. The Directive also promotes these methods with the objective of standardising measurements across Europe to aid research and understanding of the characteristics of air pollution.

5) The applicant's assessment does not use this methodology. Instead 11,000 virtual locations or 'receptors' have been used, located at private residences selected as being close to the principal roads in the study area. The definition of principal roads is limited and selective. In Poynton where I live, three of the five most busy roads see an increase of traffic, the other two see a reduction. Only these two roads have receptors. The assessment not surprisingly shows an AQ improvement for Poynton.

6) On average the receptors will be further away from kerb than the Directive measurement locations and consequently the measurements recorded are lower. However an unfortunate consequence is that it fails to identify roads with very high levels of pollution if the nearby houses are not close to the road. Now that portable monitors are becoming available it is becoming apparent that exposure levels while traveling by road can be 4 times higher than even kerbside measurements and that the rush hour commute can represent a large proportion of the daily exposure. Another considerable disadvantage is that being totally based on simulation it is not amenable to independent enquiry. It would be reassuring if the base year simulation had included the actual measurement sites, but from my FOI requests it appears this was not the case. Indeed the Directive requires simulated results to be calibrated against actual

measurements. Another problem is that the Council will not identify accurate grid locations of receptors (see appendix 2) ;

We believe the information you have requested could lead to the identification of individuals as to provide grid references will reveal individuals addresses.

Therefore the information you have requested is exempt from disclosure under the Freedom of Information Act by virtue of Section 40 (Personal Data).

Marianne Lavin SMBC FOI Officer, FOI 9208

Although the Council have released the pollution values at the exceedence locations they refuse to identify which data set belongs to which location. I have requested instead they add this information to the maps that already show the approximate locations but the Council have not replied to my FOI even after two reminders. Accurate location is important because the NO2 levels can be normalised to a location 4m from the kerb which would be more typical of a Directive type measurement. IAN175/13 describes this method in the context of assessing Directive compliance.

7) The ES identified a change in the number of exceedences in Disley from 83 receptors to 85 receptors representing an increase of 3 new exceedences due to the A6MARR. Since the application the assessment has been recalculated by the applicant using several different models of vehicle emissions. The DM and DS traffic flows are exactly the same.

Area	Tail pipe emissions model	DM receptors exceeding	DS receptors exceeding	Change	% Change
Disley (ES)	Model A	85	88	3	3.5%
Disley	Model B	32	55	23	71.9%
Disley	Model C	73	78	5	6.8%
Disley	Model D	40	64	24	60.0%
Disley	Model E	66	77	11	16.7%
Whole Scheme (ES)	Model A	4566	3722	844	18.5%

Table 1, showing the variability of assessed NO2 impact with emissions modelling (source ES and Paul Colclough's Proof of Evidence)

8) The predicted changes in the number of exceedences for Disley ranges from 3.5% to 71.9%. The last entry is the equivalent change for the whole scheme which is 18.5%. The implication is therefore that if the same exercise had been carried out on the whole scheme a similarly wide range of results would have been obtained and it is perfectly feasible that a worsening of air quality could have been indicated.

9) The potential for such wide variation of results using this method of receptors should have been identified in the Environmental Statement particularly because of the prominence with which the stated benign result is used to justify the scheme. It is also regrettable that these calculations have been presented at such a late stage in the application long after Councilors have voted to support it.

10) Disley is expected to see an increase of 30% in traffic or half this if the enhanced mitigation is implemented. Although now the applicants have shown that the proposal has no beneficial effect on air quality it may be abandoned. However the largest increases in traffic are predicted on the existing A555 between the A34 and A5102. The applicants have produced NO₂ contour maps that show extensive exceedences near the road including the cycleway that for its most part runs parallel to the road about 2.5m from the kerb (see appendix 1). It is almost certain that the exceedences are caused by the 100% increase in traffic. It is not clear why this has not been explicitly described in the ES because in the applicant's analysis these exceedences are not covered by a corrective action plan and would therefore be straight forward breaches of the Directive.

11) One factor is that the nearby houses are some way from the road. As a consequence the receptor data shows raised levels of NO₂ but no exceedences. However the applicants should have made good the data by normalising the levels at 4m from the kerb by using the method described in IAN175/13 para. 4.2.

12) Surprisingly, even though there are AQMAs on the A34 and A5102 where they cross the A555, the A555 itself is not within an AQMA. This may be because there were unfortunately no kerbside or roadside NO₂ measurement locations set up to monitor NO₂ contrary to requirements of the Directive.

13) The criticality of this section of the A555 will be even more apparent if phase 2 goes ahead. Once the A6MARR is connected to the M60 at Bredbury traffic will start to transfer onto the A555 whenever the M60 becomes the congested. It is therefore inevitable the pollution will increase and exceedences will extend over a longer section of the road. Yet the current alignment of the A555 through Carr Wood ancient woodland presupposes Phase 2 will be environmentally viable without any supporting argument in the current application.

14) If Phase 2 is not a practical proposition the road would be better aligned south of Carr Wood to meet the A6 a few hundred metres further up the A6 towards High Lane. The ES refers to a minimal loss of 0.08 hectares of ancient woodland. This area is actually just the footprint of the carriageway and earthworks. Research indicates the zone of influence of a road extends 300m into woodland. Unfortunately this area of ancient woodland only extends 300m from the road and it will therefore be 100% affected.

15) There are several advantages to this alternative alignment in addition to providing a minimum 50~150m buffer zone advised by the Woodland Trust between woodland and road;

- three junctions with the A6 are reduced to one,
- the largest traffic flows are between High Lane and Poynton and follow a slightly shorter route
- a bridge over the railway line is more practical than at Simpsons Corner.
- a bridge causes less disruption during construction
- an underpass below the line requires the line to be closed if there is a collision damage to the bridge abutments, an over bridge is preferable in this respect.
- avoids blighting the rear of the properties on the A6
- there remains scope to extend the road beyond the A6 without demolition of houses contrary to the Council's assertion, the gap between the houses on the A6 being comparable to the gap the houses on the A5102.

16) The Woodland Trust are submitting a proof of evidence for Carr Wood ancient woodland. The applicants did not consult the Trust following their original letter of objection in 2013.

Summary

It is apparent that applicant's assessment of air quality has employed the receptor method to the near exclusion of the methods promoted by the Air Quality Directive.

Potential breaches of the Directive such as the exceedences along the existing A555 (see appendix 1) have not been properly identified and analysed.

The calculated change in NO₂ levels due to the 30% traffic increase in Disley are abnormally small which may indicate an error in the calculation or the underlying parameters.

The 'enhanced mitigation' that halves the increase in traffic through Disley actually increases the pollution slightly rather than reducing it. The effect was checked using two different emission models.

After the application further estimates were made of the pollution increases in Disley using different emission models. The results appear surprisingly inconsistent and cast doubt on the reliability of the conclusion that the overall scheme leads to a reduction in air pollution.

The potential breaches of the Directive caused by the scheme make Phase 2 a less likely proposition. There is no advantage in aligning the road through Carr Wood without Phase 2. Rerouting the road to the south of the wood would protect the ancient woodland and have several additional advantages.

Appendix 1

NO₂ Contour Maps showing widespread DS exceedences along the A6MARR.

Source: www.semmms.info/143076/744842/airquality1

Figure 2.1 NO₂ Concentration Contour Plot with Proposed Scheme

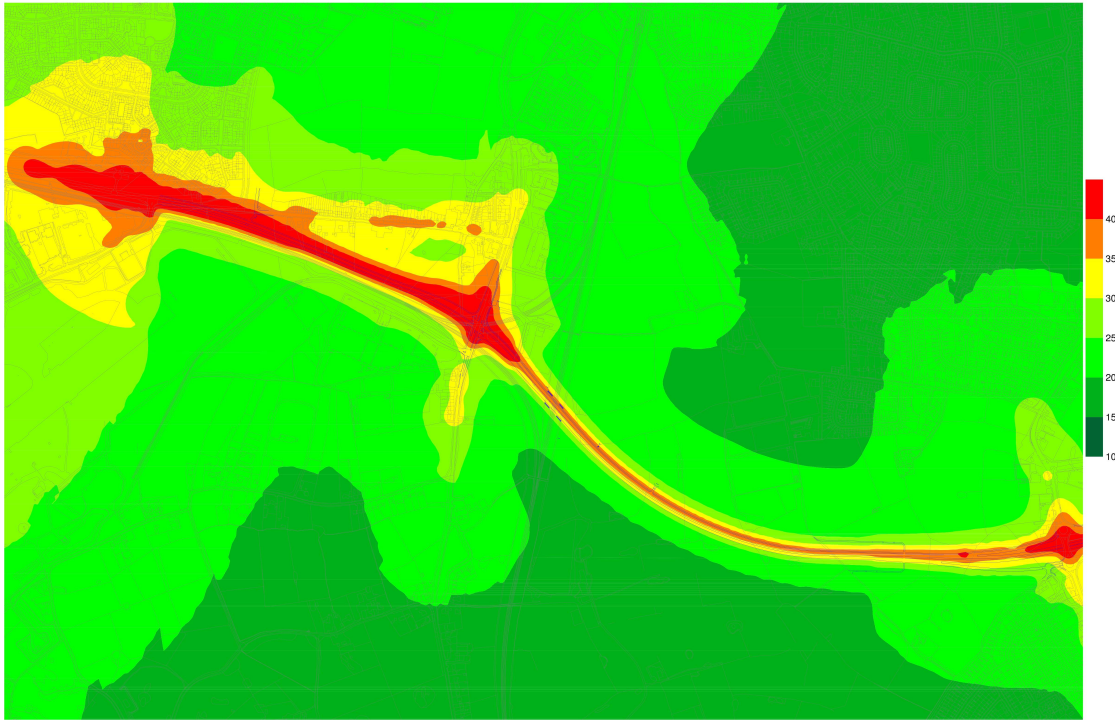


Figure 2.2 NO₂ Concentration Contour Plot with Proposed Scheme

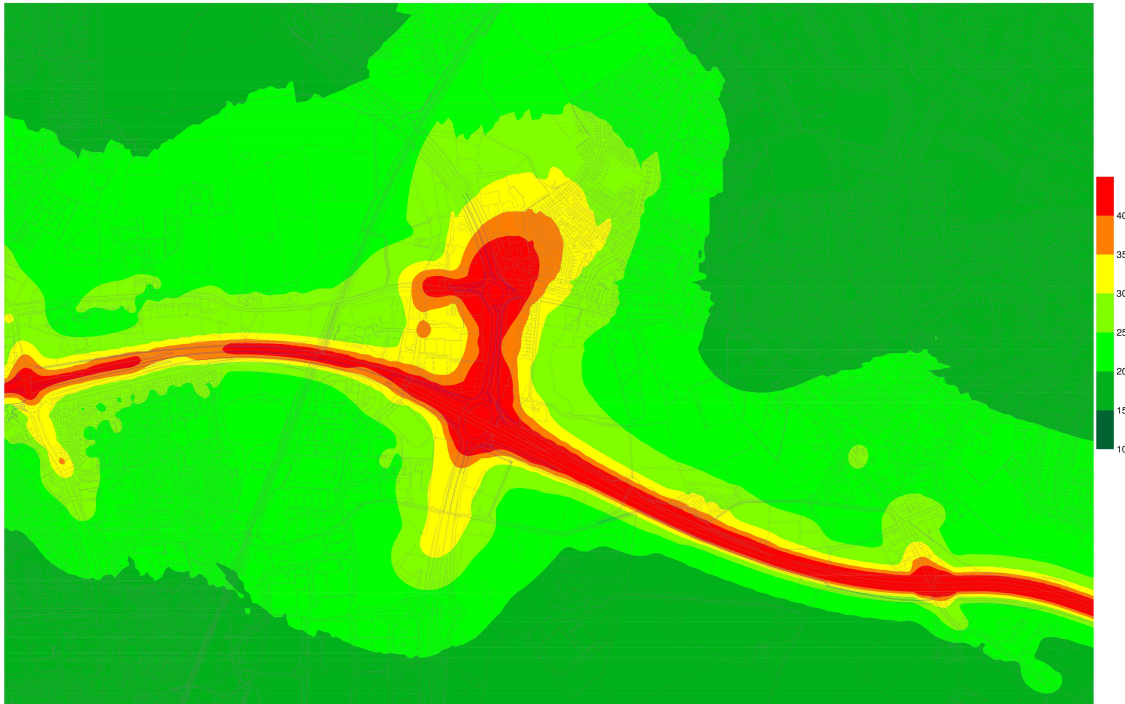


Figure 2.3 NO2 Concentration Contour Plot with Proposed Scheme

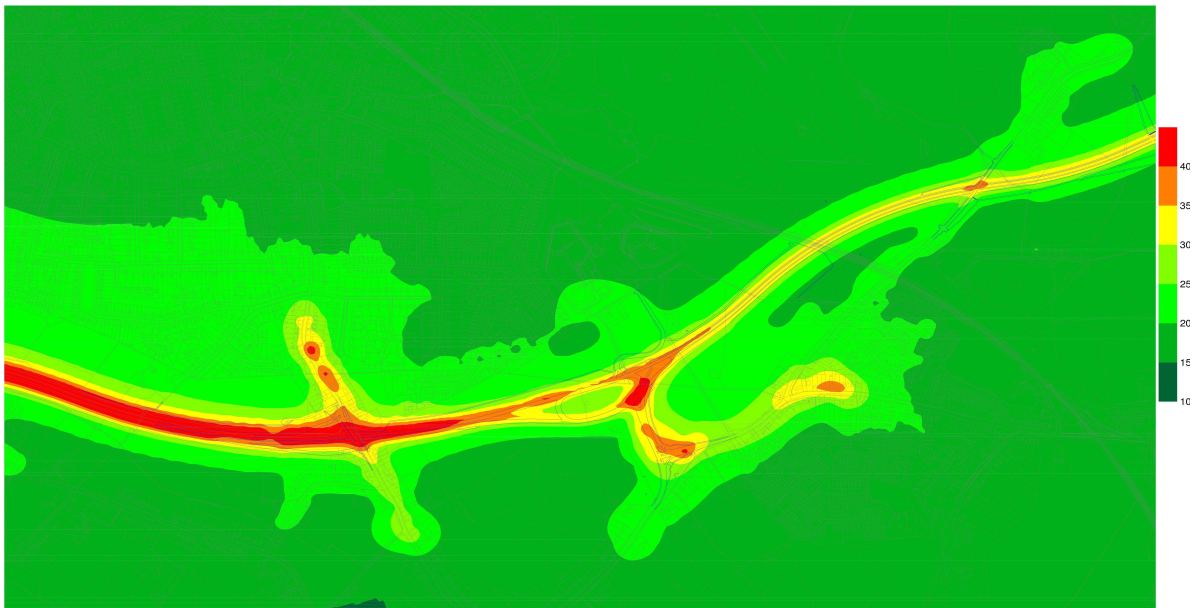
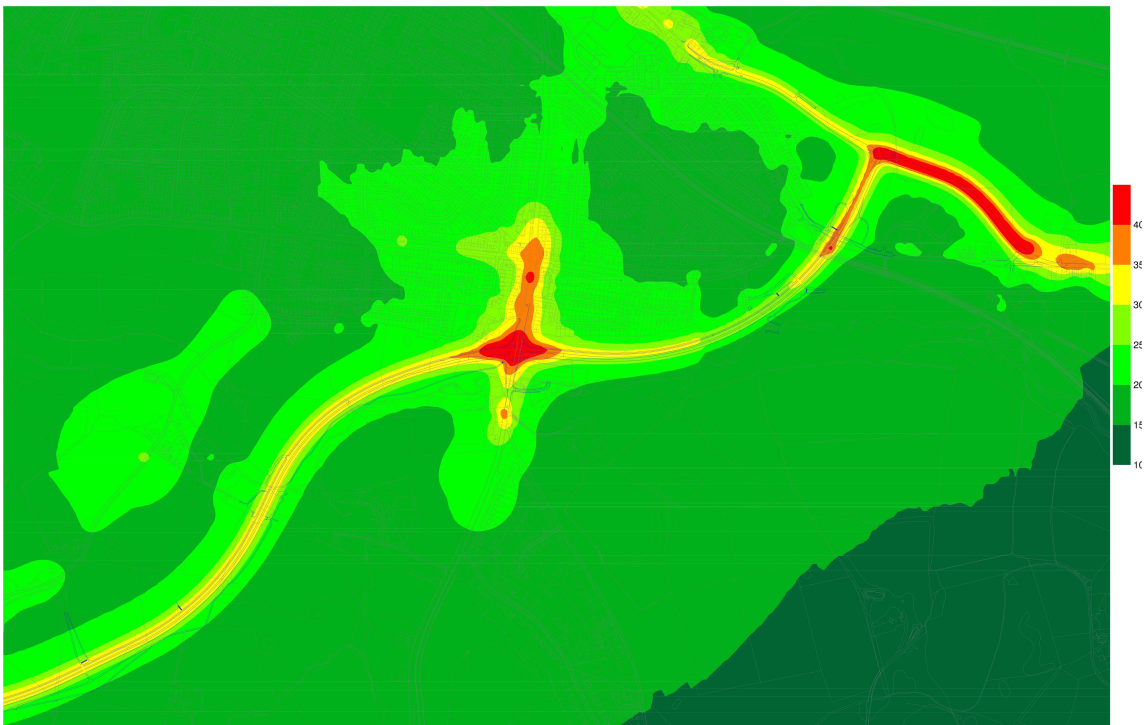


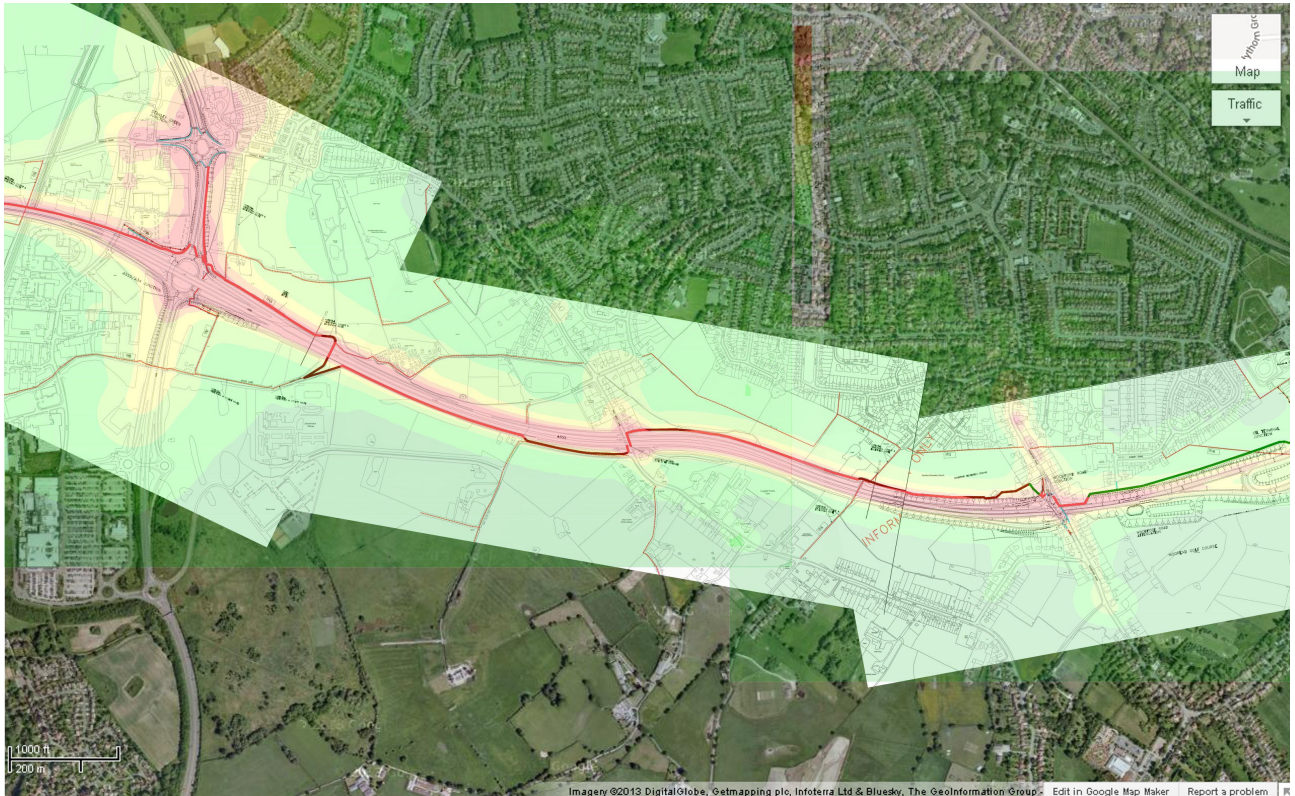
Figure 2.4 NO2 Concentration Contour Plot with Proposed Scheme



Composite drawing containing the 4 above contour maps to identify the exceedences along the cycleway. The A34 is to the left and the A5102 on the right.

Red shows the lengths of cycleway that exceed 40ug/m3 NO2

Source: S Houston



Appendix 2

SMBC FOI 9208 Identifies the very small increase in NO2 caused by a 30% increase in traffic through Disley

RE: SEMMMS Planning Application - ref 9208 - Internal Review clarification

Dear Mr Houston,

Please can you clarify if you are asking for an internal review of handling of your Freedom Of Information request 9208?

Yours sincerely

Phillipa

Phillipa Nazari
CSS Manager-Information Governance/
Deputy SIRO

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Town Hall
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<http://www.stockport.gov.uk>

From: stephen houston [mailto:hspouston@gmail.com]
Sent: 25 August 2014 16:10
To: FOI Officer
Subject: Re: SEMMMS Planning Application - ref 9208 - Response

Dear FOI Officer,

Thank you for your reply to my request.

I would be obliged if you could provide some clarifications; see below.

Kind regards,

Steve Houston

Your reply to my request no.1

We believe the information you have requested could lead to the identification of individuals as to provide grid references will reveal individuals addresses.

Therefore the information you have requested is exempt from disclosure under the Freedom of Information Act by virtue of Section 40 (Personal Data).

Section 40 relates to personal information, where the disclosure of this information may result in a breach of any of the Data Protection principles. In this case we believe that the first principle of fairness would be breached.

There are 11,000 receptors used for the study area. Most of these are private residences. Does this means no third party can check the data? In any case the maps included in the planning application already identify the locations. Nevertheless the planning application describes 3 exceedances in Disley without identifying them on the maps. This is a very unhelpful omission.

If you feel unable to provide the grid references please identify the exceedances caused by the SEMMMS road on the environmental maps included with the planning application (e.g. figure 8.9).

I will have to ask the advice of the ICO on this particular interpretation but I would draw your attention to guidance that was said to have been followed in the SEMMMS Environmental Statement.

The Environmental statement for the scheme cites the following guidance document;

Local Air Quality Management
Technical Guidance [LAQM.TG\(09\)](#)
February 2009

which says;

'Present a table describing the site type, distance from kerb (if roadside or kerbside site) and grid reference for each monitoring location.'

Your reply to my request no. 3

The Council will provide the data where requested but is not required to interpret or analyse this under the Environmental Information Regulations

My request was to 'identify and quantify' not 'interpret or analyse'. The calculation of pollution levels will have used the traffic flows, and several other parameters. Please identify and quantify those other parameters and in particular the background levels used'

Your reply to my request no. 4

The Disley locations in question have been calibrated. The request to confirm the accuracy of the calibration would require the Council to undertake analysis and interpretation of the results. Therefore it is not available as a document.

I am not asking for the calibration of the listed measurements. My concern is that

the modeled values at the 3 Disley exceedances have been verified against actual measurements. In other words, does the modeled value equal the measured value at the measured value's location.

Your reply to my request no. 5

The provision of a grid reference for these properties would enable their identification and therefore we cannot provide this information as section 40 FOI Act exempts us from providing it. There are four other locations identified by the modelling.

The following information is taken from ADMS Roads model output for A6MARR ES

Base	DM	DS
42.8	39.4	40.1
40.5	39.8	40.2
38.1	39.4	40.1
25.7	25.1	44

If you feel unable to provide the grid references please identify the exceedances caused by the SEMMMS road on the environmental maps included with the planning application (eg figure 8.9).

Does the Environmental Statement or its associated documents comment on these four exceedances?

On 21 August 2014 16:10, FOI Officer <foi.officer@stockport.gov.uk> wrote:
Dear Mr Houston,

I am writing in response to your request for information (ref FOI 9208) regarding SEMMS Planning Application.

The information has been prepared by the relevant Council service and is as follows:

1) Could you please send me the map grid references of these three locations.

We believe the information you have requested could lead to the identification of individuals as to provide grid references will reveal individuals addresses.

Therefore the information you have requested is exempt from disclosure under the Freedom of Information Act by virtue of Section 40 (Personal Data).

Section 40 relates to personal information, where the disclosure of this information may result in a breach of any of the Data Protection principles. In this case we believe that the first principle of fairness would be breached.

Also, the estimated values are only quantified in terms of ranges and not the actual values themselves.

2) Could you please send me the estimated numeric values for the base year, 'do nothing' and 'do something' scenarios.

The information you requested is below and is taken from ADMS Roads model output for A6MARR ES

Base Year - 38.2

DM - 37.7

DS - 40.1

Base Year - 38.4

DM - 37.8

DS - 40.3

Base Year - 39.1

DM - 38.4

DS - 40.6

Elsewhere it has been stated that the exceedances at the three locations are less than an additional 1ug/m3. This might indicate an unexpected situation where the increase in pollution is far less than the increase in traffic.

3) If the numeric values do indeed show a significantly lower pollution increase than the traffic increase please identify and quantify the cause (i.e. a significant reduction in the proportion of HGV traffic).

The Council will provide the data where requested but is not required to interpret or analyse this under the Environmental Information Regulations

The Air Quality Directive (DIRECTIVE 2008/50/EC) allows estimates of pollution derived from computer simulations provided the simulation is calibrated against actual measurements.

4) Have the values at the three Disley locations been calibrated against any of the following measurement locations? Please give details that indicate the accuracy of the calibration.

CE14, 9 Market Street, Disley, grid ref 397531 384705

CE15, 3 The Crescent, Disley, grid ref 397638 384780

CE16, 31 The Crescent, Market Street, Disley, grid ref 397698 384826

CE19, 56 Buxton Road, Disley, grid ref 398009 384705

CE20, Dystelegh House, Buxton Road, Disley, grid ref 397786 384803

RTA 3, Market Street, Disley Roadside, grid ref 397783 384804

The Disley locations in question have been calibrated. The request to confirm the accuracy of the calibration would require the Council to undertake analysis and interpretation of the results. Therefore it is not available as a document.

5) Are there any other locations where the new road causes similar kerbside or roadside exceedances in respect of the limit value of 40ug/m3 of NO2 per day averaged over a year? If there are other such exceedances please supply the same information as above namely;

- grid reference
- numeric values for base year, DM and DS
- causes of deviation from the pro rata association with traffic volume changes
- evidence and accuracy of calibration

The provision of a grid reference for these properties would enable their identification and therefore we cannot provide this information as section 40 FOI Act exempts us from providing it. There are four other locations identified by the modelling.

The following information is taken from ADMS Roads model output for A6MARR ES

Base	DM	DS
42.8	39.4	40.1

40.5	39.8	40.2
38.1	39.4	40.1
25.7	25.1	44.3

The planning application and associated documents do not appear to detail any mitigation measures to remove the three Disley exceedances. Although there has been correspondence, consultants' reports, planning department reports, and public discussion about reducing traffic on the A6 following the planning application, there appears to be no authoritative confirmation that any such measures are proposed to remove these exceedances.

6) Please send me any such documents that detail possible mitigation measures for the three exceedances (i.e. an addendum to the planning application).

Stockport Council does not hold this data.

If you are unhappy with the way we have handled your request for information, you are entitled to ask for an internal review; however you must do so within 40 working days of the date of this response. Any internal review will be carried out by a senior member of staff who was not involved with your original request. To ask for an internal review, contact foi.officer@stockport.gov.uk in the first instance.

If you are unhappy with the outcome of any internal review, you are entitled to complain to the Information Commissioner. To do so, contact:

Information Commissioner's Office
 Wycliffe House
 Water Lane
 Wilmslow
 Cheshire
 SK9 5AF
www.ico.gov.uk
 01625 545 745

Yours sincerely,

Marianne Lavin
CSS Senior Officer
Information Governance Team
Stockport Council
Stockport SK1 3XE
Tel : 0161 474 4048



stephen houston <hsphouston@gmail.com> 31 Aug

to FOI, bcc: paula555

Dear Phillipa,

I would be pleased if the Council gave the seven locations of the exceedences referred to in your response to my FOI (ref 9208).

I originally requested their grid references but if the Council feel it would be contrary to residents' right of privacy, I would be equally content for the Council to identify them by adding lead lines and identities to the existing 'figure 8.9'.

I would note that it is very surprising that after the protracted discussions concerning the three Disley exceedences the Council have made known at this late stage, another four exceedences that as far as I can see have not been mentioned in the planning application.

In answer to your question, I am not asking for an internal review, but I do expect the Council to identify the locations without further delay.

Kind regards,

Steve Houston



stephen houston <hsphouston@gmail.com> 12 Sep (7 days ago)

to FOI

Dear Phillipa,

Could you please reply to my email below dated 31st August.

Thank you,

Steve Houston