

I/AQ/U-01  
UPDATE  
to  
PROOF OF EVIDENCE  
on  
AIR QUALITY  
[I/AQ-01]  
Mr Jonathan Brooks  
On Behalf of It's Our City  
Planning Inquiry APP/A2335/V/09/2095002  
Canal Corridor North Site, Lancaster  
Contact: [jonb@itsourcity.org.uk](mailto:jonb@itsourcity.org.uk)

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# 1. Introduction

## 1.1 This Document

This document was prepared for the reason that Lancaster City Council, having withdrawn from the public inquiry, denied It's Our City for whom this document was prepared, the opportunity of cross examining the Council's air quality representative on his Proof of Evidence. Sections 2, 3 and 4 respond to the updated modelling predictions performed as a result of the use of incorrect measured data for model verification and section 5 covers issues regarding compliance with PPS 23 stated in the Proof of Mr Howard for Lancaster City Council.

Since some details of the modelling process employed are not clear, I have created Figure 1 from the explanations in the text to aid in understanding which can be found on page 15.

Section 4 replaces 3.1.1 and 3.1.2 of section 3 of my Proof [I/AQ-01].

## 1.2 Errors in the Text of the ES [CD22] Appendix E

The following paragraphs point out a couple of errors in the text that may lead to confusion.

Section 5.8 says "In order to do this the NO<sub>2</sub> concentration predicted at the diffusion tubes were used to calculate/derive an equivalent NO<sub>x</sub> concentration using the NO<sub>2</sub>:NO<sub>x</sub> calculator provided by Defra (Ref. 14). The relevant background was then subtracted (see Table 4)."

The sentence should read "the NO<sub>2</sub> concentration measured at the diffusion tubes". This would make sense since diffusion tubes measure NO<sub>2</sub> and not NO<sub>x</sub>, and it would make more sense to compare the predicted NO<sub>x</sub> values from ADMS-Roads against a NO<sub>x</sub> value derived from actual NO<sub>2</sub> measurements. This is logical since the purpose of verification is to apply adjustment factors to the model predictions by comparing predicted and measured results for the base year 2006. The relevant measured data is available as the Council's published NO<sub>2</sub> Annual Mean diffusion monitoring data.

Section 5.9 Table 10 [CD22] shows Model verification results for Annual Mean Roadside NO<sub>x</sub> and has a column headed Measured Annual Mean. Diffusion tubes do not give an estimate of NO<sub>x</sub> but NO<sub>2</sub> only, so the Measured Annual Mean NO<sub>x</sub> figure given is a misnomer. The column in question is in fact an equivalent NO<sub>x</sub> value derived from applying the DEFRA NO<sub>2</sub>/NO<sub>x</sub> calculator to the measured NO<sub>2</sub> Annual Mean.

## 2. Comments on Mr Howard's Addendum to Proof of Evidence

Contrary to the statement in 8.2 that "the dispersion modelling of air quality was unaffected", the verification process produces 'adjustment factors' which are used to adjust the model's predicted values. It is therefore misleading and unsupported by evidence to imply that the results are unaffected by using incorrect measured data for verification.

The fact that the results are affected is shown quite clearly in that using the correct 2006 measured NO<sub>2</sub> data results in different correction factors and different predicted values. The impression that the results are not affected is a general observation which might only be said to be true in the context of the undocumented uncertainties in the previous model that still exist in the updated modelling. The updated modelling therefore makes predictions with a similar degree of uncertainty as outlined in section 4 below.

Section 8.3 says that "the ADMS-Roads model predicted pollutant concentrations with an acceptable margin of error." This statement is unsupported as I have described in section 4.2 of this update; there has been no analysis of the margin of error or any evidence to support this assertion.

Section 9.2 does not mention that all the modelled receptors in the AQMA barring two at its northern end (receptors 29 and 30) show increases in emissions for the 2012 with-development scenario.

### 3. Updated Guidance and Data Not Used

Mr Howard's Proof 3.3 says "National policy does not prescribe or specify in detail the technical requirements for undertaking air quality assessments for development led purposes."

This is misleading. The Updated Technical Guidance TG(09) [CD85] 6.06 released earlier this year says "Authorities are also strongly encouraged to have regard to all existing sources of relevant information. For example, many planning applications for new developments are accompanied by air quality assessments. Provided that these assessments have been carried out to the standard of a Detailed Assessment"

This implies that the technical requirements of a developer's air quality assessment must conform to the technical requirements of a Detailed Assessment.

Given that the modelling has been repeated in June 2009, I believe that it should have used the updated guidance TG(09) and data. The remodelling uses methods and data that are out of date and do not reflect updated knowledge. The fact that the method should have been changed is confirmed by Lancaster Council's own air quality consultant Prof Laxen, in his 2006 paper "Deriving NO<sub>2</sub> from NO<sub>x</sub> for Air Quality Assessments of Roads - Updated to 2006" [I/AQ-11] says of the equation that has been used for deriving NO<sub>2</sub> from NO<sub>x</sub> at the end of 9.4:

"It is also recommended that the performance of this updated method is revisited once data from future years become available."

The remodelling still uses the 2004 background data when there is updated NO<sub>x</sub>/NO<sub>2</sub>/PM<sub>10</sub> background concentration data for the base year of 2006 available from the DEFRA website at:

<http://www.airquality.co.uk/laqm/tools.php?tool=background06>

[I/AQ-11] 8.1 says:

"This analysis has shown that the updated approach to deriving NO<sub>2</sub> from NO<sub>x</sub> works well in current UK conditions. However, the proportion of primary NO<sub>2</sub> in NO<sub>x</sub> emissions appears to be increasing and this is likely to lead to further changes in NO<sub>2</sub>/NO<sub>x</sub> ratios. Since this updated approach is empirically-derived, it is unable to predict future conditions and it might not represent future conditions as well as it does existing ones."

The method used in the Waterman Assessment to calculate the total modelled NO<sub>2</sub> therefore factors in that NO<sub>x</sub> background levels are decreasing but does not factor in increasing primary NO<sub>2</sub> emissions; a fact which is implicit in the more recent TG(09) equation.

Prof Laxen continues in [I/AQ-11] 8.3 saying "Work is likely to continue in the future to update and refine the NO<sub>2</sub> from NO<sub>x</sub> calculation, and it may be possible to provide an improved approach taking account of expected future changes in NO<sub>2</sub>/NO<sub>x</sub> concentration ratios."

The NO<sub>2</sub> from NO<sub>x</sub> calculation has indeed been refined to reflect updated knowledge and has been available from the DEFRA web site since the beginning of the year.

Since the re-assessment has been undertaken recently it would be reasonable to expect the new equation to be substituted for the one used, as it would be an insignificant change in terms of cost, effort or resources. The consequence of not using it is that increasing primary NO<sub>2</sub> emissions, that would increase the models NO<sub>2</sub> predictions, are not factored in.

Though background levels for 4 grid squares are shown in Table 4 of the original assessment, there is no indication of how the figures given relate to the geographical extents of each square or which squares each of the diffusion monitors used in the verification was located in and therefore the road/background NO<sub>x</sub> proportions for each monitor are hidden. Since the grid square designations define the centre of a square, the lack of this information makes it impossible to verify that the correct background was applied to each monitor and that a reasonable approach was taken in the case of a monitor that may lie near a grid square boundary.

## 4. Inadequate Verification of Dispersion Model

This chapter replaces 3.1.1 and 3.1.2 of Chapter 3 of my Proof [I/AQ-01].

### 4.1 Failure to Check Input Data

Section 13.31 (Verification) of chapter 13 of the ES [CD21] says:

“Model verification is the process of comparing monitored and modelled pollutant concentrations in order to give confidence in the accuracy of the modelling results. The model has been verified by comparing modelled annual mean NO<sub>2</sub> values for 2006 with the actual monitored values from the NO<sub>2</sub> diffusion tube monitoring undertaken in Lancaster. Model adjustment was then undertaken.”

The Technical Guidance LAQM TG(03) [CD84] - 3.54 says:

“Model *verification* refers to checks that are carried out on model performance at a local level. This basically involves the comparison of predicted versus measured concentrations. Where there is a disparity between the predicted and measured concentrations, the first step should always be to check the input data and model parameters in order to minimise the errors. If required, the second step will be to determine an appropriate bias correction that can be applied. For the review and assessment of fugitive or road traffic sources it is **essential** that model verification is carried out.”

The Technical Guidance LAQM TG(03) [CD84] - Appendix 3 (A3.164) says:

“Model verification may or may not result in an adjustment of modelled results depending on the outcomes and/or the source types being considered. If modelled results are adjusted the factors or amount of adjustment should be referred to as model adjustment. This corrects for systematic error. The full details of how the model verification and calibration is undertaken should always be provided. However, adjustment of the modelling results should only be carried out once other uncertainties have been minimised.”

Despite the remodelling performed after it was pointed out that the original NO<sub>2</sub> baseline data was incorrect, the Waterman assessment still gives no indication that the input data was properly checked despite a similar wide variance between predicted 2006 baseline and measured values, and full details of how the model verification was performed are missing. No attempt has been made to minimize uncertainties because adjustment was performed without checking of the input data to try and minimize the errors between the measured and predicted road NO<sub>x</sub> values shown in Figures 1 and 4 of the Update. No explanation as to how the trend line was derived or why the ‘measured’ NO<sub>x</sub> values in Figures 1 and 4 of the Update differ from those in Table 2 though it is likely to be some undocumented probability function.

## 4.2 Uncertainty of NO2 Predictions

Following adjustment, the model predicts revised values for the existing 2006 baseline scenario. In Table 1 below, the predicted NO2 figures for the 2006 existing scenario (taken from section 4.2 Table 3 Revised Dispersion Modelling Results of the Update) and the measured values taken from Lancaster Council's published NO2 monitoring figures for 2006 are compared. Table 1 below only includes 8 of the 14 monitors listed in Table 1 section 2.1 of the Update, because there are no predicted values for the other six diffusion tube locations. There are also no predictions for three of the diffusion tubes used to verify the model. i.e. 93 King St (L), Market St/China St (M) and Damside Street (T).

**Table 1 – Comparison of Revised Predicted and Council Annual Mean NO2 values in  $\mu\text{G}/\text{m}^3$  showing post-verification errors between them.**

Location	Waterman Receptor ID	2006 Baseline Predicted NO2 Annual Mean	Council Monitor ID	Council Measured & Bias Corrected NO2 Annual Mean 2006	Post-verification Errors
Great John St	19	57.7	LC1	67	-9.3
Owen Rd	28	45.4	LC5	34	11.4
Parliament St	8	36	I	43	-7
39 North Rd	9	51	J	64	-13
Stonewell	16	47.2	K	43	4.2
46 King St	2	56.6	L	57	-0.4
11 Cable St	32	54.7	N	42	12.7
95 Bulk Rd / Caton Rd	29	41.9	G	36	5.9

The process of checking for errors in the input data and subsequent model adjustment in the model verification process exists so as to minimize as far as possible systematic errors in the model and give more accurate predictions. The NO2 values in each row of the table above should roughly approximate each other to indicate that the model verification was successful and that predicted values for the 2006 baseline are close to the measured values.

Despite the remodelling there is still a significant disparity between the predicted 2006 baseline and the measured values for the diffusion monitors used in the verification. This disparity could have been further reduced by inclusion of the diffusion monitors at the High School, Morecambe Road and the Water St & Cable St monitors near the bus station to increase the small number of samples (5) used and reduce the uncertainty in the derivation of the adjustment factors. The mentioned monitors are all relevant locations for the purpose of the NO2 Annual Mean.

The ES [CD22] Appendix E - 5.4 says:

“... precise agreement with monitoring data (or other modelling studies) is unlikely, although broad agreement is expected if the model is working correctly.”

However, Table 1 above shows that there are still significant prediction errors and the predicted values for the 2006 baseline are not in broad agreement with the Lancaster Council measured values for 2006.

The average error (obtained by the mean of the absolute values of the errors) is:

$$\frac{|-9.3|+|11.4|+|-7|+|-13|+|4.2|+|-0.4|+|12.7|+|5.9|}{8} = |7.99| \cong |8\mu\text{G}/\text{m}^3|$$

When discussing uncertainty in [CD22] 5.23 (also repeated in the update 3.12), the Waterman report provides no evidence to support the statement that “...the ADMS-Roads model is predicting pollutant concentrations in Lancaster City Centre within an acceptable margin of error that allows it to be used as a tool for the prediction of air quality effects of the Development.”

While it is mathematically possible to use only five samples for the verification of each of the canyon and non-canyon cases, the uncertainty of the predictions will be significant and should have been accounted for in the analysis.

Importantly, there has been no sensitivity analysis to try and characterise the effect of the uncertainties and the computation of the correction factors adds even more uncertainty which is not represented. There is also no evidence to support the fact that the correction factors should remain constant in prediction (i.e. in the new system)

The Waterman report provides no analysis of the margin of error. The mean absolute error ( $8\mu\text{G}/\text{m}^3$ ) of the samples is 20% of the NO<sub>2</sub> Annual Mean Limit Value of  $40\mu\text{G}/\text{m}^3$  and indicates an unacceptable margin of error contrary to the unsupported statement quoted above.

The shaded boxes in Figure 1 on page 15 show the positions in the data pipeline where these undocumented uncertainties arise in the verification process.

To summarize the above, it is a fundamental requirement that if we alter parts of the model such as traffic flows and want a representative response in terms of altered emission predictions, the various inputs to the model must produce the correct response for the current system during the verification process. i.e. the predicted value for a particular diffusion monitor in the 2006 baseline year should at least roughly approximate the measured value for that year. In this context, the omission of a major local source of emissions near the bus station (the Water St and Cable St diffusion monitors) leaves a gaping hole in the current system which means that the data will not fit well.

### 4.3 Uncertainty of PM10 Predictions

Section 5.7 [CD22] says:

“Therefore, the results from the monitoring sites close to the bus station were excluded from the model verification” (i.e. the Water Street continuous monitor and the Water Street and Cable Street diffusion tube monitors).

[CD22] Appendix E - 5.19 says:

“Due to the fact that the Water Street continuous monitor was excluded from the model verification process, as described above, there was no PM10 monitoring data to compare the model output to. Therefore, the roadside modelled NOx adjustment factors as detailed above, were applied to the roadside modelled annual mean PM10 concentrations before relevant background concentrations were added. This was agreed with the air quality advisors to LCC”

Because the PM10 predictions are based on the same NOx adjustment factors rather than the PM10 measurements from the Water St continuous monitor, they are also subject to the same uncertainty, and are also unreliable.

Additionally, in terms of PM10, a recent study in Lancaster [I/AQ-09] by Prof Barbara Maher of Lancaster University, using a new and more accurate method for determining PM10 emissions, has shown that ADMS-Urban, a similar program to ADMS-Roads used in the Waterman Assessment, “under-estimates traffic-derived PM10 concentrations at those locations where traffic remains stationary for intervals (traffic lights, minor-major road junctions), and over-estimates at sites screened by trees.” [I/AQ-09 section 6 Conclusions]. Prof Maher’s data shows that current EU Limit Values for PM10 are being significantly exceeded at several locations.

## 5. Non-Compliance with PPS 23 [CD58]

This section covers issues I had intended to raise in cross examination regarding the detail of how the aims of PPS 23 have not been applied. Section 1.3 of Mr Howard's Proof, states that he will "address the policy requirements of PPS 23 in relation to air quality."

The provisions of PPS 23 that are listed in Mr Howard's Proof 6.1 that imply compliance with PPS 23 do not embody the aims and spirit of PPS 23 which have not been complied with when PPS 23 is considered as a whole.

Referring to the excerpt from PPS 23 annex 1G.1 shown in my Proof [I/AQ-01] at the beginning of 6.2, it is a fact that the development site is adjacent to an AQMA. It is disputable whether it may result in an extension of the AQMA but given the undocumented uncertainties in the modelling it would be prudent to analyse the risk in considerably more detail than has been done. There is also a lot of evidence that demonstrates clearly that the air quality action plan will be undermined by the plans.

Specific actions in the current AQAP that are undermined are listed in 5.1.3 below and I also list the details of how the Faber Maunsell report [L20] on which the Council is depending for future action planning adds nothing new to address air quality problems.

### 5.1 Conflicts with the Air Quality Action Plan [CD82]

#### 5.1.1 Action Plan Background

The AQAP 2.1 Para 4 says:

"A local authority declaring an AQMA must carry out a further, detailed assessment of local air quality before drawing up an AQAP. The AQAP must set out what the local authority intends to do in pursuit of the air quality objectives."

The AQAP 2.2 Para 2 says:

"The Action Plan should contain the scenarios that have been modelled in the Stage 4 review and assessment. It should contain a summary of the air quality improvements that might be possible for each of the scenarios identified. The Stage 4 review and assessment provides the technical justification for the measures an authority includes in its Action Plan."

The 2006 Further Assessment [CD79] is the Stage 4 review and assessment referred to in AQAP 2.2 and was a Detailed Assessment. The actions in the Action Plan are intended to be based on the findings of the 2006 Further Assessment which should provide the technical justification for the measures an authority includes in its Action Plan. However, the action plan is not based on the 2006 Further assessment and over half the actions (11) proposed are shown to originate from the Vision Board.

The determination of future AQAP actions has effectively ignored statutory requirements and ostensibly passed the responsibility onto a private organisation that has no formal place in the planning process.

### 5.1.2 Faber Maunsell Report Contribution to the Air Quality Action Plan

The Faber Maunsell Access and Transport Study – Vision Board [L20] has contributed nothing new to future air quality action planning and instead has served to delay decisions on measures to improve air quality whilst implicitly promoting the ideas of the developer.

In the report [L20], Table 6.1: Key Interventions, item 15 lists key solutions for Improving poor air quality and environment. This provides no new ideas for measures to improve air quality that have not already been addressed either in the Local Transport Plan [CD83], the current action plan [CD82], or the 2006 Further Assessment [CD79]. All the measures that appear to originate from the Vision Board have in fact been previously considered by Lancashire County Council or Lancaster City Council.

The Faber Maunsell Report [L20] Table 6.1 on page 121 lists their various “Key Interventions”

- A “Lancaster City Centre Gyratory Review” has already been carried out in the 2006 Further Assessment [CD79].
- “Travel Planning” has been given extensive coverage in Ch 7/8 LTP Vol 2 [CD83] and is listed in Table 9.4.1
- “Car Sharing/Car clubs” is mentioned in Mentioned under travel planning LTP Vol 2 [CD83] 8.4.2.
- “Integrated Ticketing” is covered in Covered in Ch 7/8 LTP Vol 2 [CD83].
- “Park & Ride” is given extensive coverage in Ch 8 LTP Vol 2 [CD83] 8.6.
- “Bus Priority Measures” is given in LTP Vol 2 [CD83] Table 9.4.1 .
- “Enhanced cycling and pedestrian facilities” is covered extensively in LTP Vol 2, Ch 7 and 8 and listed in Table 9.4.1.

In terms of air quality and the Action Plan, the Faber Maunsell report is spurious and the Council is failing in its statutory duties to improve air quality by relying on such a report as the basis for future air quality action planning.

### 5.1.3 Air Quality Actions Undermined

Current AQAP actions [CD82 page 20 - 5.4] that are directly undermined by the plans include:

- **Action 1** since potential for reducing road traffic emissions contributing to air quality objective exceedences is limited by the additional traffic and may render it unworkable.
- **Action 2** since a city centre parking strategy would be dependent on a car park which does not assist the incentivisation of modal shift away from the private car.
- **Action 4** by reducing the potential for reducing vehicle exhaust emissions contributing to AQO exceedences

- **Action 8** by limiting the effectiveness of any future Park and Ride scheme – people will not park at the edge of town if there is space near the centre and this will affect the economic viability of a park and ride.
- **Actions 14 and 15** by reducing the effectiveness of travel plans that would minimise numbers of avoidable private car journeys that contribute to traffic flows and congestion in Lancaster.
- It completely undermines **Action 19** by directly weakening existing planning controls over road transport trips generated by new developments

It is clear that even before outline planning permission was granted, these proposals were having a significant influence on air quality action planning and the actions mentioned above show that granting permission would strike at the heart of AQ management in Lancaster. This further underlines the importance of air quality in the context of these plans and the intent of PPS 23.

#### 5.1.4 Car Parking Strategy

The AQAP [CD82] 4.1.3 Parking Strategy says

"Lancaster City Council's cabinet approved a draft car Parking Strategy in April 2006 subject to review by an informal cabinet working group and external consultation. The strategy seeks better utilisation of existing space and a shift from long-term to short-term parking."

In terms of air quality, a shift from long-term to short-term parking would mean the same amount of spaces would generate more trips and resultant emissions undermining measures to improve air quality. No justification is given for this change in strategy but it appears to pave the way for acceptance of the proposed multi-storey car park.

## 5.2 Demolition/Construction Phase

The executive summary of Further Assessment of Local Air Quality in Lancaster City Centre, September 2006 [CD79] page i says:

"Despite Heavy Duty Vehicles only contributing to around 5-7% of vehicle flows, their large size and respectively greater emissions mean that this relatively small number of vehicles contributes over half of the nitrogen oxide emissions across the gyratory system."

If we take the 5% figure (considering the Precautionary Principle from PPS 23) for example and we had 5 HDV's and 95 cars, the 5 HDV's would be producing the same amount or more NO<sub>x</sub> than the 95 cars. If we divide the number of cars by the number of HDV's we get 19 cars to a single HDV in terms of NO<sub>x</sub> generation.

The Environmental Statement [CD21] Chapter 12 para 12.74 says:

"The estimated average movements for construction traffic will be 60 vehicles per day, rising to approximately 120 vehicles per day during peak construction activity periods. This is anticipated to be the

period between the third quarter of 2009 to the third quarter of 2010, ...."

If we use the equivalent 19 cars per HDV for the 60-120 HDV vehicles that are estimated for the demolition/construction phase, this is equivalent to between 1140 to 2280 cars in NOx generation terms. (This is given by multiplying the HDV count by 19 to give equivalent cars for one HDV in terms of NOx generation).

Referring to the Transport Assessment Appendices I-J [CD18] Appendix I – Table shown as Lancaster Network Traffic Growth Summary table on the first page shows that the 2006 daily flows for the two main roads bounding the site are 8693 for St Leonard's Gate and 4857 for Moor Lane. Since any rat-running traffic along Alfred St must have come from either Moor Lane or St Leonard's Gate we can take the sum of these 13550 to be the daily traffic in the vicinity of the site. I think it would also be fair to say that this would include the existing car park traffic which must transit one of these roads to access the car parks on the site.

Considering this, the demolition/construction phase HDV movements are significant because in the best case of 60 HDV's a day, the equivalent 1140 cars in NOx generation terms adds 8.5% to the existing daily local traffic and in the worst case of 120 HDV's a day, the 2280 equivalent cars adds 17%.

In light of this and the fact that no quantitative assessment of dust impacts was carried out and given the residential areas bordering the site there should have been a quantitative assessment of demolition/construction phase impacts that included dust impacts and traffic generated pollution.

PPS 23 [CD58] para 9 says:

"Development control decisions on individual planning applications, particularly those for potentially polluting processes, can have an immediate impact on the local environment, human health and well-being."

This clause of PPS 23 has not been given due consideration in terms of the immediate air quality impacts on the neighbouring residential areas during the demolition/construction phase.

### 5.3 Failure to Follow Criteria in the Local Plan

PPS 23 [CD58] para 13 says "LDDs should set out the criteria against which applications for potentially polluting developments will be considered" and in the strikethrough Local Plan [CD63] 5.2.7 page 145 it says in capital letters "**THE CITY COUNCIL WILL SEEK TO MAINTAIN OR IMPROVE AIR QUALITY WHEREVER POSSIBLE BY RESISTING DEVELOPMENT WHICH WOULD RESULT IN UNNECESSARY JOURNEYS.**"

Following the requirements of PPS 23, the local plan sets out criteria against which applications for potentially polluting developments in Lancaster will be considered.

TG(09) [CD85] 4.34 Air quality planning policies says "The policies set out in local authority planning documents determine the authority's approach to the relationship between planning and air quality. They are important as new developments are judged against these policies."

Referring to 5.2.7 from the Strikethrough Local Plan that I have partially quoted above, Mr Howard's Proof 3.2 says "In this statement the council seeks to encourage development in locations served well by public transport.", but glosses over the second paragraph of 5.2.7 that is given prominence by capital letters in [CD63] that would challenge the necessity of the multi-storey car park element.

Referring to 4.6 of Waterman's Air Quality Assessment Update, pollutant concentrations are predicted to increase around the entire gyratory system. The only decreases predicted (receptors 18, 22, 25, 29 and 30) relate to receptors outside the gyratory system 18, 22 and 25 or at the northern limits of it (29 and 30).

Permitting the development would not meet the criteria and would undermine the aims of PPS 23; air quality is neither maintained nor improved and will in fact generally worsen as the update to the air quality assessment confirms.

PPS 23 [CD58] Appendix 1B.3: Air Quality Policy says:

"local authorities have a central role through their duties to work towards meeting the national air quality objectives."

In this case the multi-storey car park clearly poses a significant challenge to Lancaster Council's duty to work towards meeting the air quality objectives. It works against initiatives to achieve the objectives and this is another divergence with the aims of PPS 23.

#### 5.4 No Collaboration with Environment Agency

PPS 23 [CD58] Para 13 says:

"Where pollution issues are likely to arise, intending developers should discuss their proposals with both the planning and pollution control authorities before submitting an application."

In this case there were no pre-application discussions between the developer and the Environment Agency regarding air quality implications and the Environment Agency did not comment on air quality in their consultation response

PPS 23 [CD58] para 11 says "LPAs and pollution control authorities should take account of the agreed working arrangements and protocols for technical co-operation between the Environment Agency and the Local Government Association outlined in *Working Better Together*."

PPS 23 para 11 also says "Close co-ordination between planning authorities, transport authorities and pollution control regulators is essential to meet the common objective that where development takes place, it is sustainable.", and para 15 says "LPAs must be satisfied that planning permission can be granted on land use grounds taking full account of environmental impacts. This will require close co-operation with the Environment Agency and/or the pollution control authority". Appendix 1G.1 also says "Wherever a proposed development is

likely to have significant air quality impacts, close co-operation between LPAs and those with responsibilities for air quality and pollution control will be essential.“

There is no evidence of compliance with PPS 23 para 11. It is clear that no co-operation has taken place between Lancaster Council and the Environment Agency in terms of air quality and the AQMA in relation to this development and this is shown by the lack of any reference to it in the minutes of AQAP Steering Group Meetings [I/AQ-04] and [I/AQ-05]. A Freedom of Information request for copies of all correspondence between Lancaster Council and the Environment Agency in the period between Oct 2005 and Oct 2008 that deal with air quality, confirmed the lack of any evidence to indicate Environment Agency collaboration on the air quality issues related to this development.

[I/AQ-11] - Deriving NO<sub>2</sub> from NO<sub>x</sub> for Air Quality Assessments of Roads - Updated to 2006

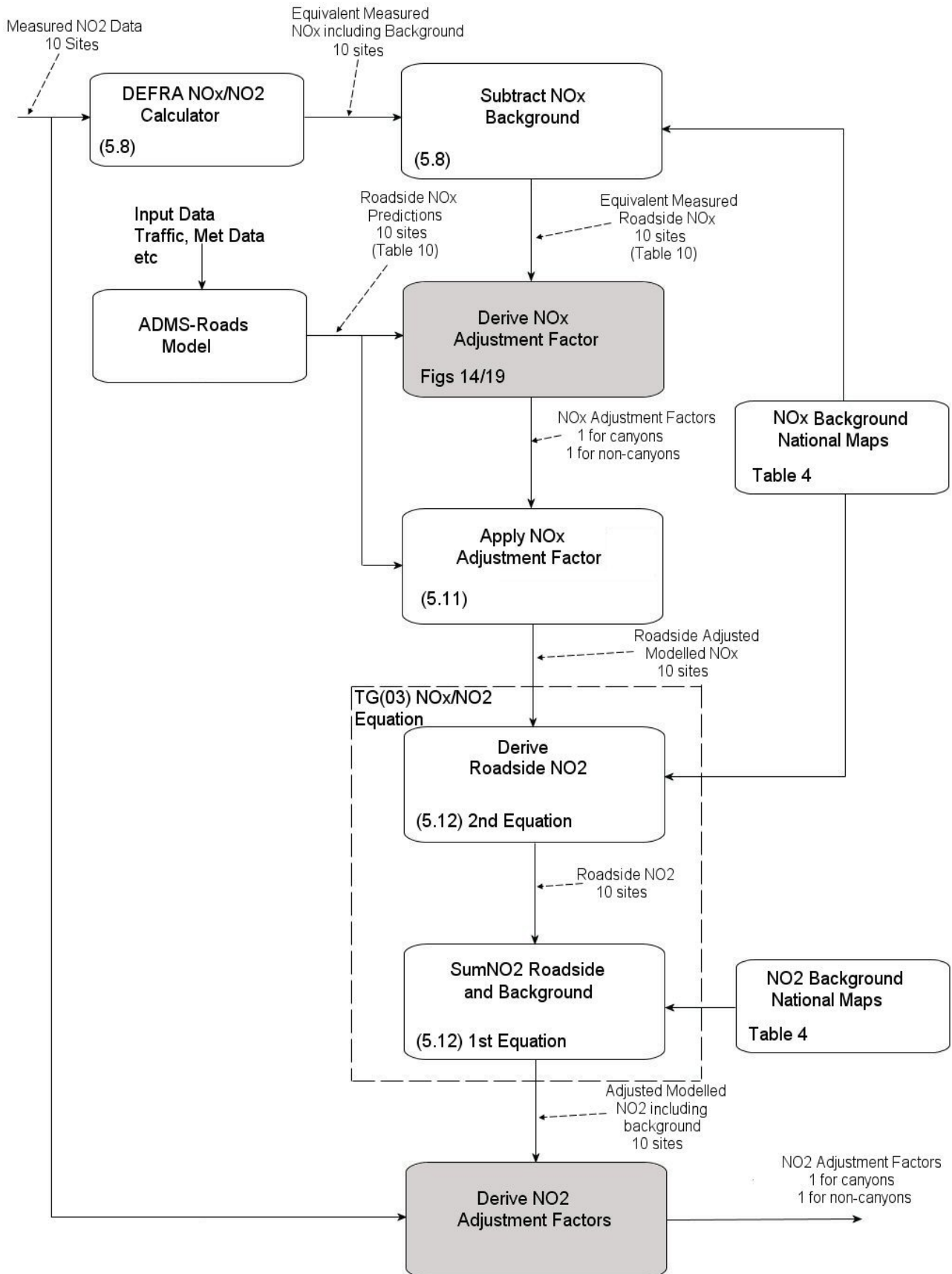


Figure1 - The Model Verification Method

References are to [CD22] Appendix E