

Technical Note

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Project: Warwick District Council Consultation Draft Air Quality SPD

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Comments on Warwick District Council's Consultation Draft Air Quality & Planning SPD

1. Introduction

Hoare Lea has been instructed by Barwood Land to provide comments on the Consultation Draft Air Quality & Planning Supplementary Planning Document (SPD), issued by Warwick District Council (WDC) on 5 September 2018.

2. Background

WDC has a duty to review and assess air quality within the district. Nitrogen dioxide (NO₂) is measured at 56 locations, particulate matter (both PM₁₀ and PM_{2.5}) at two locations and benzene at one. The national air quality objectives are achieved for all pollutants except NO₂. Annual mean concentrations of NO₂ have exceeded the objective for many years, and appear to be increasing in some locations, mainly due to emissions from road transport.

The WDC have declared five Air Quality Management Areas (AQMAS) due to high concentrations of NO₂. These are in Warwick, Leamington Spa and Kenilworth.

While the PM objectives are not exceeded there is no threshold below which health effects do not occur. The objectives are significantly higher than the World Health Organization's guideline values (two times higher for PM₁₀ and at two and a half times higher for PM_{2.5}) and therefore reducing concentrations of these pollutants is also important to protect public health.

In April 2014 WDC produced a 'Low Emission Strategy Guidance for Developers' which sets out a three-stage process to assessing the air quality impacts of development proposals and identifying appropriate mitigation measures. The Air Quality & Planning SPD will replace this document.

An Air Quality Action Plan setting out the measures WDC intends to take to improve air quality was published in 2015. It includes a specific action on using the planning system to improve local air quality.

In September 2017 the Council adopted the Warwick District Local Plan 2011-2029. There is no specific air quality policy in the plan. As road traffic is the major source of poor air quality in the District it is included in Policy TR2 on traffic generation. This policy includes the following text:

"Any development that results in significant negative impacts on air quality within identified Air Quality

Management Areas or on the health and wellbeing of people in the area as a result of pollution should be supported by an air quality assessment and, where necessary, a mitigation plan to demonstrate practical and effective measures to be taken to avoid the adverse impacts”; and

“All measures required in the policy should take full account of the cumulative impact of all development proposed in this Plan (and any other known developments) on traffic generation and air quality.”

Policy TR1 on access and choice also includes the following requirement:

“d) where practical, incorporate facilities for charging plug-in and other ultra-low emission vehicles where the development proposals include provision for off street parking and is for one or more dwelling”.

The rationale given for these policies in the Local Plan is that large development has the potential to add a significant number of road vehicles onto the transport network. Unless this is addressed, it is likely to have a negative impact on air quality in general and specifically within the AQMAs, either through the generation of additional traffic volumes or via reduced traffic speeds. Encouraging the use of ultra-low emission vehicles will help reduce these impacts.

3. The Air Quality & Planning SPD

The SPD requires a three-stage process for the assessment of air quality (draft SPD page 23):

1. Determining the classification of the development proposal;
2. Assessing and quantifying the impact on local air quality; and
3. Determining the level of a mitigation required by the proposal to make the scheme acceptable.

4. Stage 1 – Classification of development proposals (draft SPD pages 24-23)

Table 1 (page 23) sets out the classification system for minor, medium and major development. For all classes an assessment of the exposure to poor air quality of future users of the development is required. Table 1 would be clearer if it explicitly says whether a) an exposure assessment is required; and b) an air quality impact assessment is required by having two separate rows in the Table.

The need for an exposure assessment is consistent with the National Planning Policy Framework (NPPF) (paragraph 170 e) requires the planning system to prevent new development being put at unacceptable risk from air pollution).

The quantification of the impacts is only required for major developments. These are defined as developments which:

1. are required to have a Transport Assessment or Travel Plan and
2. are within or adjacent to an AQMA or Clean Air Zone (CAZ)¹, or
3. is an Environmental Impact Assessment (EIA) development and air quality is included; or
4. meet the criteria in Table 2 of the SPD (i.e. there may be a material impact).

EIAs are only required to include significant effects. If none of the criteria in Table 2 are met there will be no significant impact on air quality and therefore an air quality assessment would be scoped out of the EIA. Therefore item three in the list on page 23 is redundant and should be deleted.

Table 2 of the SPD (page 24) provides a very comprehensive list of 14 additional criteria that would trigger the need for an air quality impact assessment. There is duplication of requirements. Table 1 below provides

¹ There is currently no Clean Air Zone in Warwick District.

comments on each criterion. Some of them are based on old non-statutory guidance and may no longer be relevant.

The source of criteria has been identified where possible. In the table EPUK is Environmental Protection UK and IAQM is the Institute of Air Quality Management. These organisations produced non statutory guidance 'Land-Use Planning & Development Control: Planning For Air Quality in 2015, which was last updated in 2017. EPUK also produced guidance in 2010 which drew on 2008 IAQM guidance. The 2010 EPUK document was replace by the 2015 joint guidance.

Table 1: Criteria for an Air Quality Impact Assessment

Table 2 of the SPD criteria		Source ²	Comment
1	Proposals in areas where sustained compliance with EU Limit Values may be at risk	NPPF	Required
2	Any development proposing a net increase of 100 or more parking spaces	2010 EPUK guidance	Impact depends on the number of movements (short term car park will have a greater impact than a long term car park)
3	Any development that could increase the existing traffic flows on roads of > 10,000 AADT by 5% or more	2010 EPUK guidance	This duplicates criterion 4 – recommend deletion
4	Any development that causes a change in LDV (cars and small vans) flows of: - more than 100 AADT within or adjacent to an AQMA, CAZ or exceedance area - more than 500 AADT elsewhere	EPUK/ IAQM guidance	Required
5	Any developments that could increase traffic flows by 5% or more in road canyons (or creates a canyon) with > 5,000 AADT	2010 EPUK guidance	Unlikely to be an air quality issue in a street canyon with less than 5,000 AADT.
6	Any development that causes a change in HDV flows (lorries, large vans and buses) of: - more than 25 AADT within or adjacent to an AQMA, CAZ or exceedance area - more than 100 AADT elsewhere	EPUK/ IAQM guidance	Required
7	Proposals that could introduce or significantly alter congestion (DfT Congestion) and includes the introduction of substantial road infrastructure changes	Replaced 2010 EPUK guidance	It is unclear what 'DfT congestion' means. This is too woolly to be useful, and does not add to existing guidance. Regarding infrastructure EPUK/IAQM has criteria of ' <i>where the change is 5m or more in and the road is within an AQMA</i> ' and ' <i>Applies to junctions that cause traffic to significantly change vehicle accelerate/ decelerate, e.g. traffic lights,</i>

² EPUK = Environmental Protection UK; IAQM = Institute of air quality Management

Table 2 of the SPD criteria		Source ²	Comment
			<i>or roundabouts.”</i>
8	Proposals that reduce average speeds by more than 10 km per hour	Highways England	Speed data is rarely available from transport assessments, and its importance depends on what the existing speed is. Could increase or reduce emissions depending on the circumstances. Delete
9	Proposals that include additional HGV movements by more than 10% of total trips	?	This is covered by criterion 6
10	The construction, widening or repositioning of a road in the vicinity of sensitive receptors	?	This is too woolly to be useful. See comment to criterion 7.
11	Where significant demolition and construction works are proposed	?	The impact of construction traffic is covered by criterion 6. All medium and major development should have a construction dust risk assessment to identify appropriate dust mitigation measures
12	Where a centralised combustion unit of thermal input >300kWh is proposed	?	Unclear why a 300 kWh threshold has been used.
13	All biomass boiler and other large novel fuel appliance applications	?	Required as biomass boilers have higher emissions than gas boilers.
14	All stand-by/short-term power generation units regulated by the Environment Agency	?	Required to ensure that the site is suitable for the proposed development

The EPUK/IAQM non statutory guidance is very widely relied upon by both air quality consultants and air quality officers in local authorities. It is well understood by the profession and was produced by a working group comprising of local authority officers and air quality consultants. It was consulted on prior to its publication and is regularly updated.

It is not clear why WDC believe they need a bespoke set of criteria. Pollution levels are not abnormally high in the District. Unless there are special circumstances in Warwick District it is recommended that this table is deleted and replaced with reference to the EPUK/IAQM guidance.

For example, the SPD could say: “For all major development should consider the need for a detailed air quality assessment using the criteria in the latest version of the EPUK/IAQM guidance. The developer or agent will need to submit to the local planning authority either a compliant air quality assessment or the reasons why they consider one is not required.”.

It is good practice to consult with local authority to agree the scope and method of assessment prior to commencing the work. This is the opportunity for the local authority to raise any local issues that may require a non-standard approach or an assessment where normally one would not be required.

5. Stage 2 – Air Quality Impact Assessment (SPD pages 24-26)

5.1 Minor and medium development (SPD page 24)

For minor and medium developments an assessment of exposure of future users of the proposed development to poor air quality is required. This is a reasonable requirement for development where users may be exposed over the relevant averaging period of the objective. Statutory guidance provides examples of where the air quality objectives apply³. It is normal practice to assess exposure against the national air quality objectives. It would be useful if this is included in the final SPD.

If the District Council intends to use a lower value with respect to PM it should say so, and justify its choice. It should be noted that there is good evidence that the direct (exhaust) emissions of PM from road vehicle fitted with diesel particle filters (DPFs) are extremely low. This technology has been installed in new vehicles for a number of years, and as the fleet turns over the exhaust emissions of PM for traffic will continue to decline.

The draft SPD requires an exposure assessment within 20 metres of roads highlighted on Defra's GIS model or roads with more than 10,000 AADT. The Defra GIS map does not show any exceedences of the objective in Warwick District. The air quality objective will not be exceeded alongside the vast majority of roads that meet this criterion in rural areas where background concentrations are low. Even in urban area many roads with traffic flows greater than 10,000 AADT will not exceed the air quality objective. Therefore this requirement will require a large number of unnecessary assessments to be undertaken.

The local authority has, as mentioned earlier, a statutory duty to review and assess air quality in its district. This duty was introduced over 20 years ago, and therefore the local authority should have a very good idea of where air quality is poor. The need for an exposure assessment should be limited to the AQAMs and where monitoring shows that NO₂ concentrations are close to the objective.

For example, the SPD could state "An exposure assessment is required where new development is in an AQMA or annual average concentrations of greater than 98% or more of the air quality objective have been measured".

It is reasonable to refuse planning consent if no suitable mitigation measures are proposed where there is a risk of users of the development being exposed to concentrations exceeding an air quality objective.

5.2 Major development (SPD page 38-39 and Appendix 2)

The SPD requires a detailed air quality assessment to determine the impact on public health and the local environment. This should meet the requirements of the most recent version of LAQM.TG16 and Appendix 2 of the SPD. It does not mention the exposure assessment (or health exposure test as it is termed in Figure 1). It would be useful to reiterate that it is required in this section. It is too easy to classify a development as major and then only read the text under the Major Classified Proposals heading.

The SPD directs the reader to a website (www.warwickdc.gov.uk/info2050/pollution) for further details of the air quality assessment requirements. This website does not provide further detail of the requirements.

The SPD requires a calculation of the pollutant damage costs to "*consider the appropriate scale and kind of mitigation that is required to make major development acceptable in terms of air quality*". The appropriateness of this approach is discussed in the next section on mitigation.

The SPD states "*Should there be no net increase in trips arising from a development scheme then the damage costs are zero*". This ignores the emissions from any centralised boiler that might be part of the proposed development. This should be re-phrased to make it clear it only relates the transport emissions.

³ Defra, 2016, Local Air Quality Management Technical Guidance (known as LAQM.TG16). <https://laqm.defra.gov.uk/technical-guidance/>

Appendix 2 states (emphasis added) *“An air quality assessment should clearly establish the likely change in pollutant concentrations at relevant receptors resulting from the proposed development during both the construction and operational phases. It must take into account the cumulative air quality impacts of committed developments (i.e. those with planning permission).”*

It is not possible to quantify the impact of construction on pollutant concentrations. Indeed Appendix 2 of the SPD (page 38) states that modelling is not appropriate for this type of assessment. This requirement to *“clearly establish the likely change in pollutant concentrations”* for the construction phase should be deleted from the SPD.

It would be useful for there to be a paragraph on the requirements for an assessment of the impact of the demolition and construction phases in the main part of the assessment. It is currently in Appendix 2 (Page 38). In this appendix the relevant IAQM guidance is wrongly referenced. It should be *‘Guidance on the assessment of dust from demolition and construction’*⁴. This uses a risk based approach with the aim of identifying the most appropriate mitigating measures commiserate with the risk.

For the operational impacts (Appendix 2 page 36) it is reasonable to require dispersion modelling to assess the impact of the emissions associated traffic on local air quality in most, but not in all, cases. There may be some situations where a qualitative assessment is adequate, for example where monitoring data shows that the objectives are achieved by a wide margin. It is therefore suggested that the word *‘generally’* is inserted before *‘require’* in the following sentence: *“The assessment will require dispersion modelling utilising agreed monitoring data, traffic data and meteorological data.”*

The key components of the Air Quality Assessment (Appendix 2 page 36) are appropriate. It should be recognised, however, that the prediction of the impact of a proposed development with mitigation measures (point 4.) will require assumptions to be made where there is little empirical evidence. For example the provision of electric vehicle charging points will encourage people to use electric vehicles, but we are not aware of data relating the provision of charging points, for example in new residential developments and the use of electric vehicles.

The SPD (Appendix 2 page 37, third line) requires a modelling sensitivity test to be undertaken assuming that future emissions may not reduce. There is good evidence that the latest generation of diesel vehicles have lower NOx emissions than earlier generations, and that DPFs are very effective at reducing exhaust PM emissions. Therefore it is reasonable to expect vehicle emissions per kilometre driven to decline in the future. The approach taken to the sensitivity test should take into account how far ahead the assessment year is. If only one or two years ahead it is reasonable to use the same emissions per vehicle kilometre as in the base year for the sensitivity test. For an assessment year, say, ten years ahead this approach will significantly over-estimate future air quality, and may result in unnecessary and potentially costly, mitigation measures being installed. Therefore the guidance should not be prescriptive.

6. Stage 3 – Mitigation (SPD pages 27-32)

The introduction to this section quotes from paragraph 152 of 2012 NPPF; paragraph 32 of the 2018 NPPF is similar. It states *“Where significant adverse impacts are unavoidable, suitable mitigation measures should be proposed (or, where this is not possible, compensatory measures should be considered).*

6.1 Construction phase (draft SPD Tables 3 and 6 page 29)

For the construction phase medium and major developments are required to meet specified emission standards for non-road mobile machinery. The standards recommended in Table 6, are not the most recent, and are considered to be reasonable.

⁴ IAQM, 2016, Guidance on the assessment of dust from demolition and construction, Version 1.1



A Construction Environmental Management Plan (CEMP) is required to be submitted and agreed with the Council officers for medium and major development (see Table 3). It would be clearer if this requirement was for a Dust Management Plan (DMP) including appropriate mitigation measures identified in the construction assessment. The DMP could be incorporated into a Construction Environmental Management Plan.

The mitigation section would be clearer if all the requirements for the construction phase were grouped together. It is confusing that Table 3 for Type 1 developments, i.e. minor developments, includes construction phase mitigation measures that only apply to medium and major developments.

Whilst the SPD provides details of many mitigation measures for the operational phase, only one (on non-road mobile machinery) is provided for the construction phase. Was this imbalance intended?

6.2 Operational phase (draft SPD, Tables 3 to 5, pages 27 to 29)

The SPD requires developers to produce a mitigation statement setting out the mitigation/compensation measures to be adopted which must be equal in value to the damage cost calculated as part of the assessment (page 27).

This approach assumes that the cost of mitigation or compensation measures is equal to the damage cost. This is not the case as the damage cost is based on emissions not local air quality. One tonne of emissions of a pollutant will have a very different impact on air quality depending on where it is emitted.

The mitigation (and compensation) measures should be aimed at the reducing the impact to make the development acceptable in air quality terms. There have been two recent High Court judgements where developers have lost their appeals because they failed to demonstrate that the mitigation measures would be effective at reducing the impacts.

This approach of using the damage cost calculator to determine the amount of mitigation has been adopted by a small number of local authorities. Whilst we are not aware of any appeals relating to its use, there is increasing litigation regarding air quality in the Courts, often brought by residents groups opposing new development. There is a risk therefore, that this approach may be challenged in the future. It is recommended that it is not used to identify the mitigation measures.

Mitigation measures should be identified for a development taking into account the predicted impact of the development on local air quality, and the likely impact of the mitigation measure.

The SPD gives examples of mitigation measures are presented for each type of development. It would be useful at the start of each Table to make it clear that for Type 1 development only Table 3 applied, for Type 2 developments both table 3 and 4 apply, and for Type 3 developments Tables 3, 4 and 5 all apply. Although this is stated in the text surrounding the tables, readers may miss it.

Type 1 Mitigation (Table 3) Minor Development

This sets out the requirements for electric vehicle charging points for residential, commercial/retail and industrial developments. For example, this requires one charging point for dwelling with dedicated parking or one charging pointer per 10 spaces.

Type 2 Mitigation (Table 4) Medium Development

Most of the measures in this table are transport measures designed to support the use of monitored transport plans, public transport, cycling and walking. The only mitigation measures directly addressing air quality are those that encourage the use of low emission and electric vehicles. It should be made clear that the same transport measures can be used to mitigate transport and air quality impacts.

Type 3 Mitigation (Table 5) Major Development

The measures in Table 5 are under a heading “off-set mitigation”. It is unclear what these means in this context. If it is a financial contribution it is important given the recent judicial Reviews that the measures are directly related to the impacts of development. A financial contribution for example, to an ‘Air Quality



Monitoring Programme' is not mitigation. The local authority has a statutory duty to review and assess air, and new development should not be used to support a local authority's statutory duties.

5.5 Specific issues

The draft SPD includes minimum standards for heating plant. These are the same as used in the 2014 London supplementary Planning Guidance on Sustainable Design & Construction.

5.53 Standby/ backup power generation

It would be useful to include a statement that the air quality assessment should consider both the long term and short term impacts, and that the assessment should use the maximum number of hours per year that it will operate. Consideration should be given to including a condition to the planning permission restricting operation to the number of operational hours included in the assessment.

5.55 Mechanical ventilation

This section is too prescriptive requiring sensitive development, to be at least 20m from the kerb, with the arrangement of living space to afford separation from a pollutant source. This is again too prescriptive. This should only apply where an air quality objective is predicted to be exceeded. The use of mechanical ventilation to protect users of a development should not be dismissed out of hand. In the planning balance it might be better to have housing with mechanical ventilation than no housing.

7. Recommendations

The following changes are recommended:

1. Chapter 5 on Development Classification, Assessment and Mitigation is overly complex and should be simplified. Consistent terminology should be used in the text and Figure 1, and the construction and operation phases considered separately.
2. Table 1 – reference to EIA should be deleted.
3. Table 1 0 have two separate rows exposure assessment (i.e. the impact of traffic emissions on the development) and impact assessment (i.e. the impact of the proposed development on existing receptors).
4. Table 2 should be deleted (unless Warwick District has abnormal air quality) and replaced with “For all major developments developers should consider the need for a detailed air quality assessment using the criteria in the latest version of the EPUK/IAQM guidance. The developer or agent will need to submit to the local planning authority either a compliant air quality assessment or the reasons why they consider one is not required”.
5. Section 5.2 MINOR and MEDIUM Classified Proposals – should clearly state that the criteria for assessing exposure are the air quality objectives.
6. Section 5.2 Section 5.2 MINOR and MEDIUM Classified Proposals - Delete the requirement of exposure assessment for proposed development within 20m of roads with traffic flows exceeding 10, 000 AADT and replace with “An exposure assessment is required where new development is in an AQMA or measured annual average concentrations of are X% or more of the objective ”. The X% could be set at 98%
7. Section 5.2. MAJOR classified Proposed – this should also include a section on exposure assessment to be consistent with Figure 1.
8. Remove the reference to further details of the air quality assessment requirements being on www.warwickdc.gov.uk/info2050/pollution
9. Rephrase the following sentence “*Should there be no net increase in trips arising from a development scheme then the damage costs are zero*” to make it clear it only relates the transport emissions, and if a development includes a large boiler, the damage cost calculation is required (but see comment 10 which overrides this comment).



10. Remove all references to the damage cost calculation.
11. Have a separate section on the demolition and construction phases, clearly setting out the Council's requirements. Provide the correct title of the IAQM guidance and recommend a risk assessment based on the source-pathway-receptor approach. Make it clear that modelling of these phases is not appropriate.
12. Appendix 2 – add some flexibility to the assessment method by saying “the assessment will generally require dispersion modelling utilising agreed monitoring data, traffic data, and meteorological data”.
13. Appendix 2 –sensitivity tests. Delete the requirement for a sensitivity test assuming that there will be no improvement to vehicle emissions as this is unrealistic. Replace with “An appropriate sensitivity test should be undertaken assuming that emissions do not reduce at the rate forecast by Defra’s emission factor toolkit.”
14. Stage 3 – Mitigation – this section should separate the mitigation requirements for the demolition and construction phases from the operational phase, and group them together
15. Stage 3 - Construction phase mitigation. It is suggested that the term ‘Dust Management Plan’ is used which can be incorporated into a Construction Environmental Management Plan.
16. Stage 3 – Operational impact. Remove all references to damage cost calculation and to all mitigation measures which will not reduce the air quality impact of development.
17. Stage 3 – Operational impact, Tables 4 and 5. Make it clear in the tables that medium development needs to consider the measures in Tables 3 and 4, and major development in Tables 3, 4 and 5.
18. Stage 3 – Operational impact. Many of the measures are transport measures that will be included as part of the development. Make it clear that these can count towards mitigating both transport and air quality impacts.
19. Stage 3 – Operation impact. Clarify what ‘off-set mitigation” means and remove all examples of measures that has no direct role in reducing the air quality impact of development (such as a financial contribution for monitoring).
20. Section 5.55 on mechanical ventilation. This mitigation measure should not be dismissed. There requirement for sensitive development, to be at least 20m from the kerb, with the arrangement of living space to afford separation from a pollutant source is too restrictive and should be deleted.