

## **Economy & Place Scrutiny Committee**

2 August 2017

Report of the Assistant Director  
Planning & Public Protection

### **Evaluation of the Impact on Air Quality of New Developments - Planning Briefing Note**

#### **Introduction – Air Quality and Planning**

1. The planning system has an important role to play in reducing emissions, improving local air quality and minimising exposure to harmful pollutants. Where air quality impacts are expected as a result of development, the planning process requires comprehensive assessment of such impacts and appropriate mitigation.
2. Air pollution is associated with a number of adverse health impacts. It is recognised as a contributing factor in the onset of heart disease and cancer. Additionally, air pollution particularly affects the most vulnerable in society: children and older people, and those with heart and lung conditions. The annual health cost to society of the impacts of particulate matter alone in the UK is estimated to be around £16 billion<sup>1</sup>
3. Any air quality issue that relates to land use and its development is capable of being a material planning consideration. However, the weight given to air quality in making a planning application decision will depend on such factors as the severity of the impacts on air quality, the air quality in the area surrounding the proposed development and the sensitivity of the likely use of the development. The length of time people are likely to be exposed at a location and the positive benefits provided through other material considerations are also important issues that have to be considered.
4. Development is not inherently negative for air quality. Whilst a new development at a particular site may have its own emissions, it may also bring an opportunity to reduce overall emissions in an area over time by installing new, cleaner technology and applying policies that promote

---

<sup>1</sup> DEFRA. Abatement cost guidance for valuing changes in air quality, May 2013

sustainability. The installation of more efficient low NO<sub>x</sub> boilers is one example.

5. With careful consideration and appropriate mitigation, new development can help to protect and improve air quality by reducing the need for vehicle trips, encouraging the uptake of lower emission vehicles, minimising existing and new exposure to poor air quality and supporting and contributing towards the delivery of Local Air Quality Action Plans (AQAPs).

### **Local Air Quality Management and Health Based Air Quality Objectives**

6. The Local Air Quality Management (LAQM) process places an obligation on all local authorities to regularly review and assess air quality in their areas and to determine whether or not the air quality objectives are likely to be achieved. Air Quality Objectives are health based objectives, designed to protect human health.
7. Where exceedences of Air Quality Objectives are considered likely, the local authority must then declare an Air Quality Management Area (AQMA) and prepare an Air Quality Action Plan (AQAP) setting out the measures it intends to put in place in pursuit of the objectives. The LAQM process is set out in Part IV of the Environment Act (1995), the Air Quality Strategy for England, Scotland, Wales and Northern Ireland 2007 and the relevant Policy and Technical Guidance documents.
8. York currently has 3 AQMAs covering properties around the inner ring road, in Fulford and in the Leeman Road area. The 3 AQMAs are joined together via the road network and are declared on the basis of exceedances of the annual mean nitrogen dioxide objective. The AQMA in the Leeman Road area, covering properties along Salisbury Terrace, is due for revocation later in 2017 (subject to an Executive Member Decision Session on 7 August 2017) as levels of nitrogen dioxide have been well below objective levels for a number of years. In general, greater weight is given to the issue of air quality for development proposals within AQMAs, where levels of pollution are already elevated, and smaller impacts would be considered 'significant'.

### **National Policy**

9. The National Planning Policy Framework (NPPF) provides guidance on how planning can take account of the impact of new development on air

quality. This replaces the guidance provided via the old system of National Planning and Policy statements. The NPPF identifies air quality as a material consideration in planning decisions and states that:

- The planning system should contribute to and enhance the natural and local environment by: preventing both new and existing developments from contributing to or being put at unacceptable risk from soil, air, water or noise pollution or land instability (Paragraph 109);
- To prevent unacceptable risks from pollution and land instability, planning policies and decisions should ensure that new development is appropriate for its location. The effects (including cumulative effects) of pollution on health, the natural environment or general amenity, and the potential sensitivity of the area or proposed development to adverse effects from pollution, should be taken into account (Paragraph 120);
- Planning policies should sustain compliance with and contribute towards EU limit values or national objectives for pollutants, taking into account the presence of Air Quality Management Areas and the cumulative impacts on air quality from individual sites in local areas. Planning decisions should ensure that any new development in Air Quality Management Areas is consistent with the local Air Quality Action Plan (Paragraph 124);
- Developments should be located and designed where practical to incorporate facilities for charging plug in and other ultra low emission vehicles (Paragraph 35);

## **Local Policy**

10. City of York Council produced a Low Emission Strategy (LES) in 2012 and Air Quality Action Plan (AQAP3) in 2015 to reduce pollutant concentrations within the current Air Quality Management Areas and to provide longer term protection of public health. All development proposals must be fully compatible with the aims and objectives of the current York LES and AQAP. In particular developments must prevent:
  - The need to declare further AQMAs in the city
  - Any increase in the number of people exposed to poor air quality in the city
  - City wide emission growth as far as possible, via on-site mitigation measures

11. City of York Council's emerging Local Plan Air Quality Policy, aims to reduce pollutant emissions across the entire York area, targeting background concentrations both within and beyond Air Quality Management Areas (AQMAs) and helping to safeguard compliance with air quality objectives and reduce particle levels, for which there is no known safe limit. . A Low Emission Supplementary Planning Document (SPD) will be prepared which will set out how the Council will consider and how applicants should approach, planning applications that could have an impact on air quality.
12. As part of the technical officer assessment element of the site selection process, comments have been provided on all proposed sites identified in the emerging Local Plan with respect to likely air quality impact (including cumulative impacts from nearby sites) and anticipated levels of assessment and mitigation required as sites come forward for development. The detailed scope of air quality assessment required is discussed with developers on a site by site basis at the application stage.

### **The Pre-Application Process**

13. The pre-application phase of Development Management is part of the positive and proactive planning service provided by City of York Council. We welcome and encourage early discussions with those considering development, particularly in relation to environmental planning issues. Pre-application discussions in relation to air quality enable a clear understanding of likely site impacts, assessment and mitigation, and enable a shared understanding of constraints and opportunities for developing a site.

### **Guidance on Assessing AQ impacts**

14. Assessments of air quality impacts are generally carried out following guidance issued by DEFRA and other non-governmental organisations (Environmental Protection UK, Institute of Air Quality Management), and are made against air quality objectives set out in regulations. City of York Council has also developed draft Low Emission Planning guidance which is currently being developed further through the YALPAG (Yorkshire and Lincolnshire Pollution Advisory Group) Air Quality forum. A number of other Yorkshire authorities are interested in adopting this guidance. Air Quality planning guidance is intended to assist developers in assessing the air quality impacts of their development and in reducing and mitigating these impacts in a cost effective manner.

15. Whether or not air quality is relevant to a planning decision will depend on the proposed development and its location. Concerns may arise if the development is likely to generate air quality impacts in areas where air quality is known to be poor. They could also arise where the development is likely to adversely impact upon the implementation of air quality strategies / air quality action plans.
16. When deciding whether air quality is relevant to a planning application, considerations are likely to include whether the development would:
- Significantly affect traffic in the immediate vicinity of the proposed development site or further afield. This could be by generating or increasing traffic congestion; significantly changing traffic volumes, vehicle speed or both; or significantly altering the traffic composition on local roads. Other matters to consider include whether the proposal involves the development of a bus station, coach or lorry park; adds to turnover in a large car park; or result in construction sites that would generate large Heavy Goods Vehicle flows over a period of a year or more. Threshold levels exist for factors such as traffic generation and the need for an air quality assessment is generally determined from the figures presented in a traffic impact assessment.
  - Introduce new point sources of air pollution. This could include furnaces which require prior notification to local authorities; or extraction systems (including chimneys) which require approval under pollution control legislation or biomass boilers or biomass-fuelled CHP plant; centralised boilers or CHP plant burning other fuels within or close to an air quality management area or introduce relevant combustion within a Smoke Control Area;
  - Expose people to existing sources of air pollutants. This could be by building new homes, workplaces or other development in places with poor air quality.
  - Give rise to potentially unacceptable impact (such as dust) during construction for nearby sensitive locations.
17. Where there are concerns about air quality, City of York Council will generally want to know about:
- 'Baseline' air quality - Public Protection operates an extensive monitoring network across the city and developers appointed environmental consultants will generally always utilise this data for their assessments.

- Whether the proposed development could significantly change air quality during the construction and operational phases; and/or
- Whether there is likely to be a significant increase in the number of people exposed to elevated concentrations of pollution, such as when new residential properties are proposed in an area known to experience poor air quality.

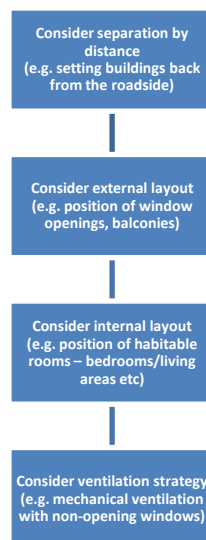
18. Early engagement with Public Protection is therefore important to establish the need and, where appropriate, scope of any assessment that will be needed to support the application.
19. Air Quality Assessments, especially for larger sites, will commonly make use of air quality dispersion models that can be used to model the impacts of additional traffic movements in terms of air quality impacts. Public Protection regularly discusses the scope of these assessments with applicants, to agree model input parameters and modelled receptor locations, for example.
20. Current national guidance requires that air quality assessments consider air quality at 'relevant locations'. Such locations are defined as outdoor, non-occupational locations where members of the public are likely to be regularly exposed to pollution for extended periods. With respect to nitrogen dioxide and the annual mean objective (the main pollutant and objective of concern in York), relevant locations include areas such as residential accommodation with opening windows, schools and care homes etc. With respect to the hourly mean nitrogen dioxide objective, any outdoor locations where members of the public might reasonably be expected to spend one hour or more, would be considered relevant (e.g. pavements of busy shopping streets including cafes, car parks and bus stations, for example).
21. The emerging low emission planning guidance, once adopted, will aim to classify sites based on their location, size and likely traffic generating potential. This site classification will dictate the type and level of assessment required for the application. In addition to on-street air quality impacts (detectable changes to ambient concentrations of air pollutants directly attributable to development occupation and/or use of a site) it will also require consideration of total emissions from a site, with a view to reducing and mitigating these emissions, based on an estimated damage cost. Damage costs are a simple way to value changes in air pollution. They estimate the cost to society of a change in emissions of

different pollutants<sup>2</sup>. Developers would be expected to undertake a damage cost calculation and use this figure to ensure that mitigation measures are reasonable and proportionate with respect to the emission 'harm' caused by the development.

## Exposure mitigation

22. It is important to consider if future occupants of a development are likely to be potentially exposed to unacceptable levels of pollution. This is normally informed by a simple screening exercise undertaken by reviewing local monitoring data, considering the locations of AQMAs and discussing with CYC Air Quality Officers. The screening exercise will draw broad conclusions about the exposure risk presented by the development.
23. The following exposure mitigation hierarchy is followed to ensure that pollution levels at building facade with openings to habitable rooms do not exceed health based Air Quality Objective levels and to ensure that effective room ventilation is maintained within habitable rooms.

**Figure 1:** Exposure mitigation hierarchy



24. When required for a development, continuous mechanical supply and extract ventilation systems should incorporate heat recovery and should be designed to meet current Building Regulations with respect to the provision of fresh air and the extraction of stale air.

---

<sup>2</sup> <https://www.gov.uk/guidance/air-quality-economic-analysis>

25. Where the proposed design leaves uncertainty regarding the pollution levels at facades with openings to habitable rooms, the developer is likely to be required to demonstrate, via appropriate monitoring, that occupants will not be exposed to levels of pollution above Air Quality Objective values. This may involve site specific air quality monitoring at different levels (on the building exterior) and elevations. Where uncertainty still exists, or if monitoring suggests levels of pollution are borderline with respect to health based objectives, City of York Council will take a precautionary approach with respect to mitigation and request non-opening windows and mechanical ventilation.

### **Assessing Significance of Air Quality Impacts**

27. Impacts on air quality, whether adverse or beneficial, will have an impact on human health that can be judged as 'significant' or 'not significant'. This is a requirement of the EIA regulations but is also relevant to other air quality assessments. National guidance provides an assessment framework for describing impacts that is generally used as a starting point to make a judgement on significance. Judgement on overall significance of the air quality impact of a development will take account of factors such as the existing and future air quality in the absence of the development, the extent of current and future population exposure to the impacts, and the influence and validity of any assumptions adopted when undertaking prediction of the impacts.

### **Mitigating Air Quality Impacts**

28. In circumstances where an air quality assessment concludes that there will be a significant effect, there is a requirement to mitigate such impacts, where feasible. The type of measures proposed to reduce air quality impacts will depend on the nature and scale of the proposed development. Where the proposal is for a small number of residential units in an area of poor air quality, it would be reasonable to examine design and ventilation arrangements to reduce the impact of the external environment on occupants in the building. Where the proposed development is larger and its impact is greater, wider measures could be considered, such as funding for traffic management measures and sustainable travel initiatives.
29. Mitigation measures for larger development sites generally fall under the following headings:



- **Construction Environmental Management Plan (CEMP)** – this plan will cover issues such as construction vehicle emission standards, construction staff travel planning and delivery arrangements and control of fugitive dust emissions. Where required, a CEMP must be submitted to and approved by City of York Council. The plan should include appropriate measures, to minimise emissions to air and restrict them to within the site boundary during the construction (or demolition) phases. Measures may include, but would not be restricted to on-site wheel washing, agreement on the routes to be used by construction traffic, restriction of stockpile size, targeted sweeping of roads and proactive monitoring of dust. The plan should also provide detail on the management and control processes.
- **Provision of Electric Vehicle Recharging Infrastructure** – aimed at encouraging the uptake of low emission/electric vehicles on site. Charging facilities for electric vehicles are now required for all developments in York that include parking (including residential developments).
- **Trip reduction measures** - it is important that sites minimise trips initially through good design and then through effective mitigation. Requirements are usually established via the separate transport assessment process and packaged in the form of a site travel plan. This will cover a variety of issues such as policies that will influence active travel and public transport use and any car related initiatives e.g. car clubs, car sharing etc
- **On-site measures** - On-site technology measures are defined as package of measures, which help to reduce emissions over and above design features and other aspects of mitigation already incorporated into the scheme proposal. Examples may include the use of low emission service vehicles, designation of parking spaces for low emission vehicles, or an on-site fleet low emissions operation plan. The developer should consider the full raft of possible measures and select an appropriate mix, which delivers mitigation commensurate with the scale and impact of the development.

30. As part of City of York Council's low emission planning approach (draft guidance currently being prepared), where emissions can not be fully mitigated using on-site measures, the intention is to request a financial contribution which reflects residual site emissions cumulated over a 5 year period from first operation. This funding would be used as part of a Low Emission Fund to implement measures that will complement the

aims and objectives of the adopted Low Emission Strategy and Air Quality Action Plan (AQAP3). However this approach needs to be tested for compliance with the Community Infrastructure Levy regulations, which require planning obligations to be necessary for the specific development to be acceptable, and for contributions to be pooled from no more than 5 legal agreements.

### **Recommendations made by Public Protection Officers**

31. Where an air quality assessment for a development indicates that the development is likely to introduce unacceptable public exposure to air pollution, the developer must demonstrate that adequate mitigation is in place to address all relevant risk. Planning conditions are routinely used to ensure that suitable mitigation measures are put in place. However where those mitigation measures may give rise to other considerations, for example installation of mechanical extract system into a listed building, officers will seek to ensure that sufficient detail is provided before the granting of permission, to be satisfied that the impact of any measures are acceptable
32. Planning applications that support the objectives of CYC's Air Quality Action Plan / Low Emission Strategy are generally welcomed. For example, developments which have low levels of parking and which support walking, cycling, public transport measures and alternative fuel/infrastructure provision. Developments within the AQMA are generally permitted if they do not result in further public exposure or large increases in traffic flow (and corresponding increases in air pollution).

### **Other Relevant Current Issues**

33. **Permitted Development Rights** - Whilst we do have controls through the planning process to help limit public exposure to poor air quality, the government has recently introduced 'permitted development rights' for certain types of development, an example being the conversion of office space to residential use. Other than the consideration of contamination and flood risks, and noise and highway impacts, there is have no basis to object to applications for conversion of city centre office space to residential properties, even when they might be in areas of poor air quality. Whilst we are unable to use planning conditions to ensure mitigation measures are put in place, Public Protection will still comment on all such applications and include an informative about air quality where appropriate.

34. **Short Term Operating Reserve (STOR) installations** – whilst this is not currently an issue in York, STOR sites using diesel powered electricity generation are becoming of increasing concern with regard to air quality, as emissions are not regulated. DEFRA is currently considering control options for air quality impacts from diesel generators (including standby generators, STOR and other electricity grid support generation plant). STOR sites are usually sized below the threshold that would require an Environmental Permit and therefore regulatory controls are limited. It is also difficult to accurately model the air quality impacts of such installations, as hours of operation are variable.

### Contact Details

**Author:**

Mike Southcombe  
Public Protection Manager  
Tel No.-1904 551514

**Chief Officer Responsible for the report:**

Mike Slater  
Assistant Director  
Planning & Public Protection

**Report Approved**

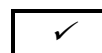


**Date** 21 July 2017

**Specialist Implications Officer(s)** N/A

**Wards Affected:**

**All**



For further information please contact the author of the report