



Report to Scrutiny

Item Number:

Contains Confidential or Exempt Information

No

Subject of Report: Air Pollution from Construction Projects

Meeting: Scrutiny Review Panel 3: Air Quality
27 September 2018

Service Report Author: John Freeman, Regulatory Services Officer,
freemanj@ealing.gov.uk, 020 8825 7226

Scrutiny Officer: Harjeet Bains, Scrutiny Review Officer,
bainsh@ealing.gov.uk, 020 8825 7120

Cllr Julian Bell (Regeneration and Transport)

Cabinet Responsibility: Cllr Mik Sabiers (Environment and Highways)

Cllr Binda Rai (Health and Adults' Services)

Director Responsibility: Tony Clements, Executive Director, Regeneration and Housing, ClementsT@ealing.gov.uk, 020 8825 8531

Brief: To consider the information provided on air pollution from construction projects in the borough and make recommendations accordingly.

Recommendations: The Panel is recommended to:
- consider and comment on the information provided on air pollution from construction projects in the borough; and
- make suggestions for further improvements appropriately.

1. Air Pollution from Construction Projects in the Borough

Introduction

Construction projects in the borough have the potential, without the necessary mitigation in place, to make a significant contribution to air pollution. This report deals with the approaches taken by the Council to address emissions of air pollutants from construction projects in the borough.¹

Emissions from construction

Construction and demolition activities can contribute to air pollutant emissions in the borough, not only through the generation of visible dust and road soiling, but particularly the exhaust emissions from (mainly diesel-powered) mobile machinery and plant (Non Road Mobile Machinery - NRMM). The three charts below, derived from the 2013 London Atmospheric Emissions Inventory illustrate, respectively, the various sources of emissions of the pollutants PM₁₀, PM_{2.5} and NO_x (oxides of nitrogen) in the borough.

Figure 1 Sources of emissions of PM₁₀ particulate pollution in Ealing borough

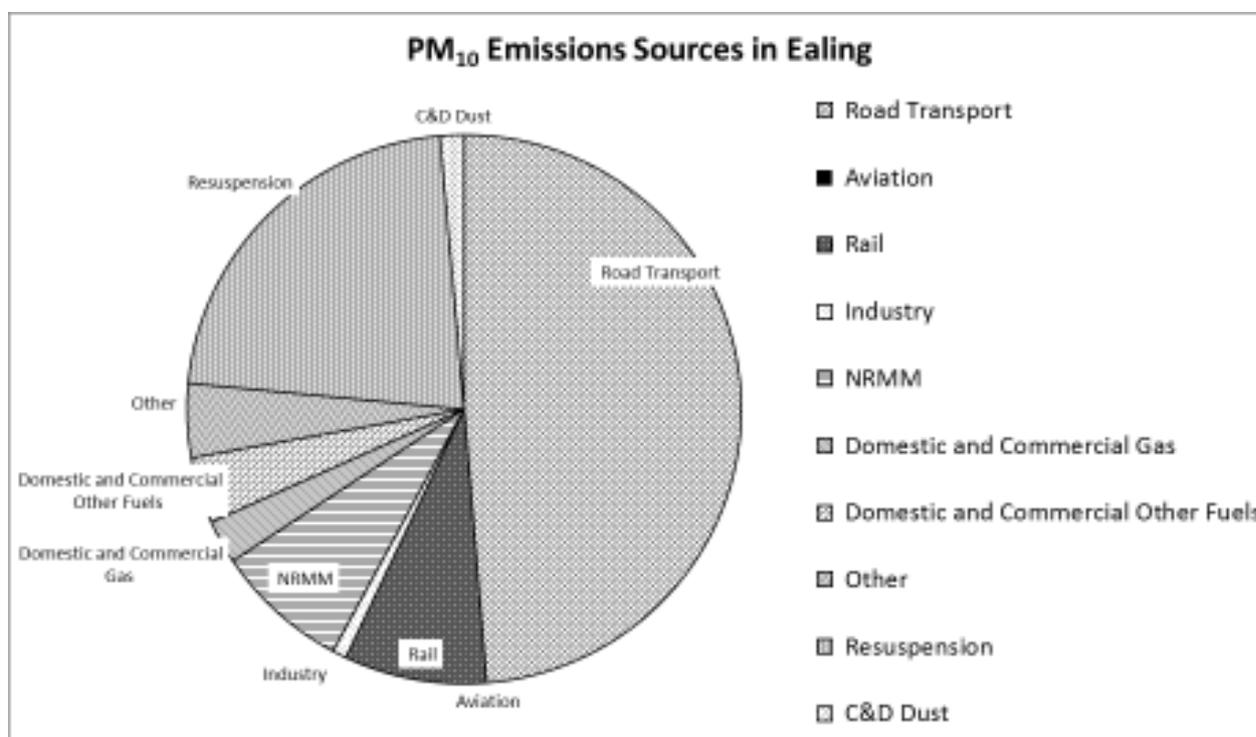


Figure 2 Sources of emissions of PM_{2.5} particulate pollution in Ealing borough

¹ A separate report to this Panel covers (a) odour issues from land remediation at the Southall Waterside regeneration project and (b) odorous emissions from a roadstone coating plant operated by F.M. Conway Ltd in Hayes that have affected parts of Southall.

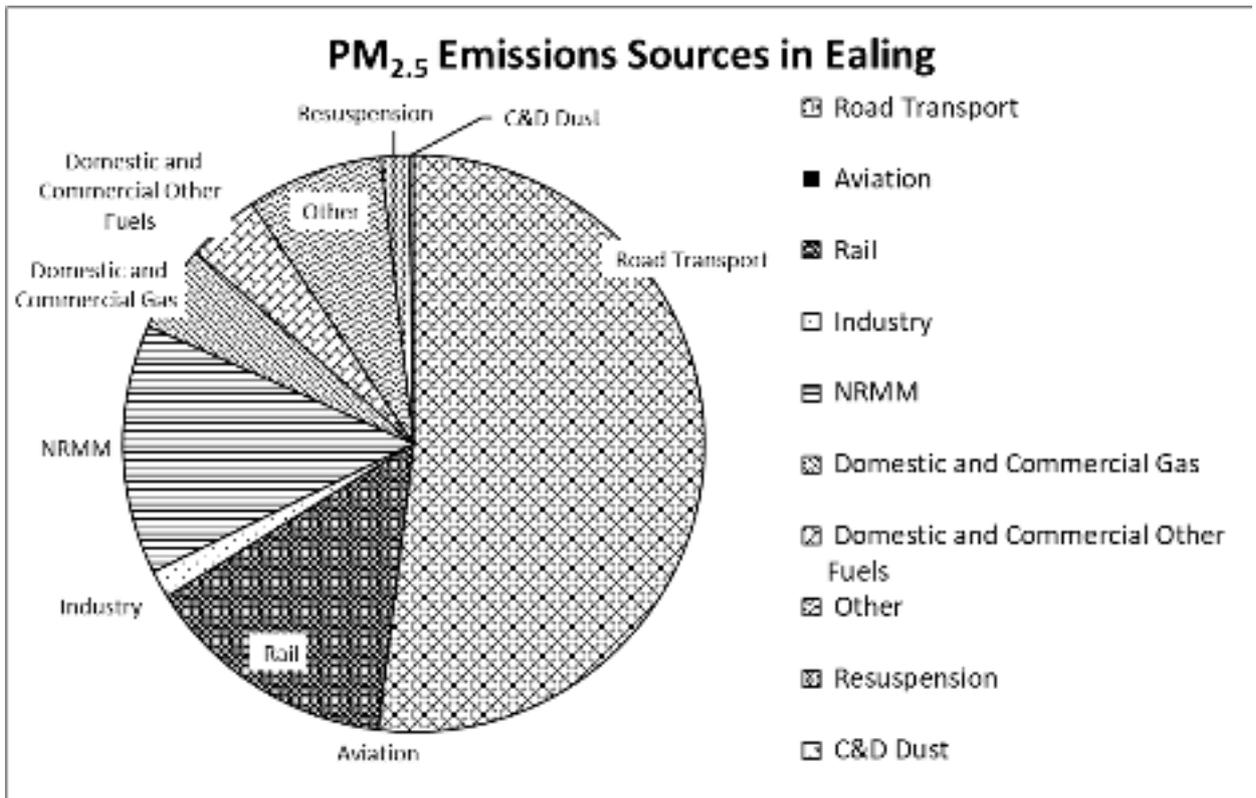
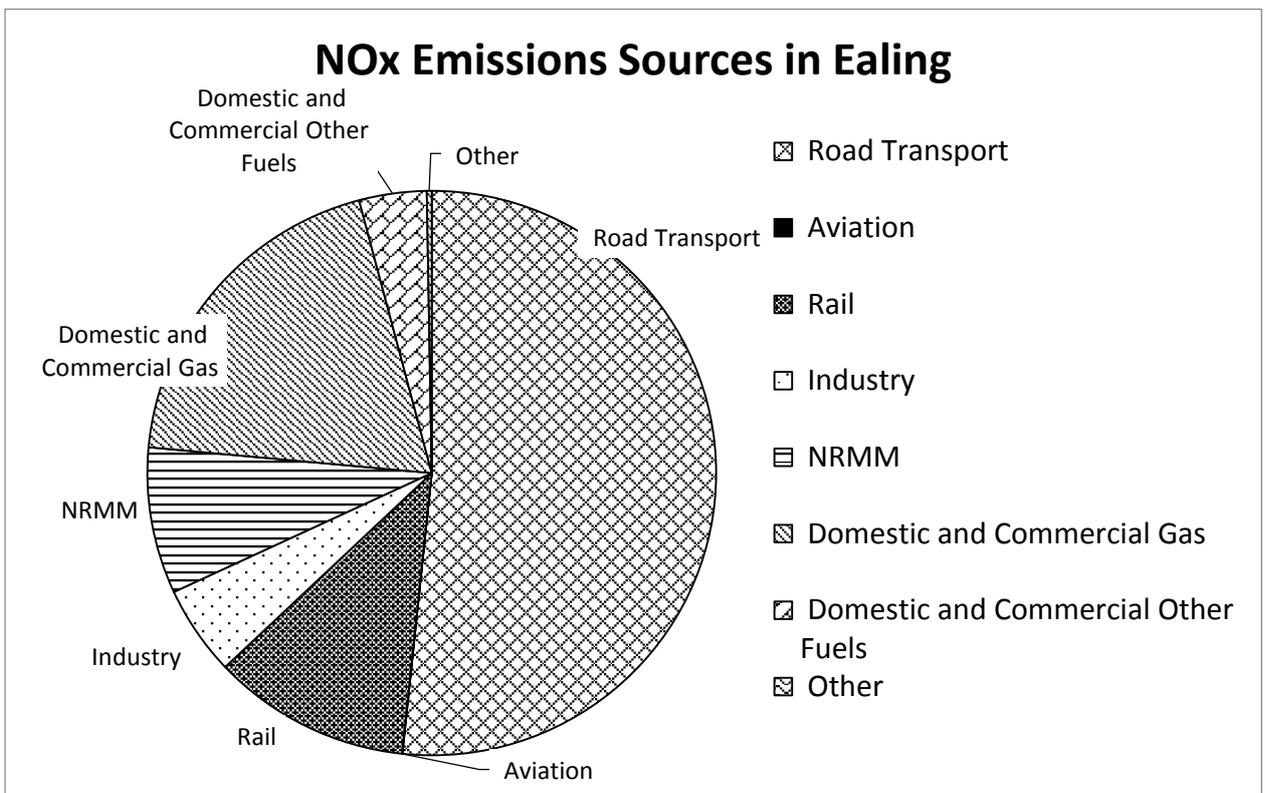


Figure 2 Sources of emissions of nitrogen oxides (NO_x) pollution in Ealing borough



The above charts demonstrate that while construction and demolition dust (abbreviated to C & D dust) contribute somewhat to the overall emissions of particulate pollution in the borough (both PM₁₀ and PM_{2.5}), the proportion attributable to emissions from mainly

diesel-powered off-road plant (NRMM) is much larger. Similarly, NRMM contributes a significant proportion of the total NO_x emitted within the borough.

Management of pollutant emissions from construction and demolition

Part of the Council's duty to manage local air quality is to take all appropriate measures to control pollution from construction activities. This is mainly achieved through the development management role of the Council as Local Planning Authority. Applicants for planning permission will need to demonstrate that their construction methods as well as the built development itself minimise any contributions to pollutant emissions.

The Council's Planning Enforcement and Environment Team within Regulatory Services provides specialist comment on planning applications to development management case officers and will recommend a range of conditions to be applied in the event that a decision is taken to grant a permission. In the majority of cases where construction is involved, a condition is recommended requiring the submission to the Council for approval of a Construction Management Plan (CMP) setting out the measures that the applicant/developer proposes to take to mitigate emissions during the construction phase of the development. The condition will point to the relevant London SPD (see below).

When CMP submissions are received, officers will check the adequacy of the information provided, which will need to be proportionate to the scale of the development and to the level of risk of adverse impacts arising to neighbouring properties. Because of the wide range of construction projects potentially covered by a CMP there is no standard template to be followed, rather the applicant must demonstrate that they have fully considered and mitigated all potential risks based, in keeping with the risk-based approach adopted in the SPD.

In addition to the prior approval of mitigation measures through the planning process, the Council's Noise and Nuisance Team provides a responsive service dealing with a variety of construction-related pollution and nuisance issues, including bonfires, dust and odour impacts and they will usually be the first line of response in the event of complaint. Follow-up of a complaint, where there is a possible breach of a planning condition, will be referred to planning enforcement officers for further response.

At present due to resource limitations there is no pro-active inspection of NRMM across the borough to check on the registration of plant and compliance with London-wide emissions standards. However, officers will shortly be considering an application for Mayor's Air Quality Fund-supported inspections jointly with other West London boroughs along the lines of schemes successfully implemented by other local authority groups in London.

Planning policies relating to pollutant emissions from construction

Ealing's planning policy on construction-related pollution is derived from the 2011 London Plan and its associated Supplementary Planning Documents (SPDs). The main London policy of relevance is reproduced below:

POLICY 7.14 IMPROVING AIR QUALITY

Strategic

A The Mayor recognises the importance of tackling air pollution and improving air quality to London's development and the health and well-being of its people. He will work with strategic partners to ensure that the spatial, climate change, transport and design policies of this plan support implementation of his Air Quality and Transport strategies to achieve reductions in pollutant emissions and minimize public exposure to pollution.

Planning decisions

B Development proposals should:

a minimise increased exposure to existing poor air quality and make provision to address local problems of air quality (particularly within Air Quality Management Areas (AQMAs) and where development is likely to be used by large numbers of those particularly vulnerable to poor air quality, such as children or older people) such as by design solutions, buffer zones or steps to promote greater use of sustainable transport modes through travel plans (see Policy 6.3)

b promote sustainable design and construction to reduce emissions from the demolition and construction of buildings following the best practice guidance in the GLA and London Councils' 'The control of dust and emissions from construction and demolition'

c be at least 'air quality neutral' and not lead to further deterioration of existing poor air quality (such as areas designated as Air Quality Management Areas (AQMAs)).

d ensure that where provision needs to be made to reduce emissions from a development, this is usually made on-site. Where it can be demonstrated that on-site provision is impractical or inappropriate, and that it is possible to put in place measures having clearly demonstrated equivalent air quality benefits, planning obligations or planning conditions should be used as appropriate to ensure this, whether on a scheme by scheme basis or through joint area-based approaches

e where the development requires a detailed air quality assessment and biomass boilers are included, the assessment should forecast pollutant concentrations. Permission should only be granted if no adverse air quality impacts from the biomass boiler are identified

LDF preparation

C Boroughs should have policies that:

a seek reductions in levels of pollutants referred to in the Government's National Air Quality Strategy having regard to the Mayor's Air Quality Strategy

b take account of the findings of their Air Quality Review and Assessments and Action Plans, in particular where Air Quality Management Areas have been designated.

In addition, some relevant wording on emissions is included in Policy 7A of the Council's Development Management Development Plan Document (DPD), adopted on 10 December 2013, as reproduced below:

EALING LOCAL POLICY - AMENITY

Planning Decisions

A Development which in the course of its operations will cause emissions of any sort must;

- a) not erode the amenity of surrounding uses or the site itself*
- b) take all reasonable steps to ameliorate these emissions*
- c) provide all necessary evidence of mitigation that is requested by the local planning authority*

B The requirement to properly regulate and ameliorate emissions applies also to functionally separate areas within a given development, for instance between separate flats or dwellings.

C Sensitive uses will not be permitted where these would achieve acceptable levels of amenity only by substantially sealing residents or users off from their surrounding environment.

D Development that is sensitive to operational emissions of a particular type must avoid locating in areas in which there are established concentrations of such emissions that cannot be properly addressed through the design process.

There are two related London Plan SPDs that support the above policies and which are cited regularly by air quality officers in their recommendations to planning colleagues. These SPDs are summarised below:

- **Sustainable Design and Construction** (April 2014)

This document includes a section on air quality that provides guidance in the following areas:

Air quality assessments – which developments require an assessment to be submitted and what it should contain;

Construction and demolition – the companion SPG 'The control of dust and emissions from construction and demolition' is referred to (see more below on this document);

Design and occupation in relation to air quality – the factors that need to be considered in the location and design of buildings to minimise the exposure of occupants to poor air quality. This is particularly relevant where developments include sensitive uses such as hospitals, schools, open spaces and playgrounds. This includes the location of outside space including gardens, balconies and roof terraces proposed in areas of poor air quality.

'Air quality neutral' policy for buildings and transport - The London Plan and the Mayor's Air Quality Strategy stipulate that developments are to be at least 'air quality neutral', meaning that they should not worsen existing air quality. To enable the implementation of this policy emission benchmarks have been produced for buildings' operation and transport across London based on the latest technology (including its effectiveness and viability).

Emissions standards for combustion plant – The London Plan states that new development proposals should meet the minimum standards outlined in this SPG. Standards are provided for individual and communal gas boilers, solid biomass (e.g. wood pellet) boilers and Combined Heat and Power (CHP) plant. (CHP is the local generation of electricity with the recovery of heat, usually for district heating purposes and often using a gas-powered piston engine.) Where individual and/or communal gas boilers are installed in commercial and domestic buildings they should achieve a NO_x rating of <40 mgNO_x/kWh.

- **The Control of Dust and Emissions During Construction and Demolition (July 2014)**

This document sets out a risk-based approach to the assessment and management of dust and emissions from construction and demolition activities. It details the content of an Air Quality and Dust Management Plan (AQDMP) that can be requested from developers, which is aimed at minimising all emissions from construction and demolitions sites that contribute to poor air quality in London. It describes how an Air Quality (Dust) Risk Assessment (AQDRA) can be used to covers all the physical activities occurring on-site that can result in the generation of dust, leading to soiling and potential impacts on health (especially through the generation of PM₁₀ and PM_{2.5}). Its recommendations for cleaner construction machinery tackle both PM and NO_x emissions from machinery related to demolition and construction.

Officers are also able to draw upon a range of best practice and technical guidance documents published by the Institute of Air Quality Management and other professional bodies. (Please refer to the Background Paper list at section 5 of this report for further details and links to these publications.)

Control of construction emissions from major infrastructure projects

Major infrastructure projects such as Crossrail, High Speed 2 and Tideway Tunnel are subject to consent via either a Hybrid Bill in Parliament or a National Infrastructure Project application to the Planning Inspectorate. Both of these involve extensive engagement of officers with representatives of the developers at the application stage, to ensure that the application is submitted with details of all appropriate emissions mitigation measures provided in the application documents. The consent documents for major projects include Environmental Minimum Requirements and a Code of Construction Practice, which set out the environmental standards to be adhered to by all contractors.

Proposed air quality policies in the Draft New London Plan

In 2017 the Mayor of London issued a new draft London Plan for consultation, which embodies several new and amended air quality policies relevant to emissions from

construction and the built development. A version of the draft was published in August 2018 including minor suggested changes, following a review of consultation responses. An extract from Chapter 9 of the draft on Sustainable Infrastructure, as recently published, is reproduced below. Although the current Plan is still the adopted Development Plan, the New Draft London Plan is a material consideration in planning decisions.

Policy SI1 Improving air quality

- A London's air quality should be significantly improved and exposure to poor air quality, especially for vulnerable people, should be reduced:
- 1) ~~D~~development proposals should not:
 - a) lead to further deterioration of existing poor air quality
 - b) create any new areas that exceed air quality limits, or delay the date at which compliance will be achieved in areas that are currently in exceedance of legal limits
 - c) reduce air quality benefits that result from the Mayor's or boroughs' activities to improve air quality
 - d) create unacceptable risk of high levels of exposure to poor air quality.
 - 2) ~~D~~development proposals should use design solutions to prevent or minimise increased exposure to existing air pollution and make provision to address local problems of air quality. Particular care should be taken with developments that are in Air Quality Focus Areas or that are likely to be used by large numbers of people particularly vulnerable to poor air quality, such as children or older people.
 - 3) ~~The development of large scale redevelopment areas, such as Opportunity Areas and masterplans and development briefs for large-scale development proposals those~~ subject to an Environmental Impact Assessment should propose methods of achieving an Air Quality Positive approach through the new development. ~~All other developments should be at least Air Quality Neutral.~~

3A) major development proposals must be at least air quality neutral and be submitted with an Air Quality Assessment.
 - 4) ~~D~~development proposals must demonstrate how they plan to comply with the Non-Road Mobile Machinery Low Emission Zone and reduce emissions from the demolition and construction of buildings following best practice guidance¹¹⁰.
 - 5) ~~Air Quality Assessments (AQAs) should be submitted with all major developments, unless they can demonstrate that transport and building emissions will be less than the previous or existing use.~~
 - 6) ~~D~~development proposals should ensure that where emissions need to be reduced, this is done on-site. Where it can be demonstrated that on-site provision is impractical or inappropriate, off-site measures to improve local air quality may be acceptable, provided that equivalent air quality benefits can be demonstrated.
- 9.1.1 **Poor air quality** is a major issue for London which is failing to meet requirements under legislation. Poor air quality has direct impacts on the health, quality of life and life expectancy of Londoners. The impacts tend to be most heavily felt in some of London's most deprived neighbourhoods, and by people who are most vulnerable to the impacts. **The Mayor is committed to making air quality in London the best of any major world city, which means not only meeting and maintaining legal limits for Nitrogen Dioxide as soon as possible but also working to**

achieve World Health Organisation targets for other pollutants such as Particulate Matter.

- 9.1.2 The aim of this policy is to ensure that new developments are designed and built, as far as is possible, to **improve local air quality and reduce the extent to which the public are exposed to poor air quality**. This means that new developments, as a minimum, must not cause new exceedances of legal air quality standards, or delay the date at which compliance will be achieved in areas that are currently in exceedance of legal limits¹⁶. Where limit values are already met, or are predicted to be met at the time of completion, new developments must endeavour to maintain the best ambient air quality compatible with sustainable development principles.
- 9.1.3 For larger-scale development areas such as Opportunity Areas, or those large enough to already require an Environmental Impact Assessment, there should be an aim to be **Air Quality Positive** by implementing measures across the area that will actively reduce air pollution. This could be achieved, for example, by the provision of low or zero-emission heating and energy, or improvements to public transport, walking and cycling infrastructure, and designing out features such as street canyons that prevent effective dispersion of pollutants. Data from the use of smart infrastructure such as sensors could contribute to beneficial design solutions.
- 9.1.4 For major developments, a **preliminary AQA** should be carried out before designing the development to inform the design process. The aim of a preliminary assessment is to assess:
- The most significant sources of pollution in the area
 - Constraints imposed on the site by poor air quality
 - Appropriate land uses for the site
 - Appropriate design measures that could be implemented to ensure that development reduces exposure and improves air quality.
- 9.1.4 For major developments, a **preliminary AQA** should be carried out before designing the development to inform the design process. The aim of a preliminary assessment is to assess:
- The most significant sources of pollution in the area
 - Constraints imposed on the site by poor air quality
 - Appropriate land uses for the site
 - Appropriate design measures that could be implemented to ensure that development reduces exposure and improves air quality.
- 9.1.5 **Further assessments** should then be carried out as the design evolves to ensure that impacts from emissions are prevented or minimised as far as possible, and to fully quantify the expected effect of any proposed mitigation measures, including the cumulative effect where other nearby developments are also underway or likely to come forward.
- 9.1.6 Assessment of the impacts of a scheme on local air pollution should include fixed plant, such as boiler and emergency generators, as well as expected transport-related sources. **Impact assessments** should always include all relevant pollutants. Industrial, waste and other working sites may need to include on-site vehicles and mobile machinery as well as fixed machinery and transport sources.
- 9.1.7 The GLA maintains and publishes an **inventory of emission sources** (the London Atmospheric Emissions Inventory or LAEI). This inventory is based on a detailed assessment of all current sources of pollution in London and can be used to help understand the existing environment at development sites.
- 9.1.8 **Air Quality Focus Areas** (AQFA) are locations that not only exceed the EU annual mean limit value for nitrogen dioxide (NO₂) but are also locations with high human exposure. AQFAs are not the only areas with poor air quality but they have been defined to identify areas where currently planned measures to reduce air pollution may not fully resolve poor air quality issues. There are currently 187 AQFAs across London (Figure 9.1). The list of Air Quality Focus Areas is updated from time to

time as the London Atmospheric Inventory is reviewed and the latest list in the London Datastore should always be checked.

Figure 9.1 - Air Quality Focus Areas

- 9.1.9 It may not always be possible in practice for developments to achieve Air Quality Neutral standards or to acceptably minimise impacts using on-site measures alone. If a development can demonstrate that it has exploited all relevant on-site measures it may be possible to make the development acceptable through additional **mitigation or offsetting payments**.
- 9.1.10 Where there have been significant improvements to air quality resulting in an area no longer exceeding air quality limits, development should not take advantage of this investment and worsen the local air quality back to a poor level.
- 9.1.11 Further **guidance** will be published on Air Quality Neutral and Air Quality Positive standards as well as guidance on how to reduce construction and demolition impacts.

In summary, the New London Plan represents a considerable strengthening of policy in the area of air quality, with new emphases on preventing emissions and exposure to pollution through design solutions, as well as a new Air Quality Positive requirement for major developments, which must now contribute to the *improvement* of air quality and not simply leave it unchanged. Air Quality Focus Areas and Non-Road Mobile Machinery emissions now have specific mention in the new policy as well as in the supporting text.

List of Abbreviations

AQA	Air Quality Assessment
AQFA	Air Quality Focus Area
AQMA	Air Quality Management Area
CAZ	Central Activity Zone
CHP	Combined Heat and Power
CMP	Construction Management Plan
DPD	Development Plant Document
LAEI	London Atmospheric Emissions Inventory
LEZ	Low Emissions Zone
LLAQM	London Local Air Quality Management
mgNO _x /kWh	Milligrams of nitrogen oxides per kilowatt hour
NNRM	Non-Road Mobile Machinery
SPD	Supplementary Planning Document
ULEV	Ultra-Low Emission Vehicle
ULEZ	Ultra-Low Emission Zone

2. Legal Implications

Ealing Council has statutory local air quality management duties under Part IV of the Environment Act, 1995, and is required to have regard to statutory guidance issued under the Act in the discharge of its duties. Under s. 364 of the Greater London Authority Act 1999, local authorities in Greater London are required to have regard to the London air quality strategy (prepared by the Mayor) in exercising any function under Part IV of the

Environment Act 1995.

Since April 2016 the London Local Air Quality Management (LLAQM) regime has been in operation, whereby the Mayor of London now exercises devolved powers and oversight of London local authorities in relation to their air quality management functions. One of the LLAQM regime's requirements is the provision, within the Annual Air Quality Status Report, of statistics on the Council's use of planning conditions to support air quality improvements during the previous year.

3. Financial Implications

The operational management functions for air quality are funded from the existing budget within Safer Communities. Where appropriate, contributions towards implementing air quality improvement measures are sought for new developments via s.106 planning obligations. The Council's air quality monitoring network is currently maintained from funds (£0.025M) from TfL's Local Implementation Plan allocation. Where possible, bids are prepared for funding of air quality improvement measures from the Defra Air Quality Grant scheme and from the Mayor's Air Quality Fund.

4. Other Implications

Ealing's air quality work provides a direct link to one of the council's new priorities for the borough: *Working to make our borough a healthy and great place for all.*

5. Background Papers

1. *Overview of Air Quality in the Borough*, Report to Scrutiny Review Panel 3: Air Quality, London Borough of Ealing, 19 July 2018. Available online at the following [link](#).
2. *Sustainable Design and Construction*, Supplementary Planning Guidance, London Plan 2011 Implementation Framework, Greater London Authority, April 2014. Available online at the following [link](#).
3. *The Control of Dust and Emissions During Construction and Demolition*, Supplementary Planning Guidance, London Plan 2011 Implementation Framework, Greater London Authority, July 2014. Available online at the following [link](#).
4. *IAQM Guidance on the assessment of dust from demolition and construction*, Institute of Air Quality Management, London, February 2014. Available online at the following [link](#).
5. *London Borough of Ealing Air Quality Annual Status Report for 2017*, 31 May 2018. Available on request from service officer, pending publication online.
6. *Development Management Strategy DPD*, London Borough of Ealing, adopted 10 December 2013. Available online at the following [link](#).
7. *Draft London Plan, with minor suggested changes*, Mayor of London, July 2018. Available online at the following [link](#).

Appendix

Air Quality Actions relating to Construction (from the London Borough of Ealing's draft Air Quality Action Plan 2018-2022)

Action category	Action ID	Action description	Responsibility	Cost (to Borough)	Expected emissions/concentrations benefit	Timescale for implementation	How implementation will be monitored	Further information
Emissions from developments and buildings	1	Ensuring emissions from construction are minimised	Development Management in association with Regulatory Services	Very Low to Low	Low	Ongoing	Log of applications with conditions for construction to be kept	These measures are already being implemented but are more of an enforcement issue. LBE will investigate the possibility of employing officers across West London for enforcement, particularly for NRMM. Funding opportunities to be investigated. London Low Emission Construction Partnership could be engaged with to review work in other boroughs. Opportunities for spot checks for planning conditions will also be investigated. CHP and biomass policies important with district networks a priority.
	2	Ensuring enforcement of Non-Road Mobile Machinery (NRMM) air quality policies	Development Management in association with Regulatory Services	Very Low to Low	Low	Ongoing	Log of applications with NRMM conditions to be kept	
	3	Enforcing CHP and biomass air quality policies. Ensure smaller developments use ultra-low NOx boilers.	Development Management in association with Regulatory Services	Very Low to Low	Low	Ongoing	Log of applications where CHP and biomass conditions apply to be kept	
	4	Enforcing Air Quality Neutral policies	Development Management in association with Regulatory Services	Very Low to Low	Low	Ongoing	Log of applications where AQ Neutral conditions applied, and benchmarks achieved	
	6a	Full enclosure for waste sites which pose a risk of fugitive particulate emissions	Regulatory Services in partnership with the Environment Agency	Very Low	Low across the borough but potentially medium in locations near site	Ongoing	In a qualitative way	
	6b	Investigate the potential for larger development areas to proactively assess air quality impacts cumulatively	Regulatory Services in association with Development Management	Low	Low in short term, but potentially medium to high in longer term	Ongoing	Sites where cumulative assessment has been successfully undertaken	Old Oak Common and Park Royal in particular for ensuring air quality is assessed across the site. A Low Emission Strategy (LES) in this case will be a useful tool to ensure air quality has thorough consideration. Southall Gas Works site will also have its own LES.

Consultation

Name of Consultee	Department	Date Sent to Consultee	Date Response Received from Consultee	Comments Appear in Report Para:
Internal				
Director	Executive Director			
Lawyer	Director of Legal Services			
Finance Officer	Director of Finance			
Councillor	Cabinet Member for			
External				
A N Other	Voluntary Organisation			
Police, etc.				

Report History

Decision Type:		Urgency item?	
For Information		No	
Authorised by Cabinet Member:	Date Report Drafted:	Report Deadline:	Date Report Sent:
N/A	17.09.18	17.09.18	17.09.18
Report No.:	Report Author and Contact for Queries:		
	John Freeman, Regulatory Services Officer		
	freemanj@ealing.gov.uk ; 020 8825 7226		