

# LDF

*Building on Success*

## **Air Quality**

Supplementary Planning Document - Adopted June 2009  
Local Development Framework



THE ROYAL BOROUGH OF  
KENSINGTON  
AND CHELSEA



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# Chapter 1: Introduction

**1.1** This Supplementary Planning Document (SPD) replaces the Supplementary Planning Guidance adopted on 25th May 2002. This SPD sets out the Council's requirements for reducing air pollution emissions from new development, conversions and change of use. The SPD supplements Unitary Development Plan (UDP) Policies PU1 and PU2 and provides detailed guidance on their implementation. The UDP, together with the London Plan, is the current Development Plan for the borough, which is used to determine applications for planning permission. However, the UDP is currently being replaced by the Local Development Framework (LDF), and in particular the Development Plan Documents.

**1.2** Once adopted, this SPD will be a significant material planning consideration when determining applications for planning permission and form part of the Local Development Framework.

**1.3** Whilst the strategic and specific policies within the Environment chapter of the UDP are important for promoting environmental protection, they should not be viewed in isolation. In accordance with the Environment Act 1995 and the Government's Air Quality Strategy, the Council has designated the entire Borough as an Air Quality

Management Area (AQMA) and published an Air Quality Action Plan (AQAP). The AQAP, which is currently being updated, contains initiatives to help reduce air pollution and work towards achieving the required air quality standards and objectives.

**1.4** Therefore, the primary aim of this SPD is to supplement existing UDP Policies seeking to improve air quality in the Borough. However, this SPD will also help implement the objectives in the AQAP relating to land use. The role of the SPD and in particular its relationship to the UDP and the AQAP is set out in Figure 1 below.

**1.5** The objectives of the SPD are:

- to highlight the existing policy framework and emphasise the importance of air quality as a material planning consideration;
- to identify the circumstances where emissions assessments and/or low emission strategies will be required for new developments;
- to offer guidance on measures to mitigate potentially harmful impacts of new developments;
- to offer guidance on the use of planning conditions and Section 106 obligations to improve air quality; and
- to provide guidance on the submission of air quality assessments and where these will be required (Set out in Appendix III).

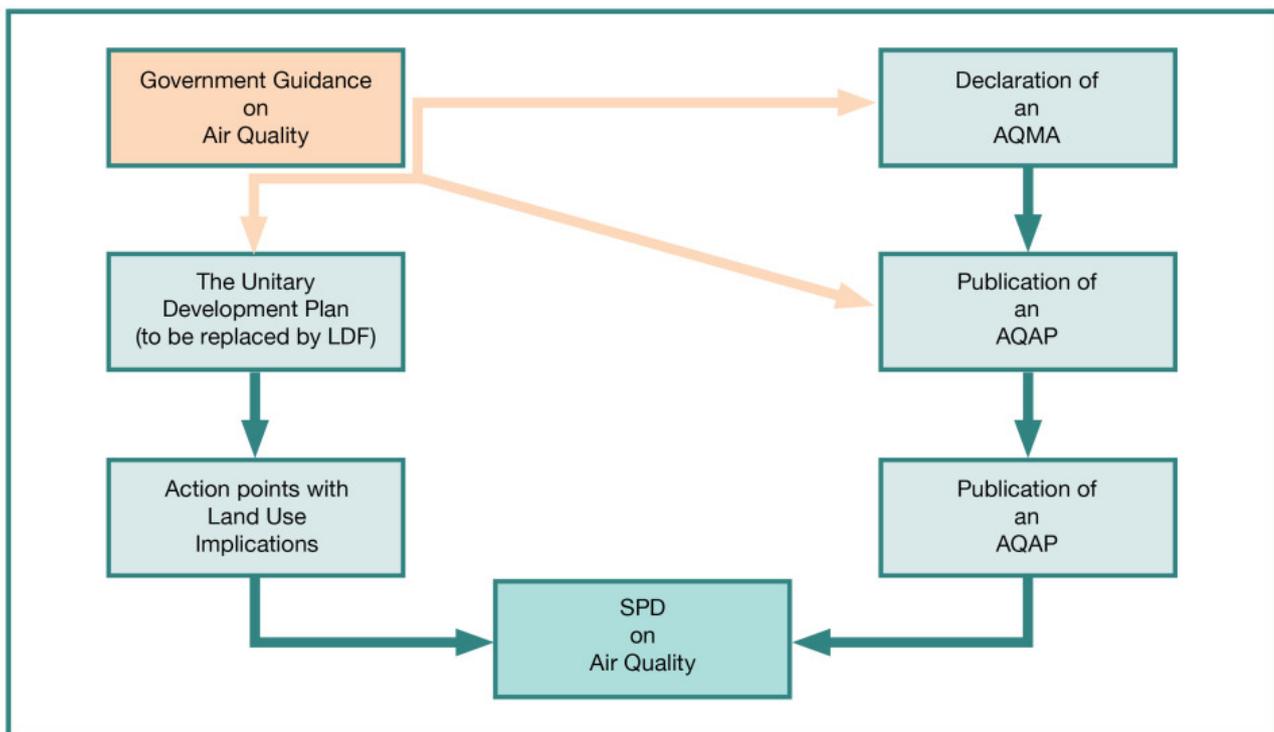


Figure 1: The role of the Supplementary Planning Document (SPD) and its relationship to the Unitary Development Plan (UDP), Local Development Framework (LDF) and Air Quality Action Plan (AQAP)

## Chapter 2: Background

### The Air Quality Strategy for England, Scotland, Wales and Northern Ireland

**2.1** In recognition of the harmful effects of poor air quality, the Environment Act 1995 required the Government to prepare the Air Quality Strategy for England, Scotland, Wales and Northern Ireland, with the most recent review published in 2007. The Air Quality Strategy requires the Council to assess and review air quality on a regular basis, and sets out the targets for seven pollutants, which the Council is obliged to work towards. These pollutants are:

- Nitrogen dioxide
- Particulates (PM10)
- Carbon monoxide
- Sulphur dioxide
- Benzene
- 1,3-butadiene
- Lead

**2.2** Of the seven pollutants above only nitrogen dioxide and particulates are considered problem air pollutants in the Royal Borough. In addition ozone (which also exceeds health based standards) and polycyclic aromatic hydrocarbons (PAHs) are included in the Air Quality Strategy, but are not regulated through the Local Air Quality Management (LAQM) process. The latest Air Quality Strategy introduces a new regime for controlling PM<sub>2.5</sub>, although this is currently not a requirement for local authorities. Ozone and PM<sub>2.5</sub> levels are also monitored within the Royal Borough and the results are recorded in annual air quality reports.

### RBKC Air Quality Action Plan (AQAP)

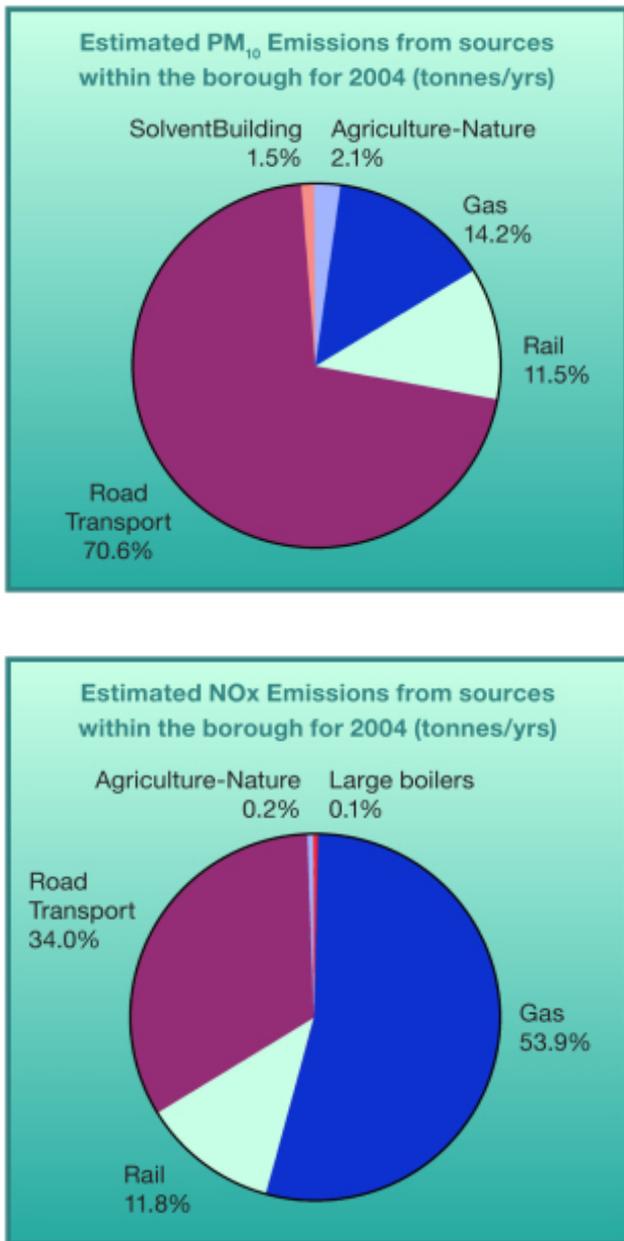
**2.3** In December 2000 the Council designated the entire borough an Air Quality Management Area (AQMA). This was based on predictions that the objectives for improvements to air quality would not be met for nitrogen dioxide (NO<sub>2</sub>) and particulates (PM<sub>10</sub>) by the timescales set by the government, being 2005 and 2004 respectively. Following the designation of the AQMA, the Council produced an Air Quality Action Plan (AQAP) to

work towards meeting air quality standards and objectives in the borough. However, the Council's annual review of air quality within the borough demonstrates that these two pollutants (NO<sub>2</sub> and PM<sub>10</sub>) continue to exceed required levels.

**2.4** The Council published its first AQAP in January 2003 and this is currently being revised. The AQAP brings together a broad range of initiatives which, when integrated with regional and national measures, should help to reduce pollution in the borough. The AQAP is intended to consider a range of issues, such as enforcing idling engine regulations, encouraging green travel plans in schools and encouraging car clubs, and seeks to take a holistic approach to improving air quality. The preparation of this SPD to control the impacts of new development on air quality is an important action in the AQAP.

**2.5** Vehicle emissions account for over 70% of the total PM<sub>10</sub> emissions in the borough and a substantial proportion of NO<sub>2</sub> emissions (34% as NO<sub>x</sub>). Nitrogen oxides (NO<sub>x</sub>) are oxidised in the atmosphere to form NO<sub>2</sub> and thus contribute to total NO<sub>2</sub> levels. However it is important to note that emissions of NO<sub>x</sub> make varying contributions to the final concentrations of nitrogen dioxide in the air<sup>(1)</sup>. Consequently, the AQAP includes a number of initiatives to reduce these emissions. These initiatives include restricting the number of parking permits for new developments, introducing graduated parking permits, expansion of the car club scheme, securing low levels of car parking for new developments and public transport improvements aimed at reducing traffic volumes and encouraging alternatives to the car, such as walking, cycling and public transport. The AQAP also seeks to invest in alternative fuels and reduce emissions by requiring the uptake of the latest European standards (Euro standards). These standards were introduced as a method of reducing vehicle emissions and improving air quality, through emission standards legislation which applies to all vehicles manufactured in Europe since 1992.

<sup>1</sup> A varying proportion of NO<sub>x</sub> is emitted directly as NO<sub>2</sub> depending on the combustion process, fuel type. The remaining is emitted as NO and converted depending on the availability of reactive oxygen molecules.



**Figure 2: Source apportionment of NO<sub>x</sub> and PM<sub>10</sub> in the Royal Borough**

**2.6** A particular concern for planning is that gas combustion from the domestic and commercial sectors is currently the largest source of NO<sub>x</sub> emissions in Kensington & Chelsea, accounting for 54% of the total NO<sub>x</sub> emissions in 2004. This is an increase of 3% from 2003 and predicted to rise to 62% by 2010. This highlights the importance of implementing effective measures to improve energy efficiency and reduce gas usage, as well as reducing traffic levels. The revised AQAP includes a number of actions aimed at improving energy efficiency, to be considered during the planning

process. Appendix I shows the modelled annual mean concentrations of NO<sub>2</sub> and PM<sub>10</sub> across the borough.

## Air Quality and Climate Change

**2.7** The Climate Change Act 2008 <sup>(2)</sup> seeks to reduce greenhouse gas (GHG) emissions, such as carbon dioxide (CO<sub>2</sub>). As a result of the common sources of CO<sub>2</sub>, NO<sub>2</sub>, and particulate matter (PM<sub>2.5</sub> and PM<sub>10</sub>), measures to tackle climate change are often likely to be beneficial to air quality and vice versa. However, this is not always the case, as in the combustion of diesel and biomass. In this regard, diesel is more efficient than petrol and therefore produces less CO<sub>2</sub>. However, it emits more particles and NO<sub>x</sub> into the atmosphere, which contributes to air pollution. The Air Quality Strategy, mentioned above, recognises the significance of this relationship and states that 'where practicable and sensible, synergistic policies beneficial to both air quality and climate change will be pursued'. Even when a proposal is expected to produce greater benefits in terms of climate change emissions the Council will not accept such proposals if they are likely to result in unacceptable levels of emissions of NO<sub>2</sub> and particulate matter. In such cases preference will be given to non-emitting renewable technologies.

**2.8** Local planning authorities are therefore urged to support measures which seek to improve air quality and reduce greenhouse gas emissions, such as requiring increased energy efficiency and the inclusion of sustainable design in buildings; reducing energy demand; and requiring low emission strategies for transport. These measures may reduce the impact of new development on both air quality and climate change. Although, some measures will have less of a direct impact on local air quality, they will result in improved air quality elsewhere. Reducing electricity usage, for example, will improve air quality near the generating plant.

<sup>2</sup> [http://www.opsi.gov.uk/acts/acts2008/uk\\_p\\_g\\_a\\_20080027\\_en\\_1](http://www.opsi.gov.uk/acts/acts2008/uk_p_g_a_20080027_en_1)

## Chapter 3: The Policy Context

### Local Policy

**3.1** This SPD supplements existing policies in the **Unitary Development Plan**, adopted in May 2002 with 'saved' policies in December 2007 (UDP). The UDP forms part of the development plan for the borough and is used to make decisions on planning applications. Air quality has been specifically considered in the Environment chapter of the UDP at both the strategic and site specific levels.

**3.2** In particular, this SPD supplements the following UDP Policies:

UDP Policy PU1	"To resist development which would have unacceptable impact on air quality"
UDP Policy PU2	"To resist development leading to pollution that would have an acceptable impact on amenity"

**3.3** Applications for planning permission will be determined in accordance with the Unitary Development Plan and London Plan policies, together with this and other SPDs, unless other material considerations suggest otherwise.

**3.4** Circumstances where the impacts of a development on air quality are considered "unacceptable" and therefore air quality is likely to be a significant material consideration are listed below:

- the application is in conflict with the borough's AQAP;
- the application would render some elements of the AQAP unworkable; and
- the application will result in an increase in emissions of key pollutants from the development compared to emissions of previous or current use.

### Metropolitan Policy

**3.5 The London Plan: Spatial Development Strategy for Greater London** (Consolidated with Alterations since 2004) February 2008 includes a number of policies seeking to improve air quality and reduce emissions. These include:

- Policy 4A.4 Energy assessments: "an assessment of the energy demand and carbon dioxide emissions from proposed major developments, which should demonstrate the expected energy and carbon dioxide emission savings from energy efficiency and renewable energy measures incorporated in the development ..."
- Policy 4A.19 Improving air quality "The Mayor will, and boroughs should, implement the Mayor's Air Quality Strategy and achieve reductions in pollutant emissions and public exposure to pollution by..." (a range of measures listed)
- Policy 5F.1 The strategic priorities for West London include "improving the quality of the environment, particularly improving air quality and minimising noise in and around Heathrow, and strengthening the provision of open space; address the urbanisation, surface access and environmental implications of any potential expansion of Heathrow in the light of airport policy and integrate these with other objectives for the sub-region; and ensure that the expansion of population expected in West London is accommodated in sustainable communities".

### Other Metropolitan Guidance and Strategies

**3.6** London Councils' **Air Quality and Planning** guidance (revised January 2007) is aimed at developers, their consultants and local authorities. This guidance revises the previous guidance from 2001 and provides technical advice on how to deal with planning applications that may have an impact on air quality.

**3.7** The **Control of Dust and Emissions from Construction and Demolition – Best Practice Guide (GLA)** provides a consistent approach across London to controlling dust and emissions from construction and demolition and is designed to be used by developers, architects, environmental consultants, and any other relevant parties concerned with the demolition and construction of new developments. This guidance follows a hierarchy to control emission of dust and other emissions and reduce human exposure, namely:

1. **Prevention**
2. **Suppression**
3. **Containment**

**3.8** The guidance allows developments to be evaluated and a risk level assigned with appropriate mitigation measures recommended for each category. These measures should be incorporated into an environmental management plan for the duration of the works. This is a useful means of minimising the impact of demolition and construction on nearby occupiers. It is likely that the document will be reviewed as necessary to outline new best practice in dust and emissions management. This guidance suggests that an environmental risk assessment should be conducted for all developments.

### **3.9 The Mayor of London's Air Quality**

**Strategy** outlines the specific air quality concerns and planning constraints in London and provides an holistic approach to improving air quality. This strategy seeks to identify main areas in which emissions should be reduced, namely road traffic, individual vehicles, air travel, reducing emissions through sustainable building design and reducing pollution from industry and construction.

### **3.10 The Mayor of London's Energy Strategy**

is a non-statutory document which sets out the Mayor's vision for improving the energy efficiency of London's building stock. This strategy states that energy efficiency measures and renewable energy are at their most economic when installed in new developments, rather than retrofitted. This strategy further states that it is important that new developments exploit the opportunity to ensure that London meets its targets in the most economic way. The significant quantity of new housing and commercial floor space that is expected in London will clearly place additional pressure on London's energy consumption and therefore increase emissions of CO<sub>2</sub>, NO<sub>2</sub> and PM<sub>10</sub>. However, at the same time, it represents an opportunity to improve the performance of London's building stock. By virtue of the Building Regulations new stock is generally far more energy efficient than existing stock, and can be made more so by, for example, incorporating renewable energy technologies.

## **National Policy**

**3.11 Planning Policy Statement 1 Delivering Sustainable Development (PPS1)** sets out the Government's overarching planning policies on the delivery of sustainable development through the planning system. It states that planning policies and planning decisions should be based on 'the potential impacts, positive as well as negative, on the environment of development proposals

(whether direct, indirect, cumulative, long-term or short-term); and in recognition of the limits of the environment to accept further development without irreversible damage. It further states that planning policies should take account of environmental issues such as: mitigation of the effects of, and adaptation to, climate change through the reduction of greenhouse gas emissions and the use of renewable energy; air quality and pollution. In addition to this, the **Supplement to PPS1 Planning and Climate Change** sets out the role of planning in shaping places with lower carbon emissions and resilient to climate change with an expectation to deliver patterns of urban growth that help secure the fullest possible use of sustainable transport for moving freight, public transport, cycling and walking.

### **3.12 Planning Policy Statement 23 Planning and Pollution Control (PPS23)**

recognises the role of the planning system in combating pollution. This PPS states that "pollution issues must be taken into account as appropriate within planning decisions". The document emphasises the importance of national air quality objectives and AQMAs in relation to planning decisions and calls for the planning process to be a 'more strategic, proactive force for economic, social and environmental well-being' in terms of air quality. **PPS23 Annex 1 and Circular 05/05 and section 106 agreements** provide guidance on the use of planning conditions and obligations (section 106 agreements) to ensure the impact of the development on local air quality is addressed and minimised.

**3.13** This approach is reinforced by **PPS6 (Planning for Town Centres)** and **PPS13 (Transport)**. These documents address air quality through sustainable forms of development, public transport use and well designed traffic management.

## **Other National Guidance and Strategies**

**3.14** The Government's National Guidance and Strategies **Air Quality Strategy**, first published in 1997 and revised in 2007, highlights the importance of the planning system for improving air quality. A number of guidance documents provide advice to planning authorities, developers and other interested parties on issues related to air quality and new developments. Further information on these guidance documents is set out in **Appendix II**.

## Chapter 4: Planning Conditions and Section 106 Obligations

**4.1** Many planning permissions are granted subject to various planning conditions. Conditions are a useful tool to enhance the quality of a development and to ameliorate any adverse impacts that might otherwise follow from the development. A planning obligation (under Section 106 <sup>(3)</sup>), either through an agreement or by way of a unilateral undertaking, can also be used to enhance the quality of the development and ensure the development proposal does not only benefit the site, but the surrounding area.

**4.2** The use of planning obligations plays a positive role in the planning system and where used correctly can remedy genuine planning concerns and enhance the quality of development for the benefit of the local area. Planning obligations can introduce an additional degree of flexibility into the planning system for the benefit of both the community and the applicant.

**4.3** Like conditions, planning obligations can integrate the aims and interests of the developer while safeguarding the local environment, enhancing the quality of the development and meeting any associated costs imposed as a result of the development. Planning obligations can therefore help secure more sustainable forms of development and may be used to help improve air quality. However, it is important to note that the benefits or improvements offered through section 106 planning obligations will not make an unacceptable development acceptable.

**4.4** Conditions and planning obligations seeking to improve air quality may take a number of forms and may require the consideration of, but are not limited to, the following issues:

### Construction Phase

- restricting certain types of vehicles;
- setting emissions standards for vehicles used on site;
- making provisions for transporting waste and construction materials to and from development sites by water, where practicable.

### Operational Phase

- requiring the developer to submit an emissions assessment and a site specific low emission strategy;
- measures to reduce emissions including implementation of travel plans and sustainable building design;
- restricting on site car parking provision, including the provision of parking permit free development;
- making provisions for alternative forms of transport, such as car clubs; electronic charging points for vehicles or contributions to public transport improvements;
- making a standard one-off financial contribution to an air quality action fund (see para 5.6).

**4.5** Planning conditions must meet government requirements set out in Circular 11/1995 and S106 planning obligations must meet government requirements set out in Circular 05/2005.

<sup>3</sup> Section 106 of the Town and Country Planning Act 1990 allows the Council to enter into a legally-binding agreement or unilateral obligation with a developer, commonly referred to as a 'planning obligation'

## Chapter 5: Mitigating Air Quality Impacts: Land Use Measures

**5.1** There is a growing concern amongst local authorities over the effectiveness of using air quality assessments to determine the impact of new developments on air quality, especially in boroughs with existing AQMAs.

**5.2** Due to a greater intensity of use and/or the development of vacant sites, most new development is likely to contribute to the already elevated levels of air pollution in the borough. In this regard, any increase in air pollution, especially from new development, will contradict the requirements of the Council's AQAP. Therefore, the Council is moving away from just considering air pollutant concentrations and towards requesting explicit emission reduction strategies. However, there may be circumstances, as set out in Appendix III, where an air quality assessment may still be required.

### Cumulative Effects on Air Quality

**5.3** When assessing the impact of a particular development on local air quality, the Council will take into account the cumulative impacts of committed developments in the local area (i.e. proposals that have been granted planning permission at the time the assessment is undertaken) and any other proposals which planning officers consider are likely to proceed. Owing to the incremental effect of each development on air quality and the difficulty in calculating cumulative effects of numerous developments, the Council will require that applicants for planning permission for major development (as defined in the London Plan) demonstrate a reduction in the expected emissions from a development relative to its previous or current use. Where a development is likely to result in increased emissions, developers will be expected to include proposals for the reduction/mitigation of these emissions in a detailed emissions assessment. Owing to the increasing relative contribution of non-road transport sources of emissions to breaches of the air quality objectives the Council considers that development should play a greater role in improving air quality.

The Council will require the submission of an emissions assessment for all major development, being 10 or more units or greater than 1,000m<sup>2</sup>, before the application will be validated. Developers may use the NI 194 emissions toolkit developed by Defra to estimate building emissions. Another tool, the Planning Emissions and Reduction Assessment Tool (PERAT), is currently being tested by Croydon Council and may be recommended in future for the purpose of carrying out emission assessments. Transport emissions can be determined through the use of dispersion models.

**5.4** The developer must submit a strategy for reducing emissions from all areas of the new development, including transport, heating and energy use, using a range of low emissions strategies or mitigation proposals. The extent of the measures to be incorporated in any development will depend on the location, size (floor space) and traffic generated by the development and will need to be agreed by the Council. Those developments with the highest levels of emissions or in areas with a large number of major developments (or close to breaching air quality objectives) will be expected to propose the most stringent emission reduction / mitigation measures.

**5.5** Where appropriate, contributions towards delivering the Air Quality Action Plan will be sought from major developments <sup>(4)</sup>. In this regard, contributions will be secured through S106 obligations towards an air quality action fund. Funding will be sought for air quality monitoring, action planning, and the monitoring of compliance with air quality related planning conditions and obligations. Further details will be provided in the Planning Obligations SPD.

**5.6** Even where developments are a direct replacement of like for like, the opportunity to reduce emissions will be strongly encouraged. The Council will also encourage emissions reductions from smaller development, including conversions and change of use.

### Traffic Reduction and Low Emission Strategies

**5.7** The Council recognises that vehicular traffic has many adverse effects on the residential amenity in the borough, including health and well being, congestion, parking stress and road

4 Defined in the Town and Country Planning (General Development Procedure Order) 1995

accidents. The UDP seeks to reduce traffic and encourage more sustainable forms of transport, such as walking, cycling and public transport. In this regard, UDP Policies TR9, TR35 and TR36 seek to ensure that high-trip generating developments are located in areas well served by public transport. Individual UDP Policies encourage walking, cycling and public transport; require green travel plans and the submission of traffic impact assessments; and restrict parking provision.

**5.8** This approach is supported by walking and cycling strategies which encourage walking and cycling within the Borough. There is also a programme of Council funded environmental improvements which may further encourage the shift away from the reliance on the private car. Developers should have regard to the Council's Transport SPD for further guidance.

The Council will encourage the use of planning conditions or S106 obligations to achieve reductions in traffic volumes and therefore the emissions from traffic. Developments which will generate significant additional traffic (see Transport SPD) are required to submit an extensive transport impact assessment and, where relevant, a site specific low emission strategy proposing adequate emission reduction/mitigation measures.

**5.9** Developers must have regard to Practice Guidance 5: Practice guidance on using the planning system to reduce transport emissions, which Defra is considering as part of the government's policy guidance on Local Air Quality Management <sup>(5)</sup>. Defra is also considering that this Practice Guidance will include findings from the Beacons Low Emission Strategies Working Group, addressing the construction and operational phases of new development; and suggests mitigation measures for inclusion in an emissions assessment / site specific low emission strategy.

**5.10** Given the riparian nature of the Royal Borough the Council strongly encourages the provision of facilities to maximise transportation opportunities by water. Where feasible, developers will be expected to contribute to facilities for the transport of passengers and materials/waste by water. The use of the river in this way is sustainable and supported by national and regional planning policies.

**5.11** The Council may also require developers to reduce emissions from vehicles entering and leaving the development, which may be achieved through requiring all servicing contractor vehicles to meet certain Euro standards. This effectively creates a mini Low Emission Zone (LEZ) around the development. An appropriate strategy for implementing this could be the requirement of a low emission zone implementation report. This report should also give consideration to the design of servicing areas and consolidation centres, which can reduce the need for heavy goods deliveries in sensitive areas. It should include details of delivery and servicing contracts for the development.

## Developing the Infrastructure of Low Polluting Fuels

**5.12** The Council will also encourage developers to replace existing high polluting vehicles with low emission vehicles such as alternatively-fuelled vehicles, i.e. electric or potentially hydrogen gas fuelled.

**5.13** The use of alternatively-fuelled vehicles is limited by two principal factors, namely cost and access to refuelling infrastructure. The planning system should seek to encourage the provision of the necessary refuelling infrastructure.

**5.14** There is currently a poor provision for refuelling or recharging alternatively fuelled vehicles in the Borough. The Council's Pembroke Road premises have a Liquid Petroleum Gas (LPG) tank for use by its own vehicles and there are also six off-street charging points for electric vehicles in the Town Hall car park. There are six mainstream petrol filling stations in the Borough and although none currently provide alternative fuels, the potential for the provision of alternative fuels in the future should be encouraged. Electricity provides the greatest potential benefits for local air quality, especially when this is sustainable being generated from on-site renewable energy, such as PV or solar. The demand for electric charging points is likely to increase, especially as plug-in electric hybrid vehicles will shortly be released to the market. Electric recharging is likely to become the most common alternative to forecourt refueling. The Council will encourage the provision of additional electric charging points wherever appropriate.

5 LAQM.PG(09), DEFRA (Department for Environment, Food and Rural Affairs)

**5.15** In accordance with UDP Policy STRAT7, the Council will encourage the retention of petrol filling stations where their use is not detrimental to the residential amenity of surrounding areas. This will also help protect those sites which have the potential to provide alternative refuelling infrastructure in the future.

**5.16** The Council will also encourage the provision of alternative refuelling infrastructure, such as electric charging points, in all major developments where it is appropriate and will not have a detrimental impact on residential amenity. The provision of the necessary facilities, including the vehicles and refuelling infrastructure, will be particularly appropriate in developments which are likely to result in a high traffic demand. The provision of an alternative refuelling infrastructure might form part of a package of measures to reduce the air quality impacts of the proposed development.

**5.17** The provision of electricity recharging points should not be restrained by the size of the development and may be appropriate in the smallest car park or even a single garage. However, the Council may require that a proportion of the electricity used for electric refuelling points is generated from sustainable sources and in particular from renewable sources of energy.

**5.18** Hydrogen is a fuel that is already available and all major car manufacturers have a fuel cell development programme. Toyota and Honda launched the first hydrogen fuel cell cars in 2003, albeit in limited numbers. The storage of Hydrogen is no more hazardous than the storage of petrol, natural gas or liquid petroleum gas (LPG). The expansion of this industry has promising implications for the future of cities, their economies and potential improvements to air quality.

The Council will encourage the provision of alternative refuelling infrastructure within new developments and existing filling stations, unless other material planning considerations suggest otherwise, and may use a s106 planning obligation or planning condition to achieve this.

## Sustainable Building Design

**5.19** Sustainable building design will help to achieve a high level of energy efficiency, which will have a positive impact on air quality. This is achieved by reducing the pollutants from heating plant and electricity generation. In this regard, gas

combustion in buildings constitutes the largest source of NO<sub>x</sub> emissions in the Borough and this is reflected in the measures aimed at improving energy efficiency contained in the AQAP.

**5.20** Delivering sustainable development is an important aim of the planning system and this is reflected in Planning Policy Statement 1; the supplement to PPS1 and the London Plan. London Plan Policy 4A.1 states that the Mayor will, and boroughs should, require developments to make the fullest contribution to the mitigation of and adaptation to climate change and to minimise emissions of carbon dioxide.

## Indoor Air Quality

**5.21** Where possible, ventilation and the location of opening windows should be on the side of buildings where traffic / ambient pollution levels are lowest. This will help to minimise exposure of occupants to pollutants and the potential detrimental effects of poor air quality on health.

**5.22** In taller buildings the residential uses should be located on the higher floors away from air pollution (and noise) at ground level, allowing for balconies and opening windows. The lower floors would be suitable for other uses, such as retail, commercial or offices, where mechanical ventilation or windows that cannot be opened might be more acceptable. The location of the outside space is also an important consideration and any exposure to gardens and roof terraces should be screened and, where practicable, minimised through appropriate positioning and orientation.

The impact of outdoor air pollution on indoor air quality and human health in new developments should be taken into account at the earliest stages of building design and this should be addressed in the emissions assessment.

## Locating Sensitive Development

**5.23** Careful consideration should be given to the characteristics of the site as particular elements of a scheme may be more sensitive to air pollution than others. For example, children's play space or housing (including schools) should be located away from roads with high levels of air pollution. Suitable design, layout, orientation and construction of developments might avoid increasing exposure whilst minimising energy demand and energy loss. Further details of design approaches can be found in the Mayor of London's Sustainable Design and

Construction Supplementary Planning Guidance (SPG).

The Council will require that sensitive developments or parts of developments, such as schools and children's playgrounds, are located away from sources of high air pollution, such as busy roads or adequate measures are taken to minimise exposure. The position and orientation of such sensitive elements should be taken into account at the earliest stages of building design.

**5.24** Green roofs and walls are also encouraged in new development as they help reduce air pollution, provide natural cooling and additional insulation. The general provision of trees may also act as a buffer to roads with high air pollutant concentrations.

## Heating and Energy Supply

**5.25** In accordance with London Plan Policy 4A.1, the Council will require that developments make the fullest contribution to the mitigation of and adaptation to climate change and minimise emissions of carbon dioxide. In this regard and in accordance with London Plan Policies 4A.6 and 4A.7, the Council will require that applications for major development (as defined in the London Plan) explore, and where feasible incorporate, opportunities to generate heat and energy from energy efficient and/or renewable sources, such as Combined Cooling Heat and Power (CCHP), Combined Heat and Power (CHP), solar water heating, district heating, ground source and/or photovoltaic panels. These technologies are more efficient than gas central heating or condensing boilers and therefore reduce overall emissions and improve air quality. The proposed heat and energy demand for the development should be considered in the energy policy assessment submitted in accordance with London Plan 4A.4, which should also contain calculations of the predicted heat and energy savings from the various technologies listed above, which are being incorporated in the scheme. The assessment will also need to provide the justification why certain technologies are not feasible.

**5.26** In accordance with London Plan Policy 4A.6, applicants will be expected to demonstrate that the proposed heating and cooling systems have been selected in accordance with the Mayor's energy hierarchy:

- i. connection to existing CCHP/CHP distribution networks;
- ii. on site CCHP/CHP powered by renewable energy;
- iii. gas-fired CCHP/CHP or hydrogen fuel cells;
- iv. communal heating and cooling powered by renewable energy; and
- v. gas fired communal heating and cooling.

Local circumstances will dictate which of these are feasible and in certain instances, other renewable energy sources, such as ground source heating, may be more appropriate.

## Biomass

**5.27** The entire Borough is a designated Smoke Control Area <sup>(6)</sup> and Air Quality Management Area, and therefore the Council is unlikely to accept proposals for biomass-fuelled (including biofuels) individual or CHP systems. This is mainly because the Council is concerned about increasing emissions of particulate and gaseous pollutants in an urban area, which already exceeds objective levels.

The Council will require all planning applicants proposing the use of biofuel and biomass-fuelled systems to submit a detailed air quality analysis, demonstrating that the heat generated from biomass is an effective alternative to conventional fuels and not in conflict with the Council's AQAP and the Clean Air Act.

**5.28** The impacts of biomass combustion on air quality have been recognised in a report commissioned by London Councils: 'Air Quality Impacts of Wood-fuelled Biomass', 2007 and the draft UK Renewable Energy Strategy, 2008. Environmental Protection UK have set up a working group in partnership with London boroughs to develop national guidance for controlling air pollution emissions from biomass heating appliances. The Royal Borough will require developers to comply with this national guidance, once it is published.

<sup>6</sup> The Royal Borough of Kensington and Chelsea Smoke Control Order 2004 (made under Section 18 of the Clean Air Act 1993) revoked the pre-existing smoke control areas and designated the entire borough as a smoke control area.

**5.29** Applicants considering the use of a biomass furnace will be required to provide detailed information on the boiler and fuel specifications, chimney (stack) height, position and orientation, maintenance and servicing procedures and carry out modelling to evaluate the impacts on air quality. Details of arrangements for the supply and storage of fuel and maintenance of the furnace must be included. Air Quality modeling should consider variable emissions rates associated with the biomass boiler operating on full and partial load and be carried out in accordance with the procedures outlined in Air Quality and Planning guidance, London Councils (2007) and Technical Guidance Note TG (08). The Council's Environmental Health service will consider the information submitted in accordance with the above to determine whether the biomass furnace is acceptable and whether any mitigation technologies will be required. The Council may use Section 106 obligations to set requirements for controlling emissions from biomass boilers.

## Chapter 6: Construction and Demolition

**6.1** The dust and emissions from the construction and demolition of buildings has a significant impact on local air quality. Whilst the planning system should not seek to duplicate the controls available under the environmental health Acts <sup>(7)</sup> there is obviously a close relationship between the granting of planning permission and the demolition and construction on site. The Council will expect that developers comply with the minimum standards on construction management, detailed in the London Councils' best practice guidance to Control Dust and Emissions from Construction and Demolition. Additional measures to minimise emissions during the construction phase may also be required and could form part of a number of low emissions strategies. In this regard, S106 planning obligations may be used to ensure that construction sites meet various requirements for the control of dust and emissions from construction and demolition. The Council is also currently considering the use of planning conditions, attached to planning approvals, to ensure that the applicant or landowner is a member of the Considerate Constructors Scheme. Further details of this requirement are contained in the Council's Subterranean Development SPD.

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<sup>7</sup> *Part IV of the Environment Act 1995 and the UK Air Quality Strategy require local authorities to take measures to work towards meeting air quality objectives; Part Three of the 1990 Environmental Protection Act ( section 79(1)(d) and (5)) identifies nuisances to which abatement (reduction) procedures apply, such as 'Any dust, steam (other than from a railway locomotive engine), smell or other effluvia (odorous fumes given off by waste) arising on industrial, trade or business premises that is harmful to health or a nuisance'.*

## Chapter 7: Local Static Sources of Pollution: Location of Industry

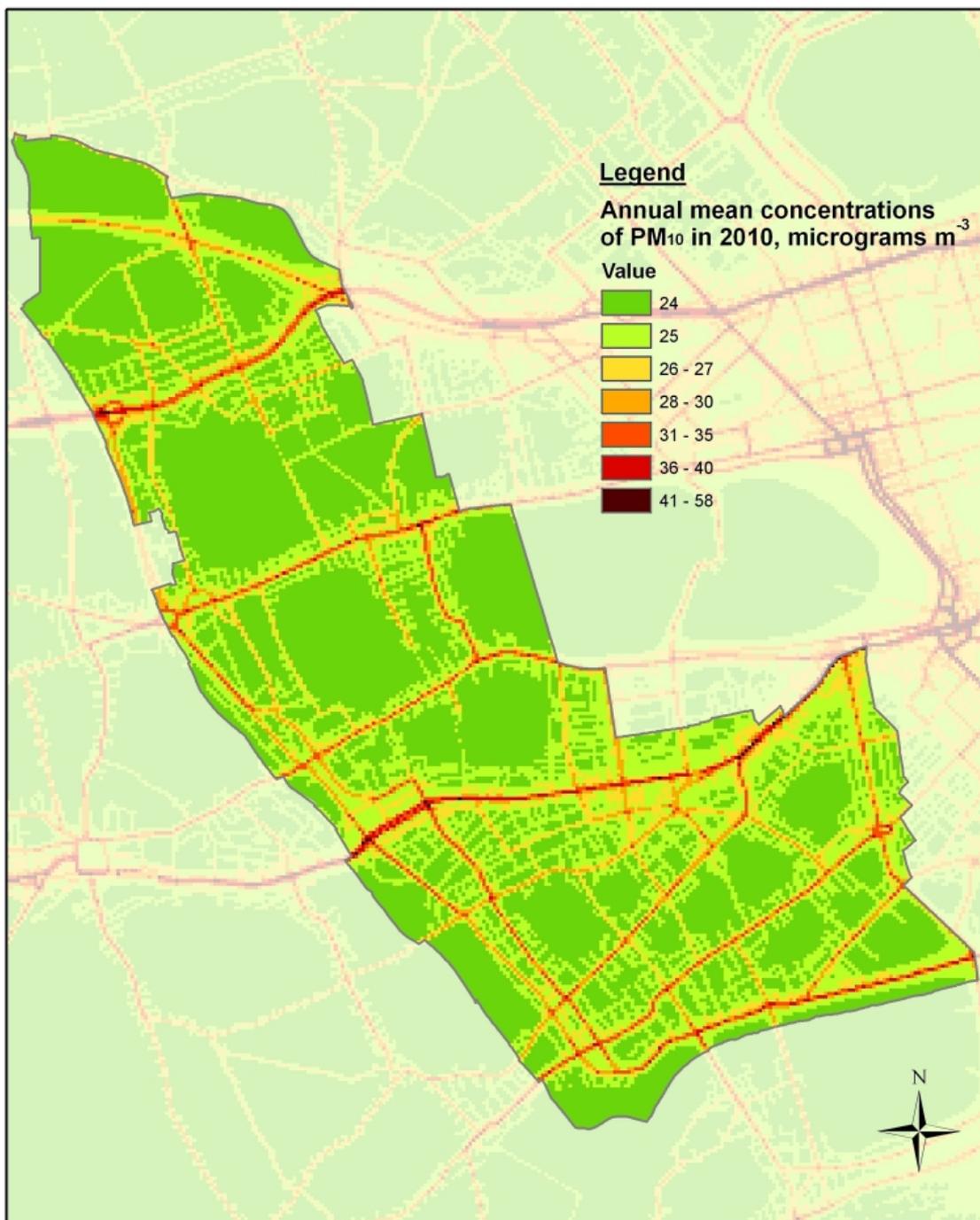
**7.1** Local static sources of air pollution are varied in a densely populated borough such as Kensington and Chelsea. They include some industrial processes which may threaten public health and the environment, the demolition and construction of development sites, restaurant extractor units, diesel generators and space/water heating boilers.

### Industrial Process

**7.2** There are a small number of land uses in the Borough with the potential to threaten public health and the environment, which may also have implications for the Borough's air quality. These processes (or "Part A" and "Part B" operations) are regulated under Part 1 of the Environmental Protection Act and include, but are not limited to, petrol filling stations, dry cleaners and paint spraying workshops.

**7.3** The planning system is not concerned with ensuring that the emissions from processes meet the relevant standards or that potential pollutant releases are controlled, as this is the remit of the pollution control regime. However, the planning system controls the development and use of land in the public interest. In this regard, the planning system can play an important role in determining the location of various types of development, especially taking into account the potential impacts of the development on air quality and ensuring that other developments are not affected by major existing, or potential sources of pollution.

# Appendix I: Modelled concentrations of NOx and PM10 in Kensington and Chelsea for 2010



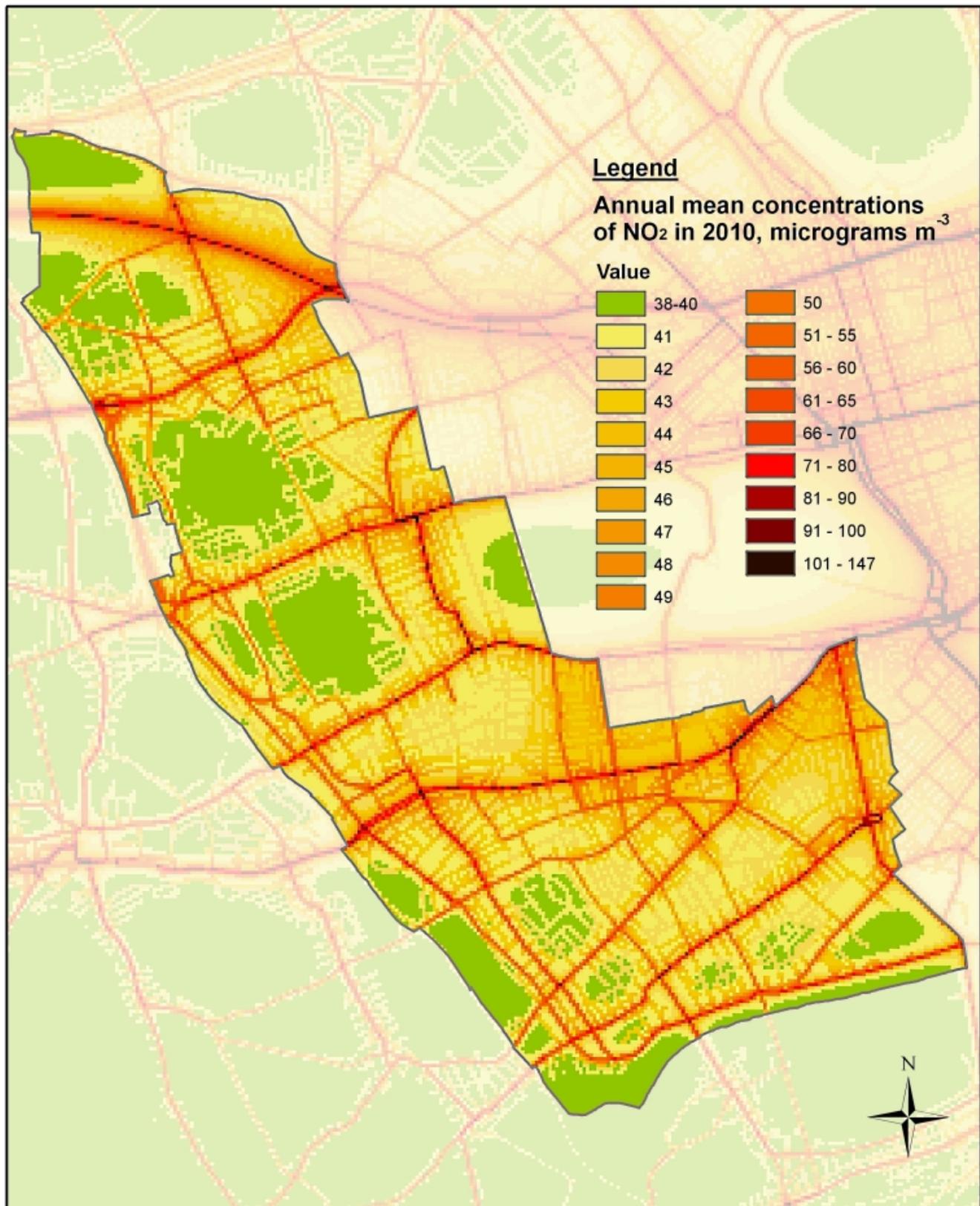
**Predicted Annual Mean Levels of Particulate Matter (PM<sub>10</sub>) for 2010 using 2004 Emissions Datasets and 2003 Meteorology**

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THE ROYAL BOROUGH OF  
 KENSINGTON  
 AND CHELSEA



**Predicted Annual Mean Levels of Nitrogen Dioxide (NO<sub>2</sub>) for 2010 using 2004 Emissions Datasets and 2003 Meteorology**

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THE ROYAL BOROUGH OF  
**KENSINGTON  
AND CHELSEA**

## Appendix II: Local Air Quality Management Guidance

### Local Air Quality Management Policy Guidance 2009 (DEFRA <sup>(8)</sup>)

New local air quality management guidance documents have been issued by Defra. The latest Policy Guidance on Local Air Quality Management [LAQM.PG (O9)] was published in February 2009. The Government's policy in relation to planning consideration of air quality is set out in Planning Policy Statement 23 (PPS23): Planning and Pollution Control, and its annex covering pollution control, air and water quality. A number of practice guidance documents have also been published on:

- low emission zones <sup>(9)</sup>
- measures to encourage the uptake of low emission vehicles
- measures to encourage the uptake of retro-fitted abatement equipment on vehicles

These documents describe options and key aspects for introducing Low Emission Vehicles, uptake schemes or LEZs using Section 106 obligations or planning conditions for site usage under guidance contained in Planning Policy Statement 23: Planning and Pollution Control (2004). Once finalised, these documents will offer advice on measures that should be considered in improving air quality.

The documents overleaf are likely to be the most relevant to air quality and planning:

Practice Guidance 2: Practice guidance to local authorities on low emission zones. This document gives advice on the various options for creating low emission zones including the use of Planning conditions and obligations. These can be used to help mitigate the transport impacts of developments by encouraging the take up of cleaner fuels or vehicle technologies.

Practice Guidance 5: Practice guidance on using the Planning system to reduce transport emissions. The Beacons Low Emission Strategies Working Group has produced consultation draft guidance (June 2008) on how to use the planning system to reduce transport emissions. The document

addresses both the construction and operational phases of new developments and suggests mitigation measures/ the provision of an emissions assessment and a site specific low emission strategy. It also proposes the request for a standardised contribution to fund to low emission projects and related projects /compliance checks. Defra is consulting on including a version of this guidance within the final policy guidance.

8 LAQM.PG(09), Defra (Department for Environment, Food and Rural Affairs)

9 Practice Guidance 2 Practice Guidance to Local Authorities on Low Emissions Zones

## Appendix III: Air Quality Assessments

A detailed study of the effects of a development on air quality will normally be required **before the planning application is validated** for:

- Schemes which will be subject to Environmental Assessment under the Town and Country Planning (Environmental Impact Assessment) Regulations 1999;
- Schemes which require a permit application under the Pollution Prevention and Control (PPC) regime.
- Other schemes which the Council considers may have a significant impact on air quality. Guidance to significance is given below.

### Schemes subject to an Environmental Assessment

Where a scheme is subject to an Environmental Assessment under the Town and Country Planning (Environmental Impact Assessment) Regulations 1999, a detailed study of the effects of the development on air quality will normally be required.

An EIA is likely to be required where a development is likely to have “significant effects on the environment.” Guidance regarding the need for an EIA has been issued from the ODPM and the RTPI and is available from the Council. In the Royal Borough the most likely form of development which might require an EIA will be an “Urban Development Project” (10b of the Schedule 2 of the 1999 Regulations). This will include any urban development project with a site area of over 0.5 hectares (5000m<sup>2</sup>). It can include mixed use schemes, housing schemes, supermarkets and car parks.

### Schemes which require a permit application under the PPC regime

These regulations came into force on 1 August 2000. They seek to control the environmental impacts of installations listed in Part A of Schedule 1 of the regulations.

If an installation also needs planning permission, the Council recommends that the operator should make both applications in parallel, wherever possible.

### Other proposals where an air quality assessment should normally be undertaken

The London Councils Air Quality and Planning Guidance offers advice concerning those applications which will require an air quality assessment. The Council endorses these criteria. The three main ways a development may have a significant impact are:

1. If the development is likely to cause a deterioration in local air quality (i.e., once completed it will increase pollutant concentrations)
2. If the development is located in an area of poor air quality (i.e., it will expose future occupiers to unacceptable pollutant concentrations)
3. If the demolition/construction phase will have a significant impact on the local environment (e.g. through fugitive dust and exhaust emissions). The London-wide Best Practice guide: The Control of Dust and Emissions from Construction and Demolition should help reduce emissions from this stage of a development.

Air Quality assessments should be carried out in accordance with the London Council’s Air Quality and Planning Guidance.



