



Rushcliffe Borough Council Local Air Quality Management

Air Quality Considerations For Developers

Environment & Waste Management –

February 2010

FURTHER INFORMATION

Alternative Format or Language Required?

If you would like a copy of this document in a different format, such as large print, Braille, audio tape or language, please contact the Customer Services Team on:

Telephone : 0115 9819911
Email: customerservices@rushcliffe.gov.uk
Post: Rushcliffe Borough Council
Civic Centre
Pavilion Road
West Bridgford
Nottingham
NG2 5FE

Rushcliffe Borough Council is registered with 'Language Line' to ensure our services are accessible to all our customers.

CHINESE

CHINESE
中文

進一步資料

需要不同的格式或語言？

如果閣下想要一份這文件的不同格式，例如大字體，盲人用點字法，錄音磁帶或語言，請聯絡顧客服務組：

電話： 0115 9819911
電郵： customerservices@rushcliffe.gov.uk
郵寄： Rushcliffe Borough Council
Civic Centre
Pavilion Road
West Bridgford
Nottingham
NG2 5FE

Rushcliffe Borough Council 已向“電話傳譯”登記去確保我們的服務能夠被我們全部的顧客取用。

FARSI

اطلاعات بیشتر

مورد احتیاج در شکلها و زبانهای مختلف ؟

اگر شما مایل به فتوکپی از این مدرک در شکلهای مختلف مثل چاپ درشت چاپ مخصوص نابینایان و نوار شنوایی و یا زبان دیگر هستید لطفا با تیم خدمات مشتریان در نیل تماس بگیرید .

0115 9819911 : تلفن :

customerservices@rushcliffe.gov.uk : آدرس ایمیل :

آدرس پست :
Rushcliffe Borough Council
Civic Centre
Pavillion Road
West Bridgford
Nottingham
NG2 5FE

کنسل ناحیه Rushcliffe ثبت شده در Language Line است تا اطمینان دهد که خدمات ما قابل دسترسی به تمام مشتریان ما قرار میگیرد .

FRENCH – Format ou Langue alternative exigé

Si vous voudriez une copie de ce document dans un format différent, tel que la grande copie, le Braille, la bande sonore ou la langue, contactez svp l'équipe de services de la clientèle sur : Téléphone: 0115 9819911 ; Email: customerservices@rushcliffe.gov.uk, Poste: Rushcliffe Borough Council, Civic Centre, Pavilion Road, West Bridgford, Nottingham, NG2 5FE.

Le conseil municipal de Rushcliffe est inscrit à la ligne de langue de 'pour assurer que nos services sont accessible à tous nos clients.'

POLISH

Jeżeli chciałoby Państwo otrzymać kopię tego dokumentu w innym formacie, np. napisane dużym drukiem, alfabetem Braille'a, na kasecie audio lub w innym języku, prosimy skontaktować się z Biurem Obsługi Klienta (Customer Services Team): Telefonicznie pod numerem: 0115 9819911, Email-em: customerservices@rushcliffe.gov.uk, Listownie pod adresem: Rushcliffe Borough Council, Civic Centre, Pavilion Road, West Bridgford, Nottingham NG2 5FE.

Celem zapewnienia wszystkim naszym klientom dostępu do naszych usług, Rushcliffe Borough Council udostępnił Państwu korzystanie z telefonicznej linii językowej - 'Language Line'.

GUJARATI

વધુ માહિતી

બીજી કોઈ ફોર્મેટ અથવા ભાષામાં જોઈએ ?

જો તમને આ દસ્તાવેજની એક નકલ બીજી કોઈ ફોર્મેટ જોઈતી હોય, દા.ત. મોટા અક્ષરોમાં, બ્રેઈલમાં, ઓડીઓ ટેઈપમાં અથવા બીજી ભાષામાં, તો કૃપા કરીને કસ્ટમર સર્વિસીસ ટીમનો અહીં સંપર્ક સાધો :

ટેલિફોન : 0115 9819911

ઈમેઈલ : customerservices@rushcliffe.gov.uk

ટપાલ : Rushcliffe Borough Council
Civic Centre
Pavilion Road
West Bridgford
Nottingham
NG2 5FE

અમારી સેવાઓ અમારા બધા ગ્રાહકોને ઉપલબ્ધ હોય તે નિશ્ચિત કરવા માટે રશ્ક્લીફ બરા કાઉન્સિલ 'લેન્ગ્વેજ લાઈન' સાથે રજિસ્ટર્ડ છે.

HINDI

और ज्यादा जानकारी

जानकारी कोई दूसरी भाषा या फॉरमैट में ?

यदि यह दस्तावेज आपको किसी दूसरी भाषा या फॉरमैट में, जैसे कि बड़े अक्षरों में, बरेयल (अन्धे लोगों के लिये) में, सुनने वाली टेप पर, चाहिये तो आप कसटमर सर्विस टीम को निम्नलिखित टैलीफोन नम्बर व डाक पते पर सम्पर्क करके प्राप्त कर सकते हैं ।

टैलीफोन नम्बर: 0115 9819911 customerservices@rushcliffe.gov.uk

डाक पता: Rushcliffe Borough Council
Civic Centre
Pavilion Road
West Bridgford
Nottingham
NG2 5FE

रशक्लिफ बरोअ काऊंसिल 'लैन्गुएज लाईन'(एजेंसी जो कि दूसरी भाषा में अनुवाद कराने में मदद करती है) के साथ रजिस्टर है यह निश्चित करने के लिये कि हम्हारी सेवॉएँ सभी लोगों के लिये प्राय्य है ।

URDU

مزید معلومات

کیا کسی دوسری صورت یا زبان میں درکار ہیں ؟

اگر آپ کو اس اشاعت کی ضرورت کسی دوسری صورت، مثلاً بڑے پرنٹ، نابینا افراد کی لکھائی بریل، آواز کی کیسٹ یا کسی اور زبان میں درکار ہوں تو برائے مہربانی کسٹمر سروسز ٹیم سے رابطہ کیجئے:

0115 9819911

ٹیلیفون نمبر:

customerservices@rushcliffe.gov.uk

ای میل:

پوسٹ: **Rushcliffe Borough Council
Civic Centre
Pavillion Road
West Bridgford
Nottingham
NG2 5FE**

رشکلف بورا کاؤنسل زبان کی سہولت کیلئے 'لینگویج لائن' کے ساتھ رزٹرڈ ہے تاکہ یقین دہانی ہو سکے کہ ہمارے تمام صارفین کو ہماری سروسز تک رسائی حاصل ہے۔

CONTACT INFORMATION

Any enquires regarding this report should be made to:

Environment & Waste Management Service
Rushcliffe Borough Council
Civic Centre
Pavilion Road
West Bridgford
Nottingham
NG2 5FE

Tel: 0115 9148322

Copies of the report are available on the Rushcliffe Borough Council Web Site www.rushcliffe.gov.uk, or by writing to the above address.

Specific comments or information can be obtained by contacting the following Officers:-

Officer	Designation	Tel. Number	E-mail
Martin Hickey	Environmental Health Officer	0115 9148486	mhickey@rushcliffe.gov.uk
John Pembrington	Technical Officer	0115 9148556	jpembrington@rushcliffe.gov.uk
Mr Phil Scotney	Protection & Safety Team Leader	0115 9148242	pscotney@rushcliffe.gov.uk

Table of Contents

1. Introduction.....	1
2. Air Quality Policy.....	2
2.1. National air quality strategy.....	2
2.2. Rushcliffe Air Quality Strategy.	3
2.3. Land Use Planning and Air Quality	6
2.4. Planning guidance – Planning Policy Guidance.....	6
3. Air Quality Assessment.....	7
3.1. When is a Air Quality Impact Assessment required	7
3.2. General principles	8
3.3. Content of an Air Quality Impact Assessment.....	8
3.4. Determining significance on air quality.....	10
3.5. Selection of modeling methodology	11
4. Mitigation of Air Quality Impacts	12
4.1. Mitigation Measures	12
5. Implementation	13
5.1. Rushcliffe Borough Councils Local Development Frameworks....	13
5.2. Section 106 Planning Obligations/Agreements	14
5.3. Other planning considerations	16
6. References and Guidance	18
Glossary.....	19
Apendix 1 Air Quality Objectives.....	20

1. Introduction

Poor air quality is the cause of negative effects on the health and the environment and generates a cost to us all. Air pollution is currently estimated to reduce the life expectancy of every person in the UK by an average of 7-8 months with estimated equivalent health costs of up to £20 billion each year. Consequently the Government has set air quality objectives for seven of the most common pollutants found in busy urban areas and cities. Under the Environment Act 1995 all Local Authorities are required to review and assess air quality in their areas and work toward reducing levels of any of the listed pollutants exceeding the air quality standards as published in the Air Quality Regulations 2007. This process involves the declaring of any areas of likely exceedences as Air Quality Management Areas (AQMAs) and the subsequent creation of Air Quality Action Plans (AQAP) containing a set of measures that are aimed at working to reduce the levels of pollution to below the AQS objectives.

In 2005 Rushcliffe Borough Council declared AQMA's for exceedences of the annual average nitrogen dioxide objective in two geographical areas in the Borough due to emissions from vehicles along busy traffic routes. These areas are known as AQMA 1 and AQMA 2 and cover the Loughborough Road/Trent Bridge/Radcliffe Road/Lady Bay area and the A52 (from Clifton Bridge to the Nottingham Knight Island) area.

In addition an AQMA was declared for exceedences of SO₂ in Barnstone from the cement works, however since the declaration this area has been revoked following the closure of the cement manufacturing kiln.

Rushcliffe BC recognises that the planning system has a key role to play in determining the location of development that may give rise to pollution and ensuring that sensitive developments whether inside or outside of existing AQMA's do not lead to further exceedences or a worsening of exposure. In addition the planning system can control the introduction of any new sensitive development (e.g. Housing, schools etc) in areas of poor air quality and ensure that air quality standards are being met for any such development.

Planning Policy Statement 23 (PPS23) on Planning and Pollution Control makes it clear that air quality is a material planning consideration and needs to be considered in all applications but with particular consideration to where:

- the development is proposed inside, or adjacent to, an air quality management area (AQMA) designated under Part IV of the Environment Act 1995
- the development could in itself result in the designation of an AQMA;
- to grant planning permission would conflict with, or render unworkable, elements of a LA's air quality action plan.

The aim of PPS 23 is to ensure that planning should become a more strategic, proactive force for economic, social and environmental well-being and have a key role in protecting and improving the natural environment, public health and safety, and amenity. Consequently it is no longer

satisfactory to state that the development is no worse than the existing or previous use on a particular site.

This guidance document is intended to provide assistance to developers in the approach to undertake when assessing the impact of new developments on air quality and whether a formal air quality assessment is required. This guidance underlines the importance that Rushcliffe Council attaches to air quality issues.

The key aims of this guidance are as follows:

- To identify those circumstances when an air quality assessment will be required to accompany a development proposal.
- To provide technical guidance on the process of air quality assessments
- To provide guidance with regard to the circumstances in which air quality conditions and S106 planning obligations will be sought in accordance with national guidance and Rushcliffe's policies for air quality. This guidance aims to ensure that air quality is considered in sufficient depth, to help minimize the potential impacts.

2. Air Quality Policy

2.1. National air quality strategy

The Environment Act 1995 requires the UK Government and the devolved administrations for Scotland and Wales to produce a national air quality strategy containing standards, objectives and measures for improving ambient air quality and to keep these policies under review.

Air quality in the UK has generally continued to improve since 1997 when the first Air Quality Strategy was adopted. This was replaced by the Air Quality Strategy for England, Scotland, Wales and Northern Ireland published in January 2000. It established the framework for achieving further improvements in ambient air quality in the UK to 2003 and beyond. The strategy identified actions at local, national and international level to improve air quality. It was followed by an Addendum in February 2003 which tightened several of the objectives and introduced a new one.

The UK Government and the devolved administrations published the current and latest Air Quality Strategy for England, Scotland, Wales and Northern Ireland, 17 July 2007.

The 2007 Strategy:

- sets out a way forward for work and planning on air quality issues
- sets out the air quality standards and objectives to be achieved
- introduces a new policy framework for tackling fine particles
- identifies potential new national policy measures which modeling indicates could give further health benefits and move closer towards meeting the Strategy's objectives.

The strategy requires that where the objectives are unlikely to be met an Air Quality Management Area (AQMA) must be declared and an Air Quality Action Plan (AQAP) implemented to improve air quality.

The AQMA's designated in Rushcliffe BC under this process are shown below in Plan 1 and Plan 2.

To improve air quality an Air Quality Action Plan was drawn up to identify what actions can be taken by Rushcliffe BC and other partner organisations to work toward reducing nitrogen dioxide levels within the declared AQMA's to below the National Air Quality Objectives at relevant receptor locations. The main measures of the action plan are to:

- provide information and awareness
- consideration of alternative means of transport
- road network management
- management of emissions
- planning considerations

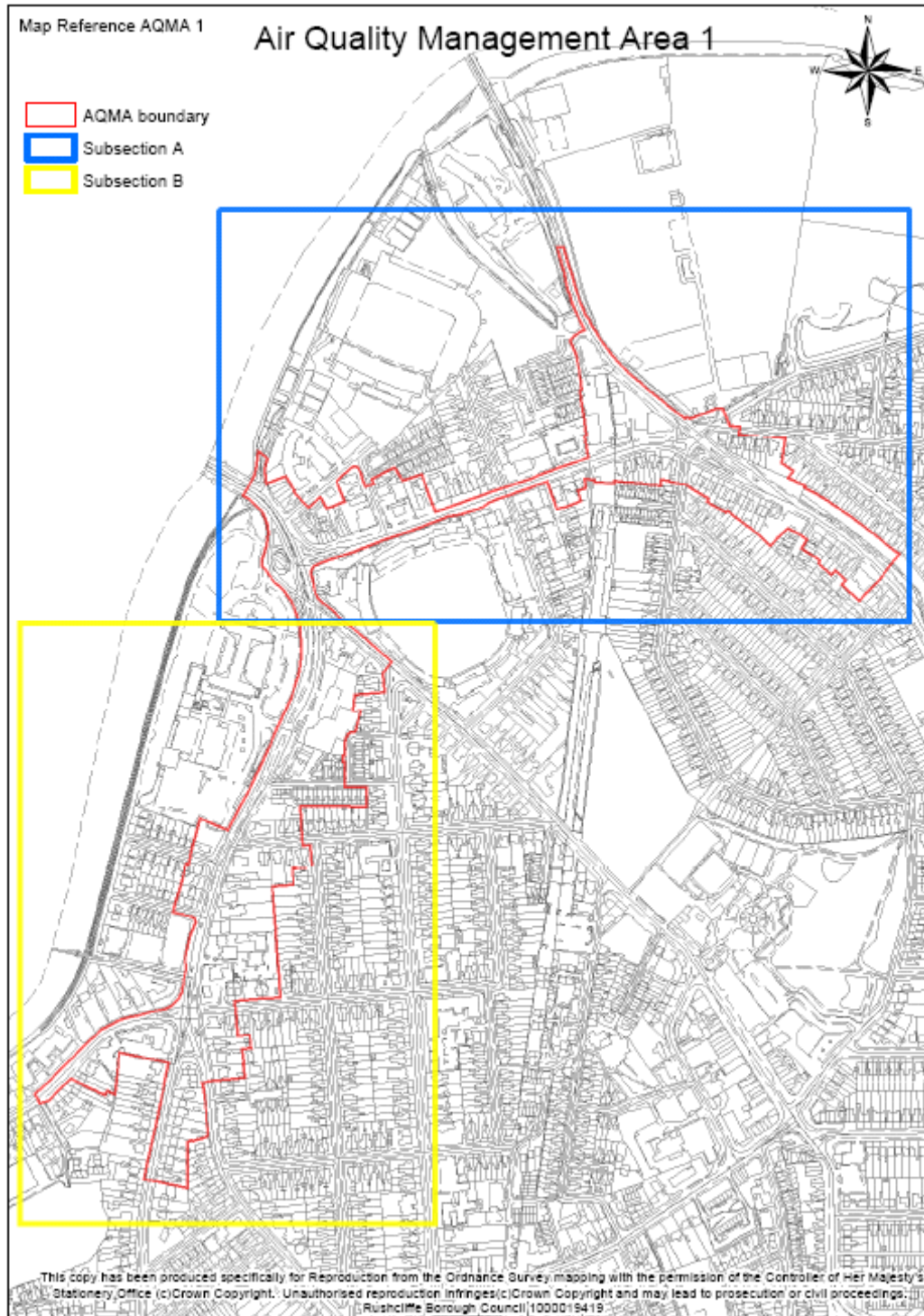
Within Rushcliffe and for most Local Authorities road transport is the major source of NO₂ and is the underlying cause of the declaration of AQMA's. For this reason the AQAP has been integrated with the Greater Nottingham Local Transport Plan (LTP). It is through the implementation of the LTP that the main measures to reduce traffic emissions will occur with specific measures aimed at:

- measures to reduce congestion,
- Promotion of alternatives to car travel and
- General reduction measures to reduce transport emissions.

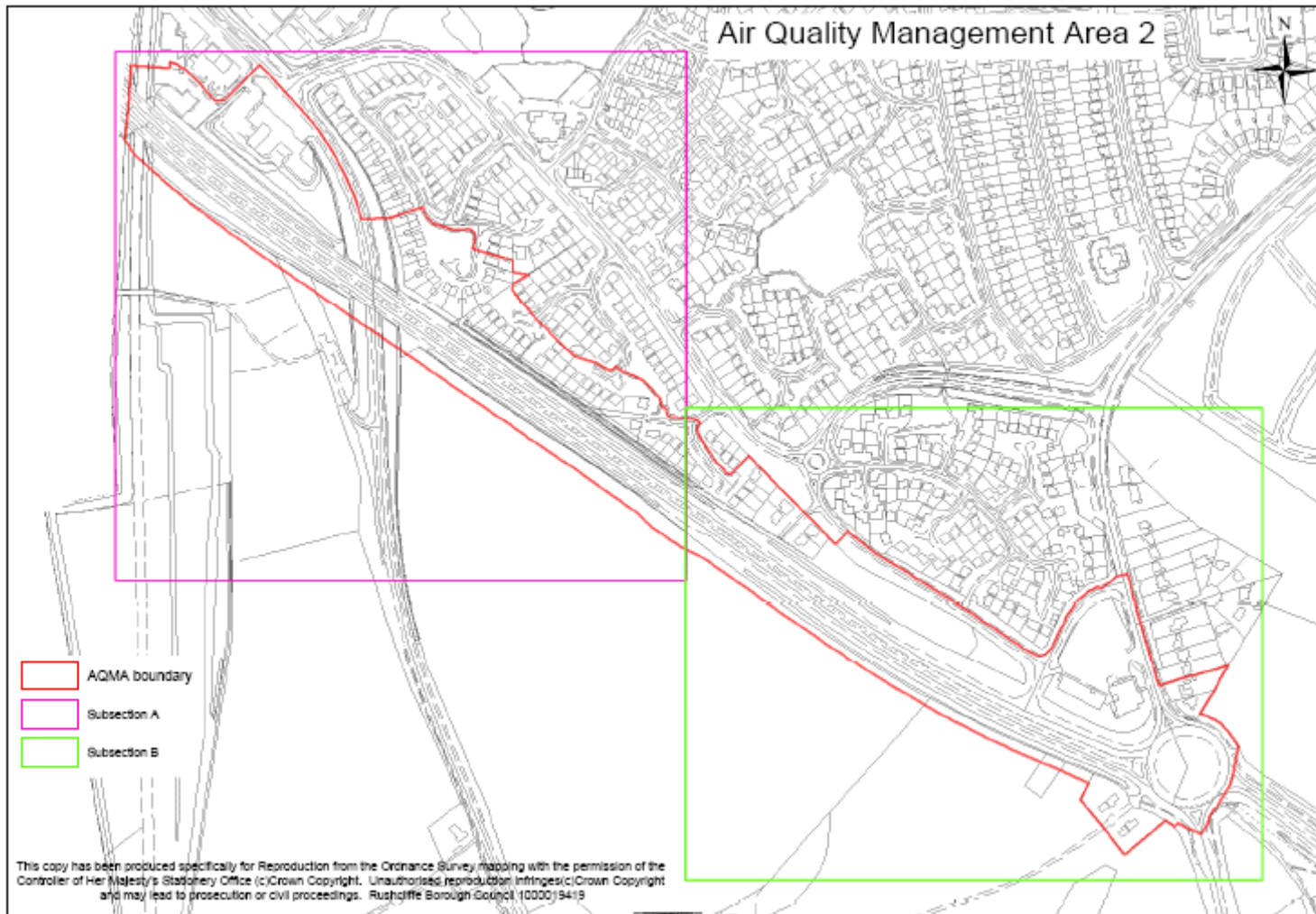
2.2. Rushcliffe Air Quality Strategy.

Rushcliffe Borough Councils has adopted the Nottinghamshire Air Quality Strategy published in 2008 and available to download from http://www.rushcliffe.gov.uk/upload/public/attachments/248/Breathoffreshairfor_notts.pdf

This strategy has been prepared by a partnership of Nottinghamshire Local Authorities, the Environment Agency, The Health Protection Agency and the Highways Agency. The work has been led by the Nottinghamshire Environmental Protection Working Group. The purpose of the 'A Breath of Fresh Air for Nottinghamshire' document is to help local authorities and partner organisations manage and improve ambient air quality and to protect the health and wellbeing of the public in a co-ordinated and integrated manner



Plan 1 Air Quality Management Area number 1, covering, Loughborough Road, Trent Bridge, Radcliffe Road and Lady Bay areas.



Plan 2 Air Quality Management Area number 2 covering the A52 from Clifton Bridge to the Nottingham Knight Island

2.3. Land Use Planning and Air Quality

The land use planning regime in the UK is important in the long term improvement in air quality, and the key objective of local air quality management process is to ensure the integration of air quality considerations into other local authority policies, such as land use planning and development.

Local authorities should take into account air quality considerations when:

- Preparing development plans
- Preparing local transport plans
- Determining planning applications

Air quality is a material planning consideration when determining planning applications and local authorities should consider the developments likely effect both from direct emissions and from the changes in traffic generated by the development.

2.4. Planning guidance – Planning Policy Guidance

The Government issues planning guidance through the Planning Policy Guidance Notes/Statements.

The most relevant guidance notes are:

- PPS3 Housing
- PPS23 Planning and Pollution Control
- PPG13 Transport
- PP6 Planning for town centres
- PPG4 Industrial and commercial development and small firms
- PPS12 Local Spatial Planning

These documents and others relating to the planning regime are available from

<http://www.communities.gov.uk/planningandbuilding/planning/>

3. Air Quality Assessment

3.1. When is a Air Quality Impact Assessment required

Air Quality Impact Assessment examines the likely significant air quality impact of a proposed development, and ensures that such impacts are fully understood and taken into account before development is allowed to proceed. Air quality is a 'material consideration' in all planning applications (PPS23). However, the weight placed upon it, in relation to the other material considerations, depends both on the proposed development and its environment. Air quality is likely to be a significant consideration in the planning process for development proposals in Rushcliffe, where one or more of the following apply. However, professional judgment is required for deciding when an AQIA is necessary, as it is not possible to apply an exact and precise set of criteria to all development proposals:

- The application would conflict with or render some element of Rushcliffe Borough Council's AQAP unworkable;
- The application could lead to a measurable deterioration in air quality as a direct result of the development proposal.
- The application would introduce new exposure(e.g. new residents), or increase, exposure in areas of existing areas of poor air quality

Consequently an air quality assessment would be required where the following circumstances are met in relation to any proposed development:

- is inside an AQMA, or in certain situations is adjacent to an Air Quality Management Area (AQMA),**or**
- where the development could in itself result in the designation of an AQMA **or**
- where the grant of planning permission would conflict with, or render unworkable, elements of the Local Authority's Air Quality Action Plan,

and

- It is expected or anticipated to lead to significant changes in air quality, **or**
- It is anticipated that there will be an introduction or increase in relevant exposure, e.g. such as the development of residential properties in an area or existing poor air quality.

Examples of the types of developments that Rushcliffe consider will require AQIA are shown below:

- Proposals requiring a full Environmental Impact Assessment or Transport Assessment
- Proposals that will result in increased congestion, either a change in traffic volume (5% AADT) or a change in vehicle speed (\pm 10 kph), or both on a road with > 10000 AADT.
- Developments that would significantly alter the traffic composition in the area (bus stations, HGVs parks)

- Developments that include new car, coach and lorry parks >300 spaces
- Developments located in or may affect sensitive areas (ecological sites) or areas of poor air quality **including AQMAs**, where direct emissions occur or where any of the preceding criteria are met.
- Proposals for new industrial processes or extensions to existing processes with the potential for significant emissions to air.
- Proposals for new residential development, or the intensification of existing residential use, which would introduce new sensitive receptors into an area of poor existing air quality, if this would result in the declaring of a new AQMA or the amending of an existing one such that more people would be affected
- Any development proposal that is **likely** to lead to an increased traffic generation within the area designated an AQMA
- Any other developments likely to have a significant adverse impact on air quality

3.2. General principles

The intention of an air quality assessment is to demonstrate the likely changes in air quality OR exposure to air pollutants, as a result of the proposed development. The basis of the assessment should be to compare the existing situation with that following completion of the development and determine the changes that are expected in air quality. The results should be compared to relevant air quality objectives and limit values and be consistent with target years for the limit values and objectives.

An AQIA will have three basic stages:

- assess the existing air quality situation in the study area (establish a baseline)
- predict the future air quality without the development in place (future baseline)
- predict the future air quality with the development in place (with development)

For most development proposals in Rushcliffe it is expected that this process will cover the two key pollutants NO₂ and PM₁₀ as a minimum, these are derived from traffic and the current AQMA's and other areas of poor air quality are associated with these pollutants. It will also be necessary to ensure that any predicted levels are verified against any existing and up to date published air quality data and weather data where appropriate.

Before undertaking dispersion modeling assessors are advised to contact the E&WMS via the development control service to agree the dispersion model methodology and study area.

3.3. Content of an Air Quality Impact Assessment

Applications should be supported by such information as is necessary to allow a full consideration of the impact of the proposal on the air quality in the area and be in line with any current guidance published by the Government. In

particular regard should be had to Technical Guidance 2009 (TG(09)) issued by the Secretary of State under section 88 of the Environment Act 1995. This technical guidance provides both general and Rushcliffe Borough Council specific guidance on undertaking an air quality assessment.

The following points should be contained in a detailed AQIA:

1. Identification of the site and area for assessment

The developer should identify the site and define the area for which the air quality impacts of the development will need to be assessed. This area, the size of which will need to be appropriate to the scale and nature of the proposed development, should be agreed beforehand with the Council.

Within the defined area, the developer should identify the location of sensitive receptors with the potential to be affected by the development. Other development proposals with the potential to contribute to air pollution in the area should also be identified. This should include both existing uses and developments with planning permission, to ensure that the cumulative impacts of development can be taken into consideration.

2. Assessment of existing air quality

The developer should include all available information about the current levels of air pollution within the study area. This should include the boundaries of any existing AQMAs affecting the study area defined in (i) and refer to the relevant studies done by the Council as part of work on the NAQS. They should also identify on a plan any areas where the air pollution levels are expected to breach the Objective Levels identified in the NAQS.

3. Assessment of committed developments

The developer should provide an assessment of the **cumulative air quality impacts** of all proposed developments that already have planning permission and are likely to be relevant to the proposal. This will ensure that a realistic overview of air quality in the area is presented for both with, and without the development and the predictions of the air quality impact of the development.

4. Development assessment

The developer should provide a full assessment of the likely cumulative air quality impact of the proposed development in the context of the base information provided by steps ii and iii. This stage is intended to provide an assessment of the impact of the development without any mitigation measures in place. This will allow the effectiveness of mitigation measures to be assessed. It should contain full details of the methodology used in the assessment, including any modeling carried out, and the base line data on which this was based.

The reports modeled results should be verified where necessary against any existing monitoring data and should identify any increases, and decreases, in air pollution resulting from the development or traffic and other activities and determine the **significance on air quality** of the impacts from the development.

associated with it. These should be identified by location and quantified. Those areas where the contribution of the development would cause air pollution levels to exceed the standards defined in NAQS should be clearly identified, along with the locations of existing or proposed sensitive receptors.

5. Identification and assessment of potential mitigation measures

If the Development Assessment (iv) identifies that there will be an adverse impact on air quality, particularly any breaches of the NAQS standards in locations where sensitive receptors have been identified, then the developer should provide full details of proposals to mitigate the air quality impact of the development. They should assess the potential contribution of these measures towards mitigating the air quality impact of development.

3.4. Determining significance on air quality

Development control policies should have regard to the differences in the quality of the air affecting different areas of the borough, and the differences in the levels of public exposure that might occur in different areas. Those areas that are exposed to the highest concentrations of pollutants (i.e. hotspot areas) and where significant public exposure occurs will be afforded the highest level of protection. Rushcliffe Borough Council is determined to improve the quality of air in these areas. Consequently, development will be restricted or otherwise discouraged in these areas, if the development impedes the overriding objective to improve air quality in such areas. Moreover, where the development does not contribute to poor air quality, but would give rise significant levels of exposure for occupants of the proposed development, and these can not be mitigated, the development should be refused. In addition, steps may be taken to protect those borderline areas, where air quality targets are only just satisfied, so as to ensure that the quality of air is not allowed to deteriorate any further.

The report should identify the extent to which the proposed mitigation measures limit the exposure of sensitive receptors to levels of air pollution. It should also determine the extent to which the proposed development relies on mitigating measures already available or proposed for the area, such as in the Local Transport Plan or Air Quality Action Plan, for example public transport improvements; and the extent to which it provides new mitigation measures related to the development.

For smaller developments or the initial stages of larger developments where air quality impacts are not expected to be significant the AQIA may be based on simple screening measures as published in Technical Guidance, TG(09). For much larger developments with significant traffic generation or proposing a local point emission source then more detailed dispersion modelling may be required.

Where a proposal for which a developer wishes to make a planning application falls into one of the categories set out above, they are advised to contact the Council to discuss whether a detailed assessment of air quality is required.

If required, developers should submit the air quality assessment with, or preferably prior to, the planning application. The Local Planning Authority does not intend to be prescriptive about the contribution to pollution levels

that should be regarded as significant; each case will be assessed on its own merits.

3.5. Selection of modeling methodology

There are a number of types and methods that can be adopted to assess air quality. The type of AQA required should be proportionate to the likely significance of any air quality impact that may be presented. These can be broadly broken down into three approaches

Screening methods

These are simple generic models that have a limited number of variables and are used to determine if an air quality problem exists in the area. This type of model has. If the results of this assessment model indicate satisfactory results there will generally be no need to proceed to more detailed modeling. Further assessments may be needed if concerns are raised at this screening stage. Such models include the Design Manual for Roads and Bridges (DMRB) for road traffic impacts. If the proposed site has an existing monitoring close by then it may be possible predict the air quality impacts at relevant receptors using this data from modeling tools available from <http://www.airquality.co.uk/laqm/tools.php>

For other source models such as SCREEN3 or ADMS Screen are also available. TG(09) discusses the use of the DMRB model in more detail.

For small scale residential developments producing little additional traffic the applicant is advised to adopt this approach in the first instance. The key element will be to establish that any new relevant receptor is not going to result in a worsening of exposure or lead to the creation of a new AQMA. However, where the screening method predicts that the development may have a significant air quality impact; it is likely that it will be necessary for a detailed assessment to be carried out.

If the proposal is within an AQMA mitigation measures will still be required.

Local scale dispersion models and Regional scale dispersion models

Detailed AQIA's typically make use of dispersion models which are commercially available computer based applications that have been shown to model the air pollution in various circumstances. It may be necessary to also collect monitoring data for these types of models to act as inputs to the model, thus such models can be time consuming and costly to produce but will give a much better estimate of the concentration of pollution emissions in the environment at key points of interest. Such models include:

AEOLIUS, ADMS-Urban, AAQuIRE, CALINE, INDIC AirViro, EXEMPT, PAL

Such models will also require traffic data and forecast traffic data which depending on the size and impact area can be a considerable cost to acquire. Where no existing monitoring has been undertaken for the specific pollutant being modeled or there is insufficient monitoring the model may require several months off monitoring to be undertaken at specific locations using such methods as passive diffusion tubes or real time monitors before the model can be run. The model should aim to assess the air quality at a future year based on what is likely to be the worse case scenario for the proposed development.

4. Mitigation of Air Quality Impacts

The following section provides guidance on borough wide and site specific measures, which could help to achieve the air quality objectives. Developers will need to identify their proposed mitigation measures and this will be used in assessing whether the mitigation for any air quality impacts has been adequately covered.

4.1. Mitigation Measures

Mitigation measures may involve the following:

- Evaluation of the various options available to the developer in order to mitigate and minimise the impact of the development on air quality both during construction and post construction phases.
- Offset the impact of the development by improving local air quality through the use of traffic management e.g. setting up of restricted zones. The Road Traffic Regulations Act 1984 gives local authorities extensive powers to make Traffic Regulation Orders to prohibit, restrict or regulate vehicular traffic or particular types of vehicular traffic.
- Review public transport systems. The introduction of a new or improved public transport system has the potential to reduce emissions from car trips and ease congestion. Location of development close to public transport.
- Parking management to reduce the number of cars entering into an area. Options include reducing the number of spaces available, increasing charges, and or limiting the maximum stay.
- Potential for pedestrianisation, improved cycling and walking provision.
- Locating and designing buildings to act as barriers protecting sensitive uses from sources of pollution.
- Contribution towards on and/or off site monitoring of air pollution in sensitive areas. Monitoring could be linked to the implementation of remedial measures where appropriate.
- Regulations of industrial emissions. Rushcliffe Borough Council regulates some Part A2 and Part B installations under the Pollution Prevention and Control Act. This includes the use of Best Available Techniques or a higher standard to reduce emissions to air. Currently there are no regulated installations within the designated Air Quality Management Areas.
- Vehicle Emission Controls
- Vehicle emission testing and control over stationary vehicles. New powers can be used to stop vehicles in order to conduct roadside emissions tests and to issue fixed penalty notices to drivers of vehicles whom, without good reason, leave engines running in parked vehicles.
- Implementation of a vehicle maintenance programme (e.g. Motorvate) to ensure they are operating at optimum conditions with regard to fuel usage and emissions to air.

- Green Travel Plans: Applicable to major and smaller developments which are likely to have significant transport implications especially in, or near the West Bridgford AQMA's

5. Implementation

5.1. Rushcliffe Borough Councils Local Development Frameworks.

In the Planning and Compulsory Purchase Act (2004), the Government announced proposals for reforming the planning system. These include the introduction of 'Regional Spatial Strategies' (RSS) and the replacement of the current Local Plans system with 'Local Development Frameworks'.

The Local Development Framework for Rushcliffe is the mechanism for delivering the spatial element of the Community Strategy. The Local Development Framework will also complement the objectives of the Borough Councils Corporate Plan.

The Borough Council has an important role to play in enforcing environmental control and also in consultation with other bodies such as the Environment Agency. Development proposals that would give rise to an unacceptable level of pollution or are sensitive to pollution, planning permission will not be granted. Where development is permitted, the Borough Council will, where appropriate attach conditions to the planning approval to minimise any potential pollution levels or, where appropriate, a section 106 agreement sought to ensure that mitigation measures are implemented.

The policies set out in local authority planning documents determine the authority's approach to the relationship between planning and air quality. The LDF will eventually contain a Local Development Scheme setting out the content, structure and timescale of the LDF, the Core Strategy (identifying where significant growth or change is proposed) and Supplementary Planning Documents.

Consistent with national guidance, policies in the Corporate plan identifies the importance of air quality as a material consideration.

- The Council will seek reductions in the level of the air pollutants referred to in the Air Quality Strategy for England, Scotland, Wales and Northern Ireland, and will seek to achieve the statutory limits and the tolerability of increased air pollution when considering proposals for development.
- Development proposals will be considered for their effect on air quality and the exposure of people to air pollutants. A formal Air Quality Assessment will be required where there is potential for significant increases in air pollutants. Permission will be refused where development hinders the achievement of local air quality objectives, or there is likely to be a significant increase in air pollutants. Developments will not be permitted in areas where air quality objectives are not currently being achieved unless the effects on people can be demonstrated as acceptable in relation to air quality objectives.

- The cumulative effect of individual developments will be taken into account, both in terms of impact and remedial measures.

Other policies within the plan will also have a positive impact in terms of air quality. In particular policies encouraging a shift in transport modes, i.e. will indirectly affect air quality. 'Energy' which promotes energy efficiency and the use of renewables would contribute to a reduction in emissions. Supplementary Guidance also addresses the issue of air quality in a specific part of the borough.

In addition to the Supplementary Planning Document, Development Control will also take into account advice from the Environmental & Waste Management Service of the Council, as to the likely impact of a development on air quality. It is acknowledged that the impact of a particular development in isolation may be relatively small. However, development which is likely to effect air quality in or adjacent to areas where air quality objectives are unlikely to be met, would be regarded as significant. Moreover, where development would result in an increase in emissions, mitigating measures will be sought. In determining a planning application it will be important to consider the impact of a development in terms of the air quality caused by both the operational characteristics (industrial, commercial and domestic) and the traffic generated by it.

Planning conditions and planning obligations, which are agreements made between local authorities and developers, are intended to make acceptable development which would otherwise be unacceptable in planning terms. Where there is a choice between imposing conditions and entering into a planning obligation, the imposition of a condition is preferable. The Government's policies on the use of planning conditions are set out in DoE Circular 11/95.

5.2. Section 106 Planning Obligations/Agreements

The Government's policies on planning obligations under Section 106 of the Town and Country Planning Act 1990 are set out in ODPM Circular 05/05 and local authorities must have reason for departing from it. The policy requires, amongst other factors, that planning obligations are only sought where they meet all of the following five policy tests:

- relevant to planning;
- necessary to make the proposed development acceptable in planning terms;
- directly related to the proposed development;
- fairly and reasonably related in scale and kind to the proposed development; and
- reasonable in all other respects.

PPS23 outlines national policy on planning and pollution control, including the basis for applying a combination of planning conditions and legal obligations to address the environmental impacts of proposed developments. In particular, it notes that '*Section 106 Agreements can be used to improve air*

quality, make other environmental improvements [...] or offset the subsequent environmental impact of a proposed development.'

It is important to note that the Community Infrastructure Levy (CIL) exists separately from 106 agreements. The CIL will be a new charge (to be introduced in 2010) in which local authorities in England and Wales will be empowered, but not required, to charge on most types of new development in their area. CIL charges will be based on simple formulae which relate the size of the charge to the size and character of the development paying it. The proceeds of the levy will be spent on local and sub-regional infrastructure to support the development of the area.

More details of how the planning system has been and can be used to promote and improve air quality can be found in '*Low Emissions Strategies, using the planning system to reduce transport emissions, Good Practice Guidance*', (Defra January 2010).

Notwithstanding the need to enter into legal agreements where appropriate, conditions may be imposed to any planning consent. Conditions may be imposed, for example, to achieve the following:

- Secure the submission of a full emissions inventory.
- Secure the submission of a scheme for monitoring air quality in areas affected by the development.
- To restrict certain types/class of vehicles which do not meet prescribed air quality standards.
- To secure vehicle testing to ensure that vehicles meet prescribed standards.
- To secure the submission of a Green Travel Plan and Transport Assessment.
- Air quality monitoring

Section 106 agreements can be secured to require the operator or occupier to monitor emissions or concentrations of pollutants at off site locations. Local authorities have also secured section 106 agreements to require developers to contribute to their borough wide air quality monitoring programmes. In these cases, capital funding may be sought for the purchase, installation, operation or maintenance of new equipment.

- Encourage the use of clean fuels, secure bicycle parking and changing facilities.
- Promote the use of, and the securing of improvements to public transport, walking and cycling.
- Specify numbers of parking spaces.
- Set targets for trips made by public transport.
- Encourage the implementation and use of Green Travel Plans, environmental management plans and air quality strategies.
- Require industrial processes to monitor and model their emissions.

- Require developers to monitor air quality before and after development
- Require measures to mitigate poor air quality, such as installing air conditioning.

The above is not considered a full list of the aims of imposing planning conditions and represents examples of the aims of certain conditions

5.3. Other planning considerations

In addition to the range of planning conditions noted above, the Environmental & Waste Management Service of the Council may also impose one or more of the following conditions through implementing their own powers to control the effects of the proposal on local residents and the local environment.

Construction Projects

All construction projects will be subject to codes of practice designed to minimise the impact of emissions to air. Control of construction dust should be proportionate to the scale of the potential impacts and relevant to the circumstances of each construction site. Generally dust can be controlled by: good management practice; proper handling and storage of dusty materials; regular sweeping and cleaning of areas and roads; sheeting, enclosure or covering dusty materials, HGV's and dust generating activities; wind sheeting; wetting down activities which generate significant emissions of dust; siting dust generating materials and activities away from sensitive receiver locations and the use of plant with dust arrestment equipment. For large construction sites, assessment and monitoring of dust levels may be appropriate. The scheme should also include those measures which will be put in place to supervise the works so that all steps are taken to minimise the emission of dust.

Dust

No development shall commence until a scheme for protecting dwellings or other uses sensitive to dust emitted from the construction works, is submitted. Such a scheme could include a combination of dust control and other measures. It is known that dust from construction sites can form a nuisance. Moreover dust can cause irritation to eyes, nose and throat. There is also growing concern that dust, comprising of very fine particles, can cause or exacerbate respiratory problems.

Bonfires

No bonfires shall be lit on the construction site

Plant maintenance to minimise smoke emission

All plant shall be regularly maintained to ensure that emissions of smoke are minimised. No plant shall be operated on the construction site which emits black smoke.

Control of vehicle emissions

All commercial vehicles will be asked to submit fleet management plans to include specified vehicle emissions standards and fleet maintenance programmes. This will include any 'speculative' developments and incorporate time-scales to ensure that change of use issues are covered.

6. References and Guidance

The Air Quality Standards Regulations 2007, Statutory Instrument No 64, The Stationary Office Limited

Technical Guidance 2009 (TG(09)), Defra, 2009,
<http://www.defra.gov.uk/environment/quality/air/airquality/local/guidance/index.htm>

Policy Guidance 2009 (PG(09)) Defra, 2009,
<http://www.defra.gov.uk/environment/quality/air/airquality/local/guidance/index.htm>

<http://www.uwe.ac.uk/aqm>

The Air Quality Strategy for England, Scotland, Wales and Northern Ireland (2007),
Published by Defra in partnership with the Scottish Government, Welsh Assembly
Government and Department of the Environment Northern Ireland
<http://www.defra.gov.uk/environment/quality/air/airquality/strategy/index.htm>

A breath of Fresh Air for Nottingham, An Air Quality Improvement Strategy for
the Next Decade, Nottinghamshire Pollution Working Group, 2007

<http://www.rushcliffe.gov.uk/upload/public/attachments/248/Breathoffreshairfornotts.pdf>

Town and Country Planning Act 1990

NSCA (2001). Air Quality: Planning for Action. NSCA, Brighton.
<http://www.uwe.ac.uk/aqm/centre/AQMAs/aqaps.html>

PPS23 Planning and pollution control

PPG13 Transport

PP6 Planning for town centres

PPG4 Industrial and commercial development and small firms

PPS12 Local development frameworks

DoE published Circular 1/97 'Planning Obligations

Circular DoE 11/95 : The Use of Conditions in Planning Permissions -
<http://www.communities.gov.uk/publications/planningandbuilding/circularuse>

ODPM Circular 05/05: Planning Obligations.
<http://www.communities.gov.uk/publications/planningandbuilding/circularplanningobligations>

6 PPS23 Annex 1: Pollution Control, Air and Water Quality (2004), paragraph 1.50

Community Infrastructure Levy,

Glossary

AADT – Annual average daily traffic count

Air Dispersion Modelling -mathematical modelling calculations using emissions data from an emissions inventory.

Air Quality Standard – these standards represent minimal/no risk health based standards, for ambient concentrations of pollutants. They are based purely on medical evidence, taking no account of costs, benefits or technical feasibility.

Air Quality Objective – these objectives take account of both costs and benefits, forming benchmarks in time, against which “Air Quality Standards” can be achieved.

Annual mean – The average of the concentrations measured or calculated for each pollutant for one calendar year.

AQAP – air quality action plan

AQMA – Air Quality Management Area

Assessment – The consideration of whether estimated levels for the relevant future period are likely to exceed the levels set in the objectives.

DEFRA – Department for Environment, Food and Rural Affairs

DMRB – Design Manual for Roads and Bridges

Emissions Inventory – A full list of sources that emit pollutants into the atmosphere over a sustained period of time.

Exceedence – A period of time where the concentration of a pollutant is greater than, or equal to, the appropriate air quality objective.

IPPC – Integrated Pollution, Prevention and Control Act 2000

NO – Nitric oxide

NO₂ – Nitrogen dioxide

NO_x – Nitrogen oxides

Part A installations – Large emitters of pollution, which are regulated by either the Environment Agency (A1) or Local Authorities (A2)

Part B installations – Smaller emitters of pollution, which are regulated by local authorities

SO₂ – Sulphur dioxide

µg/m³ – Microgrammes per cubic metre of air. A measure of concentration in terms of mass per unit volume. A concentration of 1µg/m³ means that one cubic metre of air contains one microgram (millionth of a gram) of pollutant.

Appendix 1 Air Quality Objectives

The air quality objectives applicable to Local Air Quality Management (LAQM) in England are set out in the Air Quality (England) Regulations 2000 (SI 928), and the Air Quality (England) (Amendment) Regulations 2002 (SI 3043). They are shown in Table 1. This table shows the objectives in units of microgrammes per cubic metre $\mu\text{g}/\text{m}^3$ (for carbon monoxide the units used are milligrammes per cubic metre, mg/m^3). Table 1 includes the number of permitted exceedences in any given year (where applicable).

Table 1 – Air Quality Objectives Included in the Air Quality Regulations for the Purpose of Local Air Quality Management

Pollutant	Concentration		Date to be achieved by
	Concentration	Measured as	
Benzene	16.25 $\mu\text{g}/\text{m}^3$	Running annual mean	31.12.2003
	5.00 $\mu\text{g}/\text{m}^3$	Running annual mean	31.12.2010
1,3-Butadiene	2.25 $\mu\text{g}/\text{m}^3$	Running annual mean	31.12.2003
Carbon monoxide	10.0 mg/m^3	Running 8-hour mean	31.12.2003
Lead	0.5 $\mu\text{g}/\text{m}^3$	Annual mean	31.12.2004
	0.25 $\mu\text{g}/\text{m}^3$	Annual mean	31.12.2008
Nitrogen dioxide a	200 $\mu\text{g}/\text{m}^3$ not to be exceeded more than 18 times a year	1-hour mean	31.12.2005
	40 $\mu\text{g}/\text{m}^3$	Annual mean	31.12.2005
Particles (PM ₁₀) (gravimetric) b	50 $\mu\text{g}/\text{m}^3$, not to be exceeded more than 35 times a year	24-hour mean	31.12.2004
	40 $\mu\text{g}/\text{m}^3$	Annual mean	31.12.2004
Sulphur dioxide	350 $\mu\text{g}/\text{m}^3$, not to be exceeded more than 24 times a year	1-hour mean	31.12.2004
	125 $\mu\text{g}/\text{m}^3$, not to be exceeded more than 3 times a year	24-hour mean	31.12.2004
	266 $\mu\text{g}/\text{m}^3$, not to be exceeded more than 35 times a year	15-minute mean	31.12.2005

a EU Limit values in respect of nitrogen dioxide to be achieved by 1st January 2010. There are, in addition, separate EU limit values for carbon monoxide, sulphur dioxide, lead and PM₁₀, to be achieved by 2005, and benzene by 2010.

b Measured using the European gravimetric transfer sampler or equivalent.