



# Kent and Medway Air Quality Partnership Air Quality and Planning Technical Guidance

July 2011



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# 1 Introduction

## Background

**1.1** Clean air is one of the basic essentials of life. Within Kent<sup>(1)</sup> we suffer from areas of poor air quality which can seriously affect our health as well as harming plant life, ecosystems and damaging buildings and materials. The Environment Audit Committee estimate that 50,000 people a year could be dying prematurely because of air pollution in the UK<sup>(2)</sup>. The UK is also repeatedly failing to meet the EU pollution targets and the European Commission is pursuing legal action against the UK for failing to comply with EU air quality standards. The major source of airborne pollution in Kent is vehicles and the year on year increase in the number of vehicles on the County's roads and continuing development across Kent is making the problem worse, offsetting any impact of cleaner fuels and technology. A consistent approach to tackling air pollution at a County level is required and it is hoped that this guidance will assist in achieving that aim.

## Purpose of the Guidance

**1.2** This technical guidance has been produced by the Kent and Medway Air Quality Partnership based on the London Council's guidance produced by APPLE (Air Pollution Planning and the Local Environment) working group.

**1.3** The Kent and Medway Air Quality Partnership was set up in 1992 and includes representatives from Environmental Health, Planning and Transport from Kent County Council, Medway Council and the District Councils. Other organisations that are involved include the Environment Agency, Primary Care Trust and consultants who assist with the work of the group. The Kent and Medway Air Quality Partnership was established to discuss air quality issues and provide a co-ordinated approach for dealing with air quality across the County.

**1.4** This guidance is aimed at local authorities, developers and consultants. It provides technical advice on how to deal with planning applications that could have an impact on air quality and human health. If the procedures in this guidance are followed, it will help to ensure consistency in the approach to dealing with air quality and planning across Kent. This guidance has been endorsed by the Kent Environmental Health Managers Group and Kent Planning Officers Group and is considered to be good practice. The guide will be reviewed regularly to update the documents and ensure the latest guidance is included. The guidance can be used by the District Councils and tailored to their own needs.

## Local Air Quality Management

**1.5** The Local Air Quality Management (LAQM) regime was first set down in the 1997 National Air Quality Strategy (NAQS)<sup>(3)</sup> and introduced the idea of local authority 'Review and Assessment'. In 2000, Government reviewed the NAQS and published a revised Air Quality Strategy for England, Scotland, Wales and Northern Ireland<sup>(4)</sup>, which provided a revised framework for air quality standards and objectives for seven pollutants, subsequently

1 When 'Kent' or 'County' is referred to in this document this also includes the Medway area

2 Environment Audit Committee Fifth Report March 2010

3 DoE (1997) The United Kingdom National Air Quality Strategy. The Stationary Office.

4 DETR (2000) The Air Quality Strategy for England, Scotland, Wales and Northern Ireland- Working Together for Clean Air, The Stationary Office



set in Regulations in 2000<sup>(5)</sup> later amended in 2002<sup>(6)</sup>. The latest Air Quality Strategy (AQS) published in July 2007 provides the current over-arching strategic framework for air quality in the UK. Air Quality Objectives for ten pollutants (benzene, 1,3-butadiene, carbon monoxide, lead, polycyclic aromatic hydrocarbons, nitrogen dioxide, sulphur dioxide, particulates - PM<sub>10</sub> and PM<sub>2.5</sub> and ozone) have been prescribed within the AQS based on The Air Quality Standards (England) Regulations 2007 (See Appendix A and B). Where the air quality objectives which are prescribed for LAQM are unlikely to be met, local authorities must designate Air Quality Management Areas (AQMAs) and produce an Air Quality Action Plan setting out measures they intend to take to work towards achieving the air quality objectives.

**1.6** As at July 2011, there are 41 Air Quality Management Areas (AQMAs) in Kent and Medway (See Appendix C and F) for nitrogen dioxide (NO<sub>2</sub>) and or particulate matter (PM<sub>10</sub>) and sulphur dioxide (SO<sub>2</sub>), with further areas potentially coming forward following further rounds of review and assessment. The major cause of air pollution in Kent is road traffic, particularly along the A2, M2, A20, M20, A25, M25, M26, A28 and A228 corridors as well as parts of Canterbury, Dartford, Dover, Gravesend, Maidstone, Medway, Tonbridge and Tunbridge Wells town centres. AQMAs have also been declared at Dover Eastern Docks from shipping emissions of SO<sub>2</sub> and Northfleet Industrial Area due to fugitive PM<sub>10</sub> emissions. Other notable contributions come from domestic and commercial energy production, and construction activity. Background pollutant concentrations from London, Northern Europe and the rest of the South East are heavily influenced by weather systems and affect air quality in the County.

## Planning Policy

**1.7** A key principle of Local Air Quality Management (LAQM) is for local authorities to integrate air quality considerations with other policy areas, such as planning. A summary of the Planning Guidance relevant to local air quality is provided in Appendix D and considered briefly below.

**1.8** Planning Policy Statement 23 (PPS23) on Planning and Pollution Control<sup>(7)</sup> clearly states that air quality can be a material planning consideration. Indeed, PPS23 goes on to state that the planning system should not just seek to maintain the "environmental status quo", rather "planning should become a more strategic, proactive force for economic, social and environmental well-being" and that "The planning system plays a key role in protecting and improving the natural environment, public health and safety, and amenity"<sup>(8)</sup>. It is therefore important for all local authorities to consider how they can best bring air quality considerations into the planning process at the earliest possible stage and it is no longer satisfactory to simply demonstrate that the impact of a development is no worse than the existing or previous land use on a particular site. Where developments are proposed within an AQMA or are likely to impact on an AQMA, mitigation measures should be considered as standard practice, particularly in cases where the development is new and does not replace an existing use. This is especially important where the development has provision for a large number of parking spaces, significantly increasing the number of trips, and/or significant heating plant.

5 DETR (2000) The Air Quality Regulations 2000, The Stationary Office.

6 Defra 2002 The Air Quality Strategy for England, Scotland, Wales and Northern Ireland: Addendum, The Stationary Office

7 Planning Policy Statement (PPS23) Planning and Pollution Control, ODPM 2004

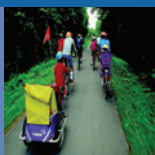
8 *ibid*, para 9.



**1.9** The Regional Spatial Strategy (RSS), remains a material consideration until the Localism Bill is enacted later in 2011<sup>(9)</sup>. The RSS South East Plan recognises the role planning has in addressing the causes of poor air quality through influencing movement, mode and management of transport. Planning can also help guide the location of development away from areas of poor air quality. The transport policies included in the South East Plan propose measures that address poor air quality and contribute to the delivery of Air Quality Action Plans. Policy NRM9 requires that the impact of development and exposure to poor air quality should be mitigated through design, particularly for residential development in areas, which are already, or are likely to, exceed national air quality objectives. The use of best practice during construction activities to reduce the levels of dust and other pollutants is also encouraged.

**1.10** Local Development Frameworks (LDFs) introduced by the Planning and Compulsory Purchase Act 2004 are being developed to replace district wide Local Plans. An LDF, which consists of a series of Development Plan Documents (DPD) and Supplementary Planning Documents (SPD), is intended to enable areas of policy to be reviewed and updated quickly without requiring a review of a Plan as a whole. It is hoped this guidance document can help to inform the development of air quality policies and provide a valuable source of information for local planning authorities.

**1.11** This guidance takes into account existing planning policies, and aims to help reduce exposure to air pollution across the whole of Kent and Medway. This approach should bring health benefits to everyone, not just those living in localised areas (i.e. hotspots) where the objectives are exceeded. This is particularly important for PM<sub>10</sub>, as this pollutant has a significant impact on health and has no safe threshold. In order to reduce overall exposure, background pollution will need to be reduced, so it is appropriate that development that has the potential to emit pollution should require mitigation and/or offsetting to help achieve an overall improvement in Kent and Medway's air quality.



## 2 Air Quality Assessments for Planning Applications

### Introduction

**2.1** Where air quality assessments are required as part of a planning application, guidance is often sought by the applicant as how best to undertake these to the satisfaction of the local authority<sup>(10)</sup>. This document sets out situations when an assessment may be required and recommends appropriate methods for undertaking such an assessment within the Kent area. Advice should be sought from the local authority regarding the need and requirements for an air quality assessment prior to undertaking the assessment.

**2.2** Development that has the potential to result in a deterioration of air quality will only be acceptable if appropriate mitigation measures can be implemented to ensure that, no deterioration in air quality occurs as a result of the proposal. Local authorities will work with developers by providing guidance on the suitability of such measures which should be incorporated at the early design stage of any proposal. Similarly if a development for a sensitive land use is located in an area of poor air quality local authorities will work with developers by providing guidance to ensure all measures are taken to secure acceptable air quality for new receptors. Contact with the local authorities at the early design stage is therefore vital to ensure the development proposal adequately addresses potential air quality issues. Developers must recognise that in some cases it will be necessary to provide mitigation in a form that can only be delivered away from the development site itself. It must also be recognised that in some cases, it may not prove possible to secure acceptable air quality mitigation and in such cases the local authority may deem the development unacceptable.

**2.3** Kent local authorities have used similar assessment methods to fulfil the requirements of their detailed Review and Assessment process that led to the AQMA designations. For consistency, air quality assessments for developments within Kent should, where possible, follow similar methodologies. Applicants intending to undertake an air quality assessment should always seek the latest information available on local air quality from the local authority. Guidance on the methodologies to be used for air quality assessments is available in the Department for the Environmental, Food and Rural Affairs (Defra) Technical Guidance Note LAQM.TG (09).

**Appendix E** of this document includes an **Air Quality Assessment Toolkit** which sets out the required stages of the air quality assessment in a series of transparent checklist and flow chart formats.

1. Developments that would generally require an air quality assessment;
2. Information required for the local authority officer to determine the need for an air quality assessment;
3. Information to be agreed with the local authority prior to an assessment taking place;
4. Basic requirements for an air quality assessment;

<sup>10</sup> Local authority includes both the County Council and the District/Borough Councils. Kent County Council is the planning authority for minerals, waste and its own development and it determines applications for these developments. District/Borough Councils determine planning applications, for commercial, industrial and household building works. Close liaison will be required between County and District Planners, Environmental Health Officers, air quality officers, developers and consultants particularly on the major developments.



5. Determining significance and whether mitigation/compensation is required;
6. Checklist for reviewing air quality assessments.

### Developments that require an Air Quality Assessment

**2.4** The overall outcome of an air quality assessment is to determine whether the development will have a significant impact on air quality and/or whether the existing air quality environment is acceptable for the proposed development.

**2.5** The four ways in which a development may have a significant impact are:

1. If the development is likely to have a significant impact upon an AQMA
2. If the development has the potential to cause a deterioration in local air quality (i.e. once completed it will increase pollutant concentrations)
3. If the development is located in an area of poor air quality (i.e. it will expose future occupiers to unacceptable pollutant concentrations) whether the site lies within a Designated AQMA or, if so advised by the Local Authority, or a "candidate" AQMA
4. If the demolition/construction phase will have a significant impact on the local environment (e.g. through fugitive dust and exhaust emissions)<sup>(11)</sup>.

**2.6** The Environmental Impact Assessment (EIA) procedure ensures that the likely effects of new development on the environment are fully understood. This process is likely to include a detailed study of the effects of any development upon levels of air quality. Developments that require an EIA include major developments which are of more than local importance; developments which are proposed for particularly environmentally sensitive or vulnerable locations and developments with unusually complex and potentially hazardous environmental effects. Most proposals for commercial or industrial installations that have the potential to emit pollution (e.g. Part A, A2 and B installations) may require an air quality assessment under the EIA regulations<sup>(12)</sup> but this may require more detailed "screening" before this can be finally determined .

**2.7** There are likely to be many other situations where developments that do not require a full EIA will nevertheless warrant an air quality assessment as part of the planning application. It is advised that developers, as good practice, should check with the local planning authority to determine whether an air quality assessment is required before submitting a planning application.

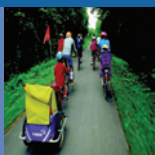
**Checklist 1 Appendix E sets out the type of developments that would generally require an air quality assessment.**

**2.8** Where it is clear from the initial specification of the development that it will have a minimal<sup>(13)</sup> impact on air quality, an air quality assessment may still be required (e.g. it introduces new relevant exposure within an AQMA, or an area which has been identified as

11 This however will be time limited and mitigation might be sought in the form of a Code of Construction Practice

12 The Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 1999, SI 293/1999

13 Refer to checklist 1



having poor air quality and is in the process of being declared or will have an impact on an AQMA). Under certain circumstances the local authority may advise a developer to produce a scheme for the development which considers Air Quality Emissions Reduction measures instead of producing a full Air Quality Assessment (although in areas of poor air quality it might not be possible to mitigate). This course of action is at the discretion of the local authority, and so it is important that communication between developers, or their consultants, and the local authority takes place at an early stage. This does not apply to applications where an EIA under the town and country planning regulatory regime is required as an air quality assessment will be required unless air quality impacts have been scoped out.

### General Principles of Air Quality Assessments

**2.9** There are two primary factors that impact upon the air quality assessment of a proposed development:

- **Site suitability:** it should be recognised that a development in an area that is already exceeding air quality objectives<sup>(14)</sup> could have a detrimental impact upon its residents and other sensitive receptors;
- **Impact of development:** the impact of the development on the environment needs to be detailed. An air quality assessment should clearly indicate the likely change in pollutant concentrations including the cumulative impacts (relevant to the air quality objectives)<sup>(15)</sup> arising from the proposed development, during both the construction and operational phases. The assessment must consider the change in air quality as a result of the proposed development.

**2.10** There is no single, definitive method for carrying out an air quality assessment, but the method must be appropriate for the development and should be carried out by a technically competent person<sup>(16)</sup>.

**2.11** For some developments screening assessments may be acceptable, provided they are suitable for the type of development and area under assessment. Where detailed dispersion modelling is required, developers are advised to contact the local authority's air quality officer to agree the methodology.

**Checklist 2 Appendix E sets out the information required for the local authority air quality officer to determine the need for an air quality assessment and Checklist 3 sets out the information to be agreed with the local authority prior to an assessment taking place.**

14 The Air Quality Strategy for England, Scotland, Wales and Northern Ireland. Air Quality Objectives July 2007

15 The Air Quality (England) (Amendment) Regulations 2002, SI 3043/2002.

16 A person with proven technical expertise and experience e.g through qualifications, professional accreditation and work experience, preferably a Member of the Institute of Air Quality Management





### 2.12 The air quality assessment should:

- Assess the current (baseline)<sup>(17)</sup> air quality situation in the locality (refer to the local authority's air quality modelled and monitoring results, to ensure that they broadly agree);
- Estimate emissions of local air pollutants resulting from the development;
- Predict statistics relevant to the air quality objectives with and without the development in place, relative to the year of opening and air quality objective target years, to assess the magnitude of the change in air quality associated with the proposed development and significance relative to health based UK air quality standards and objectives;
- The developer must agree in advance with the local authority which developments within the area should be included in the assessment to ensure the cumulative impact is considered;
- Put forward recommendations for mitigation where significant<sup>(18)</sup> impacts have been determined.

**2.13** The granting of outline planning permission should follow the precautionary principle. In the case of high-risk developments a full EIA is likely to be required; which should provide the detailed information needed to assess the impact of the development upon air quality or the impact of the air quality upon the future users of the development. If the development is proposed within an AQMA or area otherwise known to be of poor air quality (e.g. a "candidate" AQMA) then a full air quality assessment must be provided as part of the planning application, be that a full planning application or application for outline permission. This should not be an undue burden upon developers as the necessary mitigation measures should have formed part of the fundamental design process. Where a development is seen as low risk, outline planning permission may be granted, with requirements for an air quality assessment to be provided at the full planning application stage. Local authorities should ensure that suitable planning conditions are attached to the outline planning permission requiring further consideration to be given to environmental issues at a later stage, before detailed permission is granted. This issue is dealt with in further detail in Annex 1 of PPS23: Pollution Control, Air and Water Quality and the Environmental Protection UK (Formerly NSCA) guidance on air quality and development<sup>(19)</sup>.

17 The baseline air quality is that currently being experienced within an area with all existing development in place. This is often based on the last full year that monitoring data is available, to enable model verification. It is required in addition to the 'do minimum' and 'do something' predictions which determine the impacts of the development.

18 For determining 'significant' see paragraph 2.33 or Appendix E Checklist 5

19 [http://www.environmental-protection.org.uk/assets/library/documents/Air\\_Quality\\_Guidance\\_2010\\_\(final2\).pdf](http://www.environmental-protection.org.uk/assets/library/documents/Air_Quality_Guidance_2010_(final2).pdf)



**Checklist 4 Appendix E sets out the basic requirements for an air quality assessment. Specific elements are considered further below.**

### Choosing a Suitable Method of Assessment

**2.14** The type of assessment which should be undertaken is dependant on the type/size/location and likely scale of air quality impacts of the development proposal. Assessments can generally be considered within two categories: a 'Screening Assessment' and a 'Detailed Assessment'.

#### Screening Assessment

**2.15** A Screening Assessment is appropriate:

- As a first step to identify whether more detailed assessment is required;
- For smaller scale developments<sup>(20)</sup> generating little traffic or emissions;
- Where air quality constraints have not been identified;
- Where complex factors (e.g. street canyons, receptor/road heights; etc) do not need to be modelled.

**2.16** The UK screening model for road traffic related impacts is the Department for Transport (DfT) Design Manual for Roads and Bridges (DMRB)<sup>(21)</sup>. Screening tools are also available for industrial processes e.g. ADMS-Screen. The DMRB model is capable of calculating pollutant concentrations at relevant receptor locations based on traffic volumes and speeds, background pollutant concentrations and proximity of the receptors to the roads being modelled.

#### Detailed Assessment

**2.17** A Detailed Assessment is appropriate:

- Where a screening assessment has identified potential problems and more detailed modelling or monitoring is required;
- For larger scale developments generating significant traffic;
- Where air quality constraints have already been identified e.g. likely to impact on AQMA;
- Where complex factors (e.g. street canyons, stack emissions, receptor/road heights; etc) need to be modelled.
- Where cumulative impacts need to be considered.

**2.18** Dispersion models should be used for large-scale developments, or those developments proposed in areas where air quality is approaching or exceeding the relevant standards or objectives. Typical detailed dispersion models for road traffic related impacts are ADMS-Roads (or Urban), Caline (Breeze Roads) and AAquire. Complex dispersion

20 What determines a smaller or larger scale development should be agreed with the local authority, as it will depend on the particular local circumstances.

21 Department for Transport (DfT) Design Manual for Roads and Bridges (DMRB) Volume 11 Section 3 Part 1: Air Quality (HA207/07 May 2007).



modelling tools are also available for industrial processes e.g. ADMS and Aermol. Defra guidance LAQM.TG (09)<sup>(22)</sup> suggests models that are appropriate for air quality assessments, it is recommended that the selection of the model be discussed and agreed with the local authority. Detailed assessments using dispersion modelling may not be required in all cases. Further information can be found in the EPUK (Formerly NSCA) guidance<sup>(23)</sup>.

**2.19** Kent County Council on behalf of the Kent and Medway Air Quality Partnership have acquired the ADMS Urban<sup>(24)</sup> air quality model which can be used for strategic planning applications that are potentially polluting, and enables cumulative impacts to be considered. The emission inventory for the County includes all industrial processes (Part A, A2 and B) and traffic data for all major roads over 10,000 AADT. Developers can obtain this inventory, at a cost, directly from Kent County Council or can request to use the ADMS Urban model for large applications that may have a significant impact on air quality<sup>(25)</sup>.

### Model Input Data

#### Emissions Data

**2.20** The most up-to-date emission factors available should be used in the modelling. The current emissions factors, released in 2010 by Defra and Department for Transport (DfT), are incorporated within the Emissions Factor Toolkit<sup>(26)</sup>. The emissions factors are available for three different road types which act as a proxy for the differences in fleet composition of traffic in different conditions; urban, rural and motorway.

**2.21** Further information on emissions factors and atmospheric emissions inventories, can be found in the Defra technical guidance document LAQM.TG (09).

#### Traffic data

**2.22** Where a Transport Assessment (TA) has been prepared for a proposed development, predicted development traffic flows in the TA should generally be used as the basis for the calculation of 'with development' emissions and subsequent model runs. **Before an air quality assessment based on a TA is undertaken, the TA should be approved by the local authority's transport planners, in consultation with their air quality officers and Kent or Medway Highway Services.** Otherwise, developers risk undertaking an air quality assessment on the basis of traffic proposals that may subsequently change, risking the assessment becoming obsolete.

**2.23** The most up to date traffic flow data should be obtained in a suitable format to perform the emissions calculations from:-

- Local authorities review and assessment reports
- Highways Agency
- Kent Highways Services (KCC)

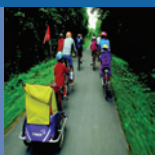
22 Local Air Quality Management Technical Guidance. LAQM.TG (09), Defra 2009.

23 EPUK Development Control: Planning for Air Quality 2010 Update

24 ADMS Urban is a nationally recognised air quality model which has been consistently used across the County to undertake reviews and assessments.

25 For further information email [planning.policy@kent.gov.uk](mailto:planning.policy@kent.gov.uk)

26 [Emission Factor Toolkit](http://laqm1.defra.gov.uk/review/tools/emissions.php) Toolkit developed for Defra and DfT <http://laqm1.defra.gov.uk/review/tools/emissions.php>



- Medway Council's Traffic Management Team
- [Department for Transport](#)

**2.24** Where the proposed development is likely to result in additional congested traffic conditions, the TA will need to provide sufficient information to quantify the times when queueing around junctions is likely to occur. Particular care should be taken in selecting appropriate traffic speeds.

### Weather data

**2.25** The format required will depend on the model to be used, and should be checked with the supplier of the dispersion model. Weather data should be taken from an appropriate and representative site for the development (justification should be provided, such as Met Office approval and appropriate quality assurance/quality control). In Kent, representative sites include Manston for the East Kent coastal local authorities and Charlwood near Gatwick for the West Kent local authorities. At least one year of hourly-sequential data should be used and this should correspond where possible with the baseline year of the model, being used for model verification purposes.

### Model specific data

**2.26** Depending on the model used and the area in question, there are particular parameters that should be agreed prior to modelling being undertaken, for example:

- The location and dimensions of any street canyons (streets where pollutant dispersal is adversely affected by surrounding buildings);
- The location and heights of sensitive receptors representative of public exposure<sup>(27)</sup> to be included in the assessment.

### Background pollution data

**2.27** Validated and ratified monitoring data should be taken from an appropriate local background site in the [Kent and Medway Air Quality Monitoring Network](#)<sup>(28)</sup> [www.kentair.org](http://www.kentair.org) or, if not available, from the [National Air Quality Archive](#)<sup>(29)</sup>. Background emissions data can also be gathered from the [National Atmospheric Emissions Inventory database](#)<sup>(30)</sup>. For the baseline year (used for model verification) the same background year as the weather data and monitoring data should be used. The developer must agree in advance with the local authority which background data should be used.

### Pollutant-Specific Concerns

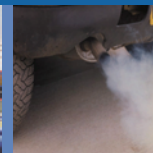
**2.28** If a development is either expected to increase traffic volume or alter the types of traffic (e.g. increase in HGVs), PM<sub>10</sub> and NO<sub>2</sub> would normally be modelled, since widespread exceedences of these pollutants are predicted across many of Kent's major roads, and motor vehicles are a significant source of these pollutants. If the development is itself a significant emitter, pollutants relevant to the type of development need to be taken into account (for

27 See Ch 1 (Page 7 Defra Technical Guidance LAQM.TG(09) to establish what are considered as sensitive receptors with respect to public exposure for the particular Air Quality Objectives of concern.

28 Sevenoaks however are not part of the monitoring network and should be contacted directly

29 <http://www.naei.org.uk/>

30 <http://www.airquality.co.uk/archive/laqm/laqm.php>



instance, SO<sub>2</sub> and NO<sub>2</sub> should be considered for an oil-burning process or benzene from a petrol station or refinery or PM<sub>10</sub> and NO<sub>2</sub> from a biomass plant or PM<sub>10</sub> from a minerals facility). Appendix B provides further details on the pollutants of concern with respect to local air quality.

### Nitrogen dioxide (NO<sub>2</sub>)

- The chemistry scheme set-up in the model and the NO<sub>x</sub>:NO<sub>2</sub> conversion scheme used should be detailed in the report (see LAQM.TG(09); and subsequent revised calculators);
- The objective for NO<sub>2</sub> that is likely to be hardest to meet is the annual mean objective.

### Fine particulates (PM<sub>10</sub>)

- The objectives for PM<sub>10</sub> are based on a gravimetric measurement. Any PM<sub>10</sub> modelling study should present results as a gravimetric equivalent. Projection of PM<sub>10</sub> for future years should follow the Defra guidance LAQM.TG (09), with consideration to primary, secondary and coarse PM<sub>10</sub> components.
- The objective for PM<sub>10</sub> that is likely to be hardest to meet is the 24-hour mean objective.

### Sulphur dioxide (SO<sub>2</sub>)

- The objective for SO<sub>2</sub> that is likely to be hardest to meet is the 15-minute objective. The assessment should demonstrate that the modelling methodology provides a reasonable assessment against the short-term objectives.

### Model Output Area

**2.29** The model should cover the area likely to be affected by the proposed development. For a development that affects traffic movements, the output should cover the area where traffic movement is significantly affected, i.e. as a minimum all the roads included in the transport assessment. In those cases where an AQMA is likely to be impacted by a proposed development, output results will be required to include appropriate receptors within the AQMA.

**2.30** The results produced should preferably be in the form of carefully selected modelled individual receptor point locations, which represent relevant exposure (as defined in the Defra Technical Guidance)<sup>(31)</sup>. Alternatively, a detailed contour plot of predicted pollutant concentrations and scale of air quality change may be appropriate. A map showing predicted concentrations with the development in place and a map of the difference in concentration with and without the development should be produced. The grid spacing for any contour plots should not be more than 5 metres, to ensure robust definition.

**2.31** In the case of 2 or more storey buildings, developers should consider the vertical profile as well as the horizontal dispersion of pollutants in terms of model outputs. Developers should consider the surrounding environment of the development - any high level point sources, such as chimney stacks or ventilation outlets, should be identified to ensure that the proposed development does not encroach upon the plume dispersion.



**2.32** The developer should agree the output area, location and number of receptors in advance with the local authority air quality officer. All receptors should be presented on an appropriately scaled Ordnance Survey map.

### Model Verification

**2.33** As there are a number of uncertainties associated with air quality modelling, it is good practice to verify the model against measured pollution concentrations. Within Kent, there are around 30 continuous monitoring sites that may be used to verify a modelling exercise. All of the sites are part of the Kent and Medway Air Quality Monitoring Network (KMAQMN); two of the sites within Kent are associated with the Automatic Urban and Rural Network (AURN)<sup>(32)</sup>. In addition the local authorities collect nitrogen dioxide data from diffusion tubes; this can also be used for local verification work. All data can be found on [www.kentair.org.uk](http://www.kentair.org.uk)<sup>(33)</sup>. The approach to the verification of a model is set out in the Defra Technical Guidance LAQM.TG(09). The complete verification methodology used in the assessment should be detailed in full in the report to demonstrate good model performance and reliability in the model predictions.

### Determining Significant Impacts on Air Quality

**2.34** One of the key concerns with regard to the air quality impacts of a development in Kent is the effect on human health. It is important that an air quality assessment evaluates modelled air quality in terms of changes in pollution concentrations where there is relevant public exposure. The Air Quality Regulations are concerned with areas that exceed air quality objectives and the revised Air Quality Strategy (2007) considers overall exposure reduction. This guidance considers that any development that may lead to additional air pollution problems, even if it is outside an AQMA, could be significant. The local authority will have to make a balanced judgement on the likely impact of each development, based on the results of the air quality assessment and their professional experience. The local authority may also consider the impact of the development on air quality in neighbouring authorities.

**Checklist 5, Appendix E includes a flow chart and approach to assist in determining whether the application is significant in terms of air quality. This has been modified from the EPUK Planning Guidance<sup>(34)</sup>. Standard descriptors for magnitude and significance as set out in the EPUK Guidance should be used in the assessment for transparency and consistency purposes.**

### Climate Change Emissions

**2.35** The integration of climate change policies with the planning process is a progressive move, and it is recognised that local authorities are at different stages of incorporating climate change policies into their general practices.

32 <http://www.airquality.co.uk>

33 Sevenoaks District Council are not in the KAQMN and the data from their continuous monitoring sites is available from the LondonAir website <http://www.londonair.org.uk/london/asp/default.asp>

34 EPUK Development Control Planning for Air Quality 2010 Update



**2.36** A planning application should give details, in its air quality assessment, where the design, construction and operation of the development has accounted for reductions in Climate Change emissions. Any potential ‘trade-off’ issues between local air quality and climate change emissions should be acknowledged within the assessment.

**2.37** CO<sub>2</sub> emissions from sources such as traffic and buildings can be estimated from the National Atmospheric Emission Inventory. The DMRB Screening method includes a regional impact assessment, which allows assessment of carbon emissions. Such data may be useful to a District when considering off-setting the impact of development.

### Reporting the Assessment

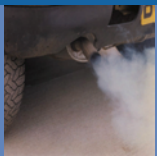
**2.38** In summary, the following information should be provided as a minimum when reporting an air quality assessment:

- A description of the methodology used
- Evidence of model performance and verification
- Input data sources included e.g. traffic data, emissions factors, input parameters specific to the model and site, meteorology, background data, etc.
- Location of receptors
- Years modelled (baseline, occupation, objective years)
- Model output data, in tables and on maps, where appropriate
- Discussion of results
- Assessment against relevant air quality objectives
- Determination of significance
- Conclusions and recommendations, including possible mitigation options

### Audit trail

**2.39** The assessment should provide a transparent account of the modelling undertaken and all assumptions made. Should an audit of the assessment be required, the local authority may request extra data.

**Checklist 6 Appendix E provides a framework for reviewing the air quality assessment and ensuring it is adequate.**



## 3 Mitigation of Air Quality Impacts

### Introduction

**3.1** This guidance has been designed to help local authorities to identify those developments that are likely to have significant air quality impacts. The local authority will make recommendations based on the assessment result in the flow chart (*Checklist 5, Appendix 5*), but it is not the case that all those developments where air quality has been assessed as an overriding or highly significant consideration would be refused. Instead, local authorities should work with developers and provide guidance to help them explore mechanisms and mitigation measures to ensure that a development has a beneficial impact on the environment. In terms of air quality, this may be through careful design of the development or by securing mitigation and/or off-setting measures through planning obligations or conditions that will enable the development to go ahead.

### Construction Phase

**3.2** Emissions and dust from the demolition and construction phase of a development can have a significant impact on local air quality, especially from large developments where this phase can take many years. The Greater London Authority and the London Councils have produced guidance to control dust and emissions from construction and demolition<sup>(35)</sup>. This guidance is considered to be best practice and local authorities and developers in Kent are encouraged to use this in the planning process to help minimise the impact from fugitive dust emissions and vehicle exhausts.

### Design of the Development

**3.3** The type of measures proposed to improve air quality will depend on the nature and scale of the proposed development. Careful consideration should be given to the site characteristics of the development, as particular elements of a scheme may be more sensitive to air pollution than others, for example a children's play space should be located away from roads with high levels of air pollution. The appropriate design, layout, orientation and construction can avoid increasing exposure whilst minimising energy demand and energy loss.

**3.4** Consideration should be given to the provision of mechanical ventilation and location of opening windows and doors to improve indoor air quality. In the case of tall buildings, mixed use can help make development acceptable by, for example, placing residential use on higher storeys away from sources of air pollution (and noise) at ground level, allowing for balconies and open-able windows, while lower floors can accommodate commercial uses where mechanical ventilation and windows that cannot be opened are more acceptable. The use of outside space is also important, and roof gardens and roof terraces should also be encouraged. However, exposure levels should still be considered; with the location of the roof terrace (height of open space), and adjacent roof exhausts and intake vents, all being factors that can impact upon the exposure levels at these open spaces.





## Energy efficiency

**3.5** Part L of the Building Regulations identifies the legal minimum a development needs to meet in terms of energy efficiency in the UK. Developers in Kent should look to meet more stringent demands to meet the aims of Planning Policy Statement 1<sup>(36)</sup> which aims to reduce CO<sub>2</sub> emissions, improve energy efficiency and increase the proportion of energy generated from renewable sources. Many of these options will have direct synergies with the improvement of local air quality.

**3.6** A development may increase local pollutant concentrations whilst making a positive impact in other areas. For example, a tri-generation combined heat and power plant (CHP) serving 1000 dwellings will give rise to increased pollutant concentrations from a single point source. However, there are potential trade-offs with the removal of 1000 less efficient, individual boilers. Methods to reduce the impacts of large-scale CHP need to be planned into a development at an early stage, such as stack height determinations, consideration to suitable fuel type and incorporating technologies that reduce emissions. Consideration of the net balance of emissions may be more appropriate in such a case rather than just considering local pollutant emissions in isolation. The Environmental Protection UK are currently preparing guidance on air quality and CHP.

## Renewable energy

**3.7** Planning Policy Statement 1 (PPS1) Delivering Sustainable Development<sup>(37)</sup> requires a proactive approach towards the implementation of renewable energy. The South East Plan (Policy NRM11) encourages developers to submit an assessment of a development's energy demand and provide at least 10% of the development's energy demand from renewable sources for housing schemes of over 10 dwellings and commercial schemes of over 1,000m<sup>2</sup>. There are a number of different energy options and technologies available, and developers should select the most favourable technology to bring about the greatest reduction in CO<sub>2</sub> emissions, this should be encouraged through local planning policies. Attainment of high energy efficiency ratings in all new development, where appropriate, should be achieved through the use of best practice guidance such as the Building Research Establishment Environmental Assessment Method (BREEAM) and the National Home Energy Rating (NHER).

**3.8** The Code for Sustainable Homes (CFSH)<sup>(38)</sup> has been produced to provide a single national standard to guide industry in the design and construction of sustainable homes this complements the system of Energy Performance Certificates<sup>(39)</sup> which will be required by new homes (and in due course other homes) providing information on energy efficiency/carbon performance of the home. The CFSH builds upon the BRE Ecohomes system and provides minimum standards for energy efficiency. A mandatory requirement for a CFSH rating has been in place since 1st May 2008.

**3.9** In the light of current Government policy, it is particularly important that climate change and air quality policies are joined up and that combustion processes such as biomass plants are used in the right place, and not in an area where such technology is likely to lead to poor

36 Planning Policy Statement: Planning and Climate Change - Supplement to Planning Policy Statement 1 (2007) <http://www.communities.gov.uk/publications/planningandbuilding/ppsclimatechange>

37 Planning Policy Statement 1 (PPS1) Delivering Sustainable Development ODPM 2005

38 Code for Sustainable Homes - A step change in sustainable homes building practice December 2006 DCLG

39 Introduced in 2007 under the Energy Performance of Buildings Directive (EPBD)



air quality. With regard to biomass boilers, PM<sub>10</sub> and NO<sub>2</sub> emissions have been identified as the main impact expected on local air quality and this will require consideration in air quality assessments.

### Supply of energy

**3.10** Developers should consider supplying energy schemes such as CHP, or district heating from the outset. These are more efficient at reducing emissions than installing gas central heating or condensing boilers in each dwelling, and can lead to reduced emissions of local air pollutants and CO<sub>2</sub>. The supplement to Planning Policy Statement 1<sup>(40)</sup> supports decentralised energy systems.

**3.11** Developers need to consider how dwellings will remain cool once they are occupied. Air conditioning can put additional strains on energy consumption and should be considered as a last resort. Air conditioning can be designed out by the use of well designed passive ventilation, sensible building orientation and using materials with a high thermal mass. Renewable energy sources should always be used in association with any air conditioning installation.

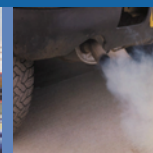
**3.12** The design of development is an area that is subject to rapid change with the Government's desire for zero-carbon homes and with national and local policy regularly being updated. Through the preparation of LDFs, each local planning authority may set its own standards which may be more onerous than national policy, this should also be considered.

### Planning Conditions and Planning Obligations/Section 106

**3.13** Planning obligations (or Section 106 agreements) and conditions are tools to enhance the quality of a development and to ameliorate adverse impacts that might otherwise arise from the development. Planning obligations are designed to tackle the impact that may arise from a development and can involve controls on activities or the nature of development. Conditions can be attached to a planning permission and can only apply to the application site itself or adjoining land under the applicant's control. Both should be reasonable in relation to both the scale of the development and its impacts to be valid. Government LAQM Policy Guidance (LAQM.PG(09)) states that the planning and air quality functions of local authorities should be carried out in close cooperation. Guidance on using the planning system to improve air quality, is referred to in Practice Guidance accompanying the LAQM Policy Guidance. Defra Guidance 'Low Emissions Strategies: Using the Planning System to Reduce Transport Emissions' is also particularly useful.

**3.14** Annex 1 of PPS23 states that there may be cases where it is appropriate to use planning conditions to control aspects of a development that are not covered by a pollution permit, and examples are provided, such as measures to minimise emissions, limit hours of operation, implement green travel plans, or requiring the developer to fund schemes for air quality monitoring. Further advice can also be found in Government Circular 11/95. Appendix H of this guidance includes examples of conditions that have been used across the county.

**3.15** Where it is not appropriate to use planning conditions to address the impact of a proposed development, or where a development is planned in or near to an area of existing sources of pollution, it may be appropriate to enter into a planning obligation under Section



106 of the Town and Country Planning Act 1990. Annex 1 of PPS23 describes how section 106 agreements can be used to require developers to provide assistance or support to enable local authorities to implement any actions in pursuit of their Air Quality Action Plan. Typically, measures will focus on ways to reduce the need to travel or encourage more sustainable travel, but it may often be appropriate for developers to fund measures elsewhere within the AQMA as a way to off-set any predicted increases in pollutant emissions. Further advice can be found in Government Circular 05/05.

## Community Infrastructure Levy

**3.16** The Planning Act 2008 provided for the introduction of the Community Infrastructure Levy (CIL), the detail of how this will work is set out in the Community Infrastructure Regulations 2010. CIL will enable local authorities to apply a levy to new developments<sup>(41)</sup> (residential and commercial) in their area, based on a costed assessment of the infrastructure requirements arising specifically out of development across a defined area. The benefits of this is that it will provide more emphasis on addressing cumulative impacts of growth and it could offer greater ease of pooling at sub-regional level. Potentially CIL provides an opportunity to fund Low Emissions Strategies through a charging structure. The facility to enter into planning obligations and conditions will remain in place when the CIL is introduced although these will be scaled back and are likely to be limited to site specific mitigation. CIL is now the preferred method for collecting pooled contributions to fund infrastructure and local authorities are being urged to move to CIL as a priority. Further information is provided by [Communities and Local Government](#) website<sup>(42)</sup>. There are likely to be changes to the CIL Regulations following the enactment of the Localism Bill.

## Travel Plans

**3.17** As encouraged by PPS13<sup>(43)</sup>, developments should make provisions to encourage cycling and walking and significant travel generating developments should be supported by Travel Plans that encourage staff and visitors to use more sustainable modes of transport rather than rely on car use. Supplementary Guidance to the Kent and Medway Structure Plan (SPG4)<sup>(44)</sup> provides guidance on appropriate thresholds of development size where submission of Travel Plans is required. Car parking should be discouraged within AQMAs, particularly for developments located near to public transport, this however is not the only solution and an integrated transport approach is required. Measures in a Travel Plan need to produce quantifiable emission benefits and ideally an element of monitoring should be included in the agreement<sup>(45)</sup>.

**3.18** Further information can be found in the document 'Guidance for Planning Officers on Transport Assessments and Travel Plans'<sup>(46)</sup>.

41 except where exemptions apply e.g affordable housing

42 <http://www.communities.gov.uk/corporate/>

43 Planning Policy Statement 13 Transport (2011)

44 The Kent and Medway Structure Plan was abolished in June 2009 however [SPG4](#) is still used as a guide by local authorities

45 Further information can be obtained from <http://www.travel.org.uk>

46 [Guidance for Planning Officers on Transport Assessments and Travel Plans](#) produced by Jacobs on behalf of KCC (October 2008)



### Use of clean/alternatively fuelled vehicles

**3.19** Promoting the provision of refuelling for alternative fuels such as liquid petroleum gas, liquefied/compressed natural gas or biogas at local fuel stations, encouraging suitable locations for new refuelling facilities, or installing electric vehicle charging points in car parks, can all encourage people to use cleaner-fuelled vehicles. Site operators or occupiers could be required to use clean fuel fleets or restrictions could be placed on them to use specific classes and types of vehicles. They can also be required to monitor their maintenance and carry out emissions testing of the fleet.

### Low Emission Schemes and Strategies

**3.20** All reasonable means to minimise emissions from a scheme should be adopted. Measures may include using opportunities to regulate vehicle emissions, either in relation to European Emission Standards or CO<sub>2</sub> emissions, in line with Vehicle Excise Duty Bandings. Consideration should be given to both incentives and disincentives to influence vehicle emissions in both commercial and residential usage. A more holistic approach would consider all types of emissions from a development and there may be opportunities to off-set vehicle emissions with energy emissions and vice versa.

**3.21** Section 106 agreements can be secured to require the operator or occupier to monitor emissions or concentrations of pollutants at off site locations. They can also be used to require developers to contribute to air quality monitoring programmes. In these cases, capital funding may be sought for the purchase, installation, operation or maintenance of new equipment. Examples are provided in Appendix H with respect to agreements used in the County. In addition, examples are provided in the EPUK Guidance<sup>(47)</sup>.

### Other Measures

**3.22** A local authority can ask for appropriate funds through the section 106 process for any reasonable measure that can help them improve air quality including monitoring, transportation, action planning etc. This means there will be other opportunities to improve air quality that are not highlighted above. The London Borough of Greenwich for example require that developers contribute £10/house on developments of over 10 houses. Medway Council have also produced a Developers Guide that sets out the Council's position on Section 106 requirements across a range of service areas. Air quality contributions will be determined on a case by case basis.

**3.23** The [Lacors air quality toolkit](#), 'Local Action for Cleaner Air' includes ideas, information and case studies highlighting good examples of air quality improvement from across England and Wales<sup>(48)</sup>.

47 EPUK Development Control: Planning for Air Quality (2006) and Defra & Low Emission Strategy Partnership 2010 Low Emission Strategies: using the planning system to reduce transport emissions.

48 <http://www.lacors.gov.uk/lacors/NewsArticleDetails.aspx?id=18503>



## 4 Glossary

Abbreviation	Name
<b>AQMA</b>	Air Quality Management Area
<b>AQAP</b>	Air Quality Action Plan
<b>ADMS URBAN</b>	Atmospheric Dispersion Model
<b>CIL</b>	Community Infrastructure Levy
<b>CHP</b>	Combined Heat and Power
<b>DEFRA</b>	Department of Environment Food and Rural Affairs
<b>DfT</b>	Department for Transport
<b>EPUK</b>	Environmental Protection UK (formerly National Society for Clean Air (NSCA))
<b>KCC</b>	Kent County Council
<b>KMAQMN</b>	Kent and Medway Air Quality Monitoring Network
<b>KMAQP</b>	Kent and Medway Air Quality Partnership
<b>LAQM</b>	Local Air Quality Management
<b>LDD</b>	Local Development Documents
<b>LDF</b>	Local Development Frameworks
<b>LDV</b>	Light Duty Vehicles
<b>LTP</b>	Local Transport Plan
<b>NAQS</b>	National Air Quality Strategy
<b>NAQO</b>	National Air Quality Objective
<b>NO<sub>2</sub></b>	Nitrogen dioxide
<b>NO<sub>x</sub></b>	Oxide of nitrogen
<b>O<sub>3</sub></b>	Ozone
<b>PM<sub>2.5</sub></b>	Fine particles (less than 2.5µg in diameter)
<b>PM<sub>10</sub></b>	Fine particles (less than 10µg in diameter)
<b>SO<sub>2</sub></b>	Sulphur dioxide
<b>µg/m<sup>3</sup></b>	Micrograms per cubic metre



## 5 References

1. **Air Quality Strategy for England, Scotland, Wales and Northern Ireland.** Defra 2007.
2. **Circular 11/95 Use of conditions in planning permission.** ODPM 1995.
3. **Circular 05/2005 Planning Obligations.** ODPM 2005.
4. **Code for Sustainable Homes – A step change in sustainable home building practice.** DCLG 2006.
5. **Design Manual for Roads and Bridges.** Highways Agency Feb 2008.
6. **Development Control: Planning for Air Quality** (Guidance from EPUK (formerly NSCA) on dealing with air quality concerns within the development control process) NSCA 2006 and 2010 Update.
7. **South East Plan** July 2009.
8. **Guidance for Planning Officers on Transport Assessments and Travel Plans** Jacobs 2008.
9. **LAQM.PG (09)** Policy Guidance, Defra 2009.
10. **LAQM.TG (09)** Technical Guidance, Defra 2009.
11. **Local Transport Plan 2006-11** Kent County Council 2006.
12. **London Council's Air Quality and Planning Guidance.** The London Air Pollution Planning and the Local Environment (APPLE) working group 2007.
13. **PPS1** Delivering Sustainable Development ODPM 2005.
14. **PPS4** Planning for Sustainable and Economic Growth CLG 2009.
15. **PPS12** Local Spatial Planning CLG 2008.
16. **PPS13** Transport CLG 2011.
17. **PPS23** Planning and Pollution Control ODPM 2004.

## A The Air Quality Strategy for England, Scotland, Wales and Northern Ireland Air Quality Objectives July 2007

Pollutant	Objective	Concentration	Date	European Obligations	Date to be achieved
Sulphur Dioxide	266µg/m <sup>3</sup> not to be exceeded more than 35 times/year	15 minute mean	31 <sup>st</sup> Dec 2005		
	350µg/m <sup>3</sup> not to be exceeded more than 24 times a year	1 hr mean	31 <sup>st</sup> Dec 2004	350µg/m <sup>3</sup> not to be exceeded more than 24 times a year	1 <sup>st</sup> Jan 2005
	125µg/m <sup>3</sup> not to be exceeded more than 3 times a year	24hr mean	31 <sup>st</sup> Dec 2004	125µg/m <sup>3</sup> not to be exceeded more than 3 times a year	1 <sup>st</sup> Jan 2005
PAH's*	0.25ng/m <sup>3</sup> B[a]P	Annual Average	31 <sup>st</sup> Dec 2004	Target of 1ng/m <sup>3</sup>	31 <sup>st</sup> Dec 2012
Benzene	16.25µg/m <sup>3</sup>	Running annual mean	31 <sup>st</sup> Dec 2003		
	5µg/m <sup>3</sup>	Annual Average	31 <sup>st</sup> Dec 2010	5µg/m <sup>3</sup>	1 <sup>st</sup> Jan 2010
1, 3 Butadiene	2.25µg/m <sup>3</sup>	Running annual mean	31 <sup>st</sup> Dec 2003		
	10µg/m <sup>3</sup>	Max daily running 8 hour mean	31 <sup>st</sup> Dec 2003	10µg/m <sup>3</sup>	1 <sup>st</sup> Jan 2005
Carbon Monoxide	0.5µg/m <sup>3</sup>	Annual mean	31 <sup>st</sup> Dec 2004	0.5µg/m <sup>3</sup>	1 <sup>st</sup> Jan 2005
	0.25µg/m <sup>3</sup>	Annual mean	31 <sup>st</sup> Dec 2008		

Pollutant	Objective	Concentration	Date	European Obligations	Date to be achieved
Particles PM <sub>10</sub>	50µg/m <sup>3</sup> not to be exceeded more than 35 times a year	24 hr mean	31 <sup>st</sup> Dec 2004		
	40µg/m <sup>3</sup>	Annual mean	31 <sup>st</sup> Dec 2004	40µg/m <sup>3</sup>	1 <sup>st</sup> Jan 2005
Particles PM <sub>2.5</sub> * (Exposure Reduction)	25µg/m <sup>3</sup>	Annual mean	2020	Target value 25µg/m <sup>3</sup>	2010
	Target of 15% reduction in concentrations at urban background	Annual mean	Between 2010 and 2020	Target of 20% reduction in concentrations at urban background	Between 2010 and 2020
Nitrogen Dioxide (NO <sub>2</sub> )	200µg/m <sup>3</sup> not to be exceeded more than 18 times a year	1 hour mean	31 <sup>st</sup> Dec 2005		1 <sup>st</sup> Jan 2010
	40µg/m <sup>3</sup>	Annual mean	31 <sup>st</sup> Dec 2005	40µg/m <sup>3</sup>	1 <sup>st</sup> Jan 2010
Ozone*	100µg/m <sup>3</sup> not to be exceeded more than 10 times a year	8 hour mean	31 <sup>st</sup> Dec 2005	Target of 120µg/m <sup>3</sup> not to be exceeded more than 25 times a year averaged over 3 years.	31st Dec 2010

\* not prescribed for Local Air Quality Management



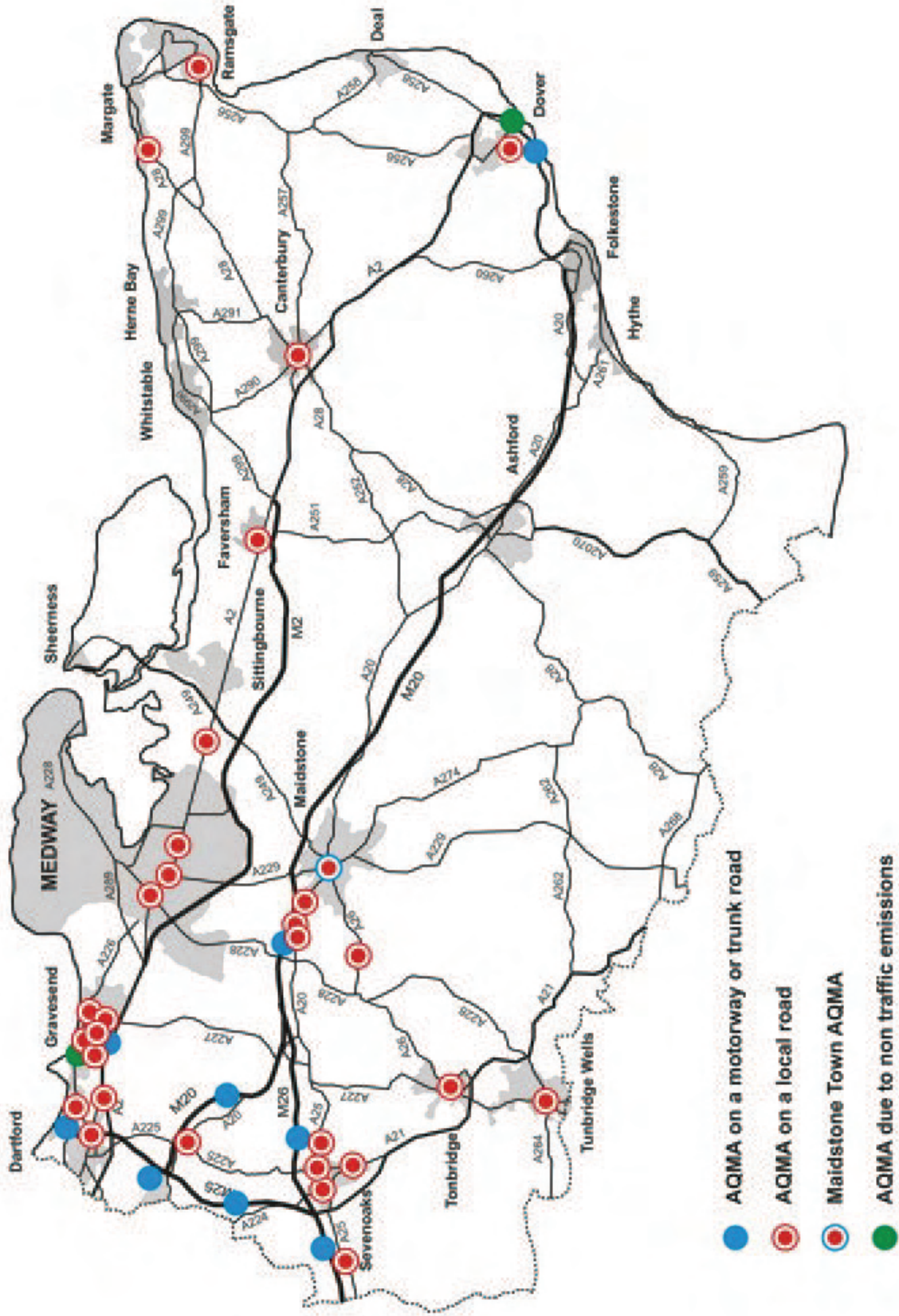
## B Pollutants of Concern

Pollutant	Source	Health effects
Nitrogen dioxide (NO <sub>2</sub> )	Nitrogen dioxide is a gas produced by the reaction of nitrogen and oxygen generally in a two stage reaction. The main sources of nitrogen oxides emissions are road transport, both diesel and petrol, and fossil fuelled combustion processes.	Causes respiratory illnesses and possibly increases the risk of lung infections. Young children and people with asthma are the most sensitive to this pollutant.
Fine particulates (PM <sub>10</sub> )	Airborne particulates arise from a wide variety of sources, including combustion processes, mineral particles from industrial processes and road transport.	Fine particulates have been linked with a number of respiratory illnesses, including asthma. Of more concern is that long-term exposure to fine particles has recently been found to cause premature death from heart disease and lung disease. Fine particulates may also cause lung cancer, since cancer-causing compounds found in exhaust fumes attach themselves to the surface of the particles, which may then be breathed into the lungs.
Sulphur dioxide (SO <sub>2</sub> )	The main source of sulphur dioxide is the burning of fossil fuels in power stations, oil refineries and other large industrial plants. In some parts of the district shipping is a major contributor to elevated sulphur dioxide levels.	It is an irritant and can cause a feeling of chest tightness and a narrowing of the airways. Those who suffer from asthma are more sensitive than other people. Can aggravate existing bronchitis.
Volatile organic compounds	Petrol and diesel-engine motor vehicles emit volatile organic compounds as well as other activities such as solvent use, and petrol distribution and handling.	Includes some compounds which are either known or thought to cause cancer. Two compounds which are known to cause cancer are benzene and 1,3-butadiene.
Carbon monoxide (CO)	Carbon monoxide levels are generally highest close to busy roads however levels have been decreasing due to improved engine efficiency and catalytic converters.	This pollutant can deprive the blood of oxygen and can cause headaches, dizziness, nausea and at very high levels, death. Elderly people, pregnant women, young children and people with heart disease and lung disease are more sensitive to carbon monoxide.

Pollutant	Source	Health effects
Lead	The main source of lead in the atmosphere is from the combustion of petrol. Since phasing out leaded petrol across Europe lead levels have fallen sharply.	Children are the most sensitive to lead poisoning. Exposure to lead is thought to cause behavioural problems, lower learning ability and lack of concentration.
Ozone	Road transport and industrial emissions are the major sources of NOx and hydrocarbons which help to form ozone. Ozone concentrations are lower next to busy roads and higher in rural areas.	Ozone is a toxic gas which can cause damage and irritation to the lungs and air ways. Damage is increased when taking exercise, but the effects are not permanent. Asthmatics are not thought to be more sensitive to ozone, although it is possible that ozone may make people more sensitive to pollens and allergens.

The key pollutants of concern with respect to road traffic impact assessments are nitrogen dioxide and fine particulates.

C Map of the Air Quality Management Areas in Kent and Medway





## D The Planning Context

Guidance relevant to local planning authority's air quality responsibilities is set out in the following planning policy guidance:

### **National Planning Guidance**

The Localism Bill was published in December 2010 and sets out proposals which shift power away from central government and towards local people. It is currently going through the Parliamentary stages. This will formally abolish Regional Spatial Strategies, amend the Community Infrastructure Levy and will consolidate national planning policy.

#### **National Planning Policy Framework**

A review of planning policy is taking place which will consolidate policy statements, circulars and guidance documents into a single concise National Planning Policy Framework. A consultation document is due in July 2011, and a final document is expected later in 2011 until that time the following guidance still applies.

#### **Planning Obligations Circular 05/05**

This provides revised guidance to local authorities on the use of planning obligations under Section 106 of the Town and Country Planning Act 1990 as substituted by the Planning and Compensation Act 1991.

#### **Planning Conditions Circular 11/95**

This circular sets out guidance on the use of planning conditions for situations that can enhance the quality of the development. Conditions need to be fair, reasonable and practical and meet the tests set out in this document.

#### **Community Infrastructure Levy**

The Planning Act 2008 introduced the Community Infrastructure Levy (CIL) and the detail of how it will work is set out in the Community Infrastructure Regulations 2010. CIL is the method for collecting pooled contributions to fund general infrastructure whilst S106 obligations will be for site specific mitigation, the intention is that they will complement each other. The set scale of charges and the legal obligations to pay for CIL are intended to bring greater certainty and will capture a much broader range of development. There will be changes to the existing CIL Regulations following the enactment of the Localism Bill.

#### **Planning Policy Statement 1 Delivering Sustainable Development (2005)**

This document sets out the Government's overarching planning policies on the delivery of sustainable development through the planning system. The aims of this are to achieve social progress recognising the needs of everyone, whilst ensuring effective protection of the environment, encouraging the prudent use of natural resources whilst maintaining high and stable levels of economic growth and employment.



### **Planning Policy Statement: Planning and Climate Change - Supplement to Planning Policy Statement 1 (2007)**

This sets out how planning, in providing for the new homes, jobs and infrastructure needed by communities, should help shape places with lower carbon emissions and resilience to climate change.

### **Planning Policy Statement 23: Planning and Pollution Control (2004)**

This document has been revised to include requirements under the Environment Act 1995 and states that pollution issues must be taken into account as appropriate, in planning decisions. In terms of air quality, Annex 1 paragraphs 1.48-1.50 set out how planning conditions or obligations can be used to address the impact of the proposed development on air quality. Appendix 1G gives examples of cases where air quality may be important in planning.

### **PPS4: Planning for Sustainable and Economic Growth (2009), PPS12 Local Spatial Planning (2008) and PPS13 Transport (2011)**

PPS4 and PPS12 deal with air quality indirectly by promoting sustainable forms of development i.e. development in locations such as town centres that are well served by public transport in order to reduce traffic generation and emissions. PPS13 emphasises the importance of local air quality as an “important consideration in the integration of planning and transport” (paragraph 11). It also states the importance of well-designed traffic management as a measure to reduce local air pollution.

### **Minerals Policy Statement (MPS) 2: Controlling and Mitigating the Environmental Effects of Minerals Extraction in England March 2005**

Minerals Policy Statement 2 (MPS2) sets out the policies and considerations that the Government expects mineral planning authorities to follow when preparing development plans and in considering applications for minerals development and its principles can also be applied to other similar development (such as those involving soil handling or waste management operations). Annex 1 specifically considers dust.

### **Policy Guidance LAQM.PG(09), Defra (Department for Environment, Food and Rural Affairs)**

This guidance has a chapter (7) on Planning that states 'any consideration of the quality of land, air or water and potential impacts arising from development, possible leading to impacts on health, is a material planning consideration where it arises from or affects land use. Guidance on using the planning system to improve air quality, such as by using Section 106 agreements under the Town and Country and Planning Act 1990, is referred to in Practice Guidance accompanying the Policy Guidance.

### **EPUK (formerly NSCA) guidance Development Control: Planning for Air Quality**

This national guidance was published in 2010 to provide a framework for air quality considerations that need to be taken into account in the development control process. The guidance sets out a methodology for assessing the significance of air quality impacts and requirements for mitigation.



## **Regional Planning Policy**

The Regional Spatial Strategy, the South East Plan was adopted in 2009. In May 2010 the new Government announced the abolition of the Regional Spatial Strategies. This was challenged in the high courts by Cala Homes and the Courts decision, concluded that Regional Spatial Strategies could not be revoked in their entirety. The policies are therefore still a material consideration until the Localism Bill is enacted, which is likely to be late 2011. Air Quality policy (NRM9) required local authorities and other relevant bodies to seek an improvement in air quality.

## **Local Planning Policy**

### **Local Development Frameworks (LDFs),**

LDFs introduced by the Planning and Compulsory Purchase Act 2004 are being developed to replace Local Plans. An LDF consists of a series of Development Plan Documents (DPDs) and Supplementary Planning Documents (SPD), and is intended to enable areas of policy to be reviewed and updated quickly without requiring a review of a Plan as a whole. Relevant policies in these documents need to integrate reducing travel with reference to local air quality management.

In Kent, the major cause of air pollution is road traffic. Although many measures to solve this problem are outside the scope of planning, such as stricter controls on vehicle emissions, there is much local planning authorities can do. The planning policy response should concentrate on locally specific policies to reduce the need to travel and to encourage the use of public transport, walking and cycling. There should be close co-operation between Planners, Traffic Engineers and Environmental Health Officers to integrate land use and transport policies to achieve air quality improvements.

A specific policy on Air Quality Management Areas could be included in local authorities' development plans. Policies on air quality should make clear that any development being proposed that is potentially polluting e.g., will significantly increase the number of vehicle trips, involve polluting industrial activities, certain energy generation projects etc. will need a detailed air quality assessment.

### **Minerals and Waste Development Framework**

Kent County Council are currently preparing the Kent Minerals and Waste Development Framework which includes a number of spatial planning documents which will form the minerals and waste development plan for Kent.

### **Supplementary Planning Document and Planning briefs**

Supplementary Planning Documents could be prepared for Air Quality Management Areas identifying any specific local matters relevant to the development of land. Any planning brief produced for development of land in an Air Quality Management Area should address in detail issues of air quality and how the development will be designed to minimise air pollution from the development.



## Local Transport Plans – Kent and Medway

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The approach to air quality during the period of the third Local Transport Plan (2011-16) will be to continue to work with Kent's district councils and other partners under the existing Local Air Quality Management framework set out in the Environment Act 1995 and LTP2 Guidance. The County Council and Medway Council will assist in the development and review of Air Quality Action Plans and consider appropriate mitigation measures which will then be put forward for inclusion in the annual Integrated Transport Programme. Measures implemented during the period of LTP2 (2006-11) include the Traffic Management Centre in Maidstone, which co-ordinates traffic signals to minimise congestion, and the Fastrack Bus Rapid Transit system, which supports the growth of sustainable housing and employment in Kent Thameside. Whilst the level of funding from conventional sources will be significantly reduced during the LTP3 period, further opportunities will be sought to build upon this progress, including the Department for Transport's Local Sustainable Transport Fund.

## Restrictive Parking Policies

Policies that impose restrictive parking standards, promote car free or car 'capped' housing developments in areas where development is likely to impact on air quality and lead to exceedences within the AQMA, could be adopted. Converting existing off-street car parking spaces and car parks to other uses should also be encouraged.



## E Air Quality Assessment Toolkit

Throughout this Guidance the importance of communication between local authority officers and developers, or their consultants has been stated. It is hoped that this Toolkit will clearly indicate what information is required to satisfactorily complete an Air Quality Assessment and what information needs to be agreed prior to the assessment taking place.

### Checklist 1: Developments that would generally require an air quality assessment

The below checklist sets out potential criteria that may trigger an air quality assessment. If any of these criteria apply, an air quality assessment would generally be required. Where there is any doubt, the local authority should be contacted.

Description	Criteria
<b>Locality of development</b>	<ul style="list-style-type: none"> <li>• Developments within or which may impact on sensitive areas or areas of poor air quality e.g. Air Quality Management Areas.</li> <li>• Introduction of new relevant exposure where potential existing pollution sources occur e.g. residential development in an industrial/commercial area.</li> <li>• Along roads with narrow streets (street canyons) and stationary or queuing traffic.</li> </ul>
<b>Nature of development</b>	<ul style="list-style-type: none"> <li>• New industrial development (e.g. boiler plant/energy production/permitted installations/authorised processes);</li> <li>• New rail, road building and signalling, bridge, tunnel, port or airport developments;</li> <li>• Waste handling activities;</li> <li>• Minerals development;</li> <li>• Significant heating plant.</li> </ul>
<b>Scale of development</b>	<p>Significant residential/commercial floor space or number of units. Criteria should be discussed with the local authority, as this will be determined on a case by case basis depending on the locality.</p> <p><i>As a guide only</i></p> <ul style="list-style-type: none"> <li>• <i>commercial development with a gross floor space of &gt;1000m<sup>2</sup>;</i></li> <li>• <i>Residential development with &gt;80 residential units.</i></li> </ul>
<b>Traffic Impact Assessment</b>	<p>For roads &gt;10,000 annual average daily traffic (AADT) flows:</p> <ul style="list-style-type: none"> <li>• Traffic volume change of &gt;5%;</li> <li>• Traffic speed change of 10kph.</li> </ul>

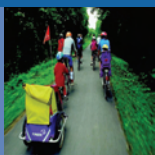




Description	Criteria
	Significant change in traffic composition e.g. significant increase in HGVs as determined by the local authority (As a guide only > 20 per day).
<b>Parking spaces</b>	100 parking spaces (outside an AQMA) and 50 parking spaces (inside an AQMA) <sup>(49)</sup> .
<b>Construction Impacts</b> <ul style="list-style-type: none"> <li><b>Nature and scale of development</b></li> <li><b>Timescale and phasing</b></li> </ul>	<p>Developments with significant dust potential where relevant exposure. Proximity of nearby residents &lt;200m.</p> <p>Significant scale of demolition/construction phase.</p> <p>Risk category: <b>HIGH</b>.</p> <ul style="list-style-type: none"> <li>Development of over 15,000m<sup>2</sup> of land, or;</li> <li>Development of over 150 properties or;</li> <li>Potential for emissions and dust to have significant impact on sensitive receptors or;</li> <li>Major development as defined by a Kent and Medway authority.</li> </ul> <p>Length of time &gt;6 months. If construction is expected to last for more than six months, then traffic management measures and the effect of the additional construction vehicles should also be assessed.</p>

**Checklist 2: Information required for the local authority officer to determine the need for an Air Quality Assessment**

Information Required	Description
<b>Locality of development</b>	<p>Definition of spatial scope, including identification of all relevant exposure (refer to LAQM.TG (09) Chapter 1, s1.29 for definition).</p> <p>Site plan showing boundary and proposed location of units.</p>
<b>Nature and scale of development</b>	Type of development e.g. mixed-use, residential, commercial. The number of residential units proposed and commercial floor space.
<b>Timescale and phasing</b>	The proposed year(s) development is due to take place and any phasing of development stages.

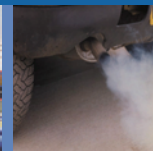


Information Required	Description
<b>Traffic Impact Assessment</b>	The predicted change in traffic as a result of the development. Local Authority transport officers should advise, in consultation with Air Quality officers, what is required for the traffic impact assessment.
<b>Parking spaces</b>	The number of parking spaces that are proposed.
<b>Road Access</b>	Information on any alteration to the access roads, or road layouts as result of the development.
<b>Energy usage</b>	The planned source of energy and number of appliances. CHP, individual boilers, use of biomass.
<b>Committed developments</b>	Agreement with local planning authority, regarding committed developments in the area that should be taken into account to assess cumulative impacts.

NB At this initial stage some of the above information may not be available. It is therefore important that as much information as possible is provided to the local authority, to ensure the decision on whether - and what type of - an assessment is appropriate.

**Checklist 3: Information to be agreed with the local authority *prior* to an assessment taking place**

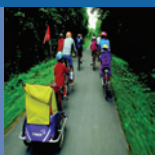
Information Required	Description
<b>Air quality model to be used</b>	Identify whether a detailed dispersion model or screening assessment model is appropriate. Provide details of the model being proposed and why it's appropriate.
<b>Emissions factors</b>	Identify appropriate emissions factors to be used.
<b>Traffic data</b>	Agree the traffic data and scenarios to be used in the assessment e.g. source of baseline traffic data and traffic impact assessment, years to be modelled, speeds to be used
<b>Meteorological Data</b>	Suitable nearest site should be used for Met data. The met data year should be the same as the baseline year and year of model verification.
<b>Background Source Data</b>	Use of suitable monitored background data or Air Quality Archive modelled background concentrations should be selected, in consultation with the local authority.



Information Required	Description
<b><i>Pollutants to be modelled</i></b>	What pollutants are required to be modelled, taking into account the end use and local air quality constraints.
<b><i>Model output</i></b>	Single receptor points preferable; agree receptors which represent relevant exposure and provide suitable coverage over the predicted area of impact. If gridded output, use grid spacing of 5m.
<b><i>How will the model be verified</i></b>	Comparison against recent local monitoring data. Suitable roadside sites for verification to be agreed.
<b><i>Assessment of construction and demolition dust</i></b>	Identification of risk. Proposed mitigation measures.

### Checklist 4: Basic Requirements for Air Quality Assessments

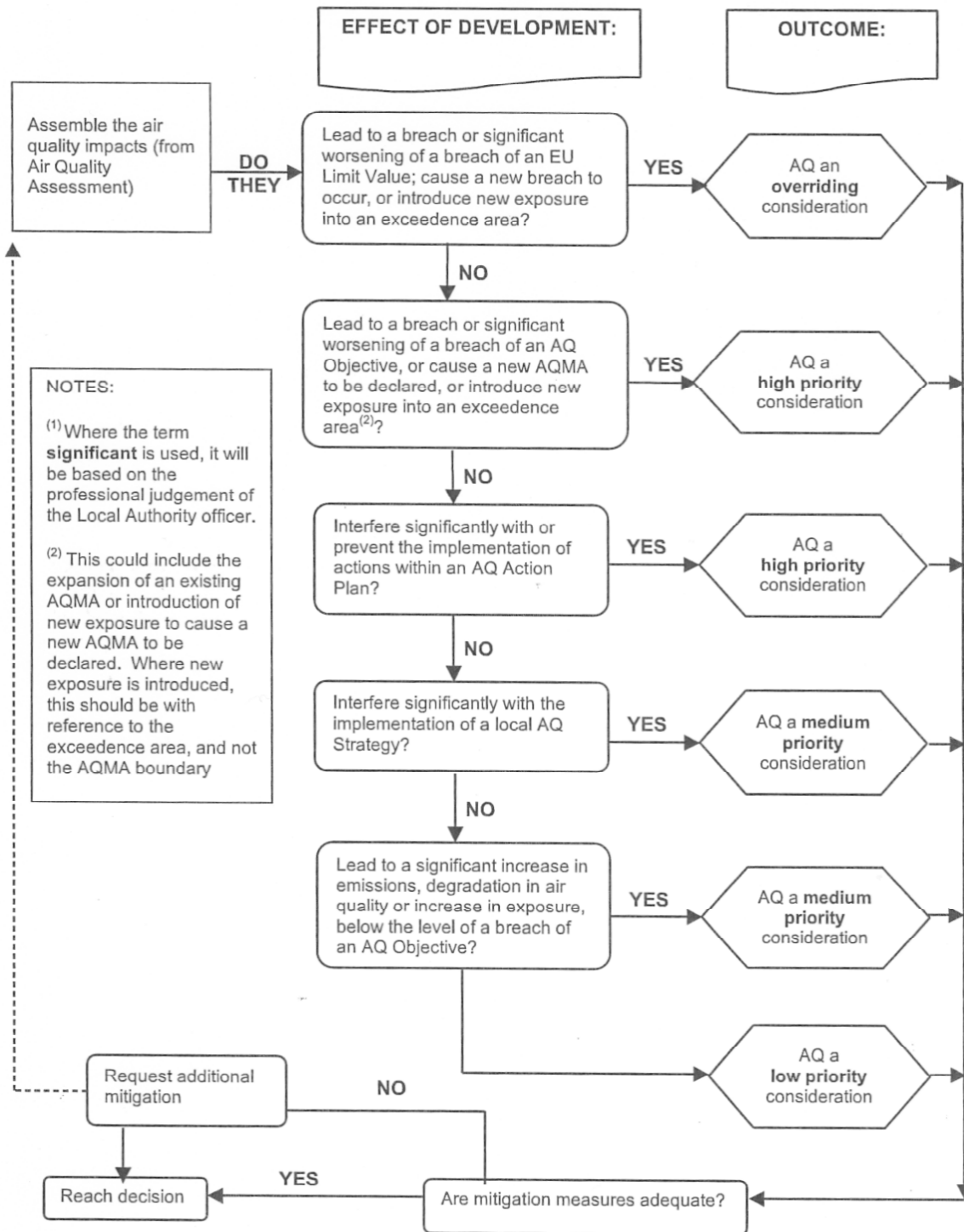
Requirement	Commentary
<b>Determine the type of Assessment</b> <ul style="list-style-type: none"> <li>• Screening Assessment</li> <li>• Detailed Assessment</li> </ul>	<ul style="list-style-type: none"> <li>• Screening Assessments are simple modelling assessments for small-scale developments where no air quality constraints have been identified;</li> <li>• Detailed Assessments involve complex dispersion modelling and/or monitoring assessments, as required for larger potentially polluting developments and where poor air quality exists.</li> </ul>
<b>Choice of model</b>	<ul style="list-style-type: none"> <li>• Examples - DMRB for road transport screening assessment; detailed dispersion model, e.g. ADMS, for a detailed assessment.</li> </ul>
<b>Assessment of baseline conditions</b>	<ul style="list-style-type: none"> <li>• Refer to local authority review and assessment work and local monitoring data;</li> <li>• Identify areas of air quality constraint relative to the development.</li> </ul>
<b>Pollutants to be modelled</b>	<ul style="list-style-type: none"> <li>• Dependant on the emission source.</li> <li>• NO<sub>2</sub> and PM<sub>10</sub> for road traffic assessments.</li> </ul>
<b>Choice of receptors</b>	<ul style="list-style-type: none"> <li>• Representative of relevant exposure as per Defra Technical Guidance;</li> <li>• Coverage over the expected area of impact of the development.</li> </ul>

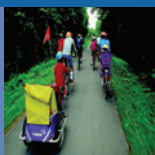


Requirement	Commentary
<b>Model Input requirements</b> <b>Emissions factors</b>	<ul style="list-style-type: none"> <li>• Latest DfT vehicle emissions factors to be used for road traffic impacts;</li> <li>• NAEI or locally derived factors to be clearly stated.</li> </ul>
<b>Traffic data</b>	<ul style="list-style-type: none"> <li>• All traffic count data (AADT/%HGV), speeds and forecast factors to be detailed in the report.</li> </ul>
<b>Weather data (for dispersion modelling)</b>	<ul style="list-style-type: none"> <li>• Hourly sequential data for baseline year for representative weather station relative to the development.</li> </ul>
<b>Background data</b>	<ul style="list-style-type: none"> <li>• Preference for representative local background monitoring site. Alternatively, use Air Quality Archive modelled background.</li> </ul>
<b>Site specific considerations</b>	<ul style="list-style-type: none"> <li>• Examples - Building heights for street canyons; road elevation; congestion issues.</li> </ul>
<b>Years and scenarios to be modelled</b>	<ul style="list-style-type: none"> <li>• Baseline year (last full year of monitoring data); occupation year (<i>with</i> and <i>without</i> development); EU Limit value target year.</li> </ul>
<b>Cumulative impacts</b>	<ul style="list-style-type: none"> <li>• Additional scenarios may be required where significant committed development relative to the development site.</li> </ul>
<b>Model Verification</b>	<ul style="list-style-type: none"> <li>• Use of local monitoring data to verify modelled results;</li> <li>• Methodologies as per Defra Technical Guidance.</li> </ul>
<b>Assessing Model Results</b>	<ul style="list-style-type: none"> <li>• Model output preferably as concentrations at specific receptor points;</li> <li>• Modelled results reported in <math>\mu\text{g}/\text{m}^3</math>;</li> <li>• Comparison with relevant AQ objectives;</li> <li>• Report <i>change</i> in concentrations as a result of the development;</li> <li>• Significance assessment required.</li> </ul>
<b>Mitigation Measures</b>	<ul style="list-style-type: none"> <li>• Consideration to mitigation and off-setting required for all developments where AQ assessments are required for both construction and operational impacts.</li> </ul>



Checklist 5 Determining significance and whether mitigation/compensation is required.





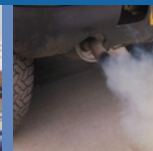
## Recommendations following the assessment of significance by the local authority

Overriding Consideration	High priority consideration	Medium and low priority consideration
Require mitigation measures to remove 'overriding' impacts. If the impact is still 'overriding', there should be a strong presumption for a recommendation for refusal on air quality grounds <sup>(50)</sup> .	Ensure that measures to minimise 'high priority' impacts are appropriate in the proposal. Recommend strengthening the measures if appropriate. Consideration may also be given to compensation/offsetting. Depending on the scale of the impacts, taking into account the number of people affected, the absolute levels and the magnitude of the changes, and the suitability of the measures to minimise impacts, it may be appropriate to recommend refusal.	It is unlikely that refusal would be recommended, but mitigation measures should be incorporated into the scheme design to ensure that the development conforms to best practice standards, and is 'air quality neutral' as far as is reasonably practicable'.

## Checklist 6: Assessment of whether the Air Quality Assessment is adequate

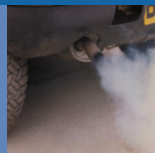
Tasks to assess	Comments
<b>Modelling</b>	
<ul style="list-style-type: none"> <li><b>Model to be used in the assessment?</b></li> </ul>	Description of model and justification for its use. Detailed assessments should be undertaken using approved dispersion models; DMRB may be suitable for screening assessments.
<ul style="list-style-type: none"> <li><b>Has appropriate model validation been undertaken?</b></li> </ul>	Only required for non-standard models.
<ul style="list-style-type: none"> <li><b>Has appropriate model verification been undertaken with local monitoring data?</b></li> </ul>	Best practice for detailed air quality assessments. Preferable for screening assessments. Follow methodology outlined in the Defra Technical Guidance.
<ul style="list-style-type: none"> <li><b>Have appropriate scenarios been modelled?</b></li> </ul>	Baseline year (usually the last complete year of monitoring data); Without development and with development scenarios for the year of occupation.

<sup>50</sup> An automatic recommendation to the planning officer of refusal on air quality grounds will not always be necessary or appropriate. Dealing with exceedances of Limit Values is a national obligation. There may be situations where large areas are already in exceedance of the Limit Value, and a blanket ban on new developments would risk sterilising large areas. In these circumstances it would be appropriate to take account of the contribution the new development would make to the exceedance. If this is small, and strong measures are incorporated in the proposal to minimise the impacts, then it would probably not be appropriate to recommend refusal on air quality grounds.



Tasks to assess	Comments
<ul style="list-style-type: none"> <li><b>Adequacy of input data?</b></li> </ul>	
<ul style="list-style-type: none"> <li><b>Traffic &amp; emissions data?</b></li> </ul>	<p>Recent baseline counts required; preferably within last 5 years. Correct projection factors used for projecting traffic count data to 24 hour AADT and to future years using appropriate methodology e.g. Tempro. <sup>(51)</sup> Expected changes to traffic volumes, composition, speed etc - are they included? Latest emissions factors released by DfT are they utilised?</p>
<ul style="list-style-type: none"> <li><b>Meteorological data?</b></li> </ul>	<p>Meteorological data should be relevant to the site (closest proximity with suitably robust data, in-land or coastal, etc.) and for the baseline year to tie in with year of modelling and verification</p>
<ul style="list-style-type: none"> <li><b>Background concentrations?</b></li> </ul>	<p>Preference is for relevant local monitoring background data. Where not available, use air quality archive background concentration maps.</p>
<ul style="list-style-type: none"> <li><b>NO<sub>x</sub>: NO<sub>2</sub> relationship?</b></li> </ul>	<p>Appropriate consideration to local NO<sub>x</sub>: NO<sub>2</sub> relationship required through latest Defra NO<sub>x</sub>: NO<sub>2</sub> recommended calculations or local monitoring data.</p>
<ul style="list-style-type: none"> <li><b>Receptor locations?</b></li> </ul>	<p>Description of receptor locations and heights modelled. Appropriate locations and coverage in relation to the area of expected impact? Specific receptors preferable to pollutant contours.</p>
<ul style="list-style-type: none"> <li><b>Other relevant input data?</b></li> </ul>	<p>Building height data for street canyons.</p>
<b>Monitoring</b>	
<ul style="list-style-type: none"> <li><b>Local baseline monitoring information included?</b></li> </ul>	<p>Inclusion of monitoring site data relevant to the site being assessed, including those used for background concentrations and verification purposes.</p>
<ul style="list-style-type: none"> <li><b>Monitoring locations described?</b></li> </ul>	<p>Pollutants monitored, site type, site description, grid references.</p>
<ul style="list-style-type: none"> <li><b>Relevant exposure considered?</b></li> </ul>	<p>Sites representative of relevant exposure? Façade projections for kerbside sites?</p>
<ul style="list-style-type: none"> <li><b>QA/QC information provided?</b></li> </ul>	

51 Tempro (Trip End Model Presentation Program) current version is 6.2 dataset version 5.4, Department for Transport. A draft 6.1 dataset however has now been released



Tasks to assess	Comments
<ul style="list-style-type: none"> <li><b>Bias adjustment of NO<sub>2</sub> tubes provided?</b></li> </ul>	<p>Preference for local authority co-location study. Otherwise utilise relevant Review and Assessment website bias factor</p> <p><a href="http://www.uwe.ac.uk/aqm/review/mguidance.html#Bias Adjustment">http://www.uwe.ac.uk/aqm/review/mguidance.html#Bias Adjustment</a>).</p>
<ul style="list-style-type: none"> <li><b>Other QA/QC information provided?</b></li> </ul>	<p>Data capture above recommended 90%? Data ratified?</p>
<b>Presentation of Results</b>	
<ul style="list-style-type: none"> <li><b>Appropriate pollutants and/or objectives considered?</b></li> </ul>	<p>Significant pollutants for road traffic assessments are NO<sub>2</sub> and PM<sub>10</sub>; Annual mean objective for NO<sub>2</sub> and 24 hour mean objective for PM<sub>10</sub> are the most likely to be exceeded. For industrial assessments, short term objectives are the most significant e.g. 15 minute SO<sub>2</sub>, hourly NO<sub>2</sub> or 24 hour mean PM<sub>10</sub>.</p>
<ul style="list-style-type: none"> <li><b>Correct units?</b></li> </ul>	<p>Units should be provided in µg/m<sup>3</sup>.</p>
<ul style="list-style-type: none"> <li><b>Changes in emissions (source, pollutants, time period) and likely magnitude of concentrations as a result of development reported?</b></li> </ul>	
<ul style="list-style-type: none"> <li><b>Impact in relation to air quality objectives and EU Limit Values?</b></li> </ul>	
<ul style="list-style-type: none"> <li><b>Significance of impact described?</b></li> </ul>	<p>Use of methodology described in Checklist 5 and standard descriptors in EPUK Planning Guidance (2010).</p>
<ul style="list-style-type: none"> <li><b>Potential impact on neighbouring local authorities (some evidence of consideration at least)?</b></li> </ul>	
<b>Other information to be included</b>	
<ul style="list-style-type: none"> <li><b>Description of proposals?</b></li> </ul>	<p>Type, scale, location, timescales/phasing of development proposal.</p>





Tasks to assess	Comments
<ul style="list-style-type: none"> <li>• <b>Scoping of impacts?</b></li> </ul>	<p>Which impacts have been scoped in for assessment e.g. impacts of construction phase and operational phase?</p>
<ul style="list-style-type: none"> <li>• <b>Description of relevant standards, objectives against which impacts of development are being assessed?</b></li> </ul>	
<ul style="list-style-type: none"> <li>• <b>Details and proposals for mitigation required?</b></li> </ul>	<p>Clearly set out what mitigation will be undertaken and what residual impacts are expected.</p>
<ul style="list-style-type: none"> <li>• <b>Consideration of any AQAP, and any likely impact on implementation of the AQAP?</b></li> </ul>	

## F AQMAs in Kent and Medway (July 2011)

District	Air Quality Management Area	Date	Pollutants	Responsible Bodies
Canterbury	A28 Broad Street, Canterbury	March 2006	NO <sub>2</sub>	CCC/KCC
Dartford	A282 Dartford Tunnel Approach Road	October 2001	NO <sub>2</sub> & PM <sub>10</sub>	Highways Agency
	Dartford Town and approach roads	November 2006	NO <sub>2</sub>	DBC/KCC
	A226 London Road	November 2006	NO <sub>2</sub> & PM <sub>10</sub>	DBC/KCC
	Bean Interchange	November 2006	NO <sub>2</sub>	DBC/KCC
	A20 Trunk Road (Amendment Order 2007)	Oct 2004; Extended Nov 2007	NO <sub>2</sub>	DDC/KCC
Dover	Dover Eastern Docks	June 2002	SO <sub>2</sub>	DDC/Dover Ports
	Junction of High Street/Ladywell	Nov 2007	NO <sub>2</sub>	DDC/KCC
	Northfleet Industrial Area	January 2002	PM <sub>10</sub>	GBC/Environment Agency
Gravesham	A2 Trunk Road	January 2002	NO <sub>2</sub> & PM <sub>10</sub>	GBC/Highways Agency
	B262/B261 Pelham Arms	April 2005	NO <sub>2</sub>	GBC/KCC
	A227/B261 Wrotham Road/Old Road West	April 2005	NO <sub>2</sub>	GBC/KCC
	A226 One-Way System Gravesend	April 2005	NO <sub>2</sub>	GBC/KCC
	Echo Square Junction	January 2010	NO <sub>2</sub>	GBC/KCC
	Parrock Street	January 2010	NO <sub>2</sub>	GBC/KCC
	Revoked their two AQMA's - now have consolidated Maidstone Town AQMA	July 2008	NO <sub>2</sub> & PM <sub>10</sub>	MBC/KCC
Maidstone				

District	Air Quality Management Area	Date	Pollutants	Responsible Bodies
Medway	High Street, Rainham between Quinell St and High Dewar Road	2010	NO <sub>2</sub>	Medway Council
	Pier Road, Gillingham between Purser Way and Church Street	2010	NO <sub>2</sub>	Medway Council
	A central Medway AQMA	2010	NO <sub>2</sub>	Medway Council
Sevenoaks	A25 Riverhead	March 2002	NO <sub>2</sub>	SDC/KCC
	M20	March 2002	NO <sub>2</sub>	SDC/Highways Agency
	M25	March 2002	NO <sub>2</sub>	SDC/Highways Agency
	M25	March 2002	PM <sub>10</sub>	SDC/Highways Agency
	M26	March 2002	NO <sub>2</sub>	SDC/Highways Agency
	A20	March 2002	NO <sub>2</sub>	SDC/Highways Agency
	High Street	Sept 2005	NO <sub>2</sub>	SDC/KCC
	Bat and Ball	Sept 2005	NO <sub>2</sub>	SDC/KCC
	High Street, Seal	Sept 2005	NO <sub>2</sub>	SDC/KCC
	High Street, London Road, Bartholomew, Swanley	Sept 2005	NO <sub>2</sub>	SDC/KCC
Swale	Westerham town centre	Sept 2005	NO <sub>2</sub>	SDC/KCC
	A2 Newington	March 2009	NO <sub>2</sub>	SDC/KCC
Thanet	Ospringle Street, Near Faversham	2011	NO <sub>2</sub>	SDC/KCC
	The Square, Birchington	March 2006	NO <sub>2</sub>	TDC/KCC
	High Street, St Lawrence	2010	NO <sub>2</sub>	TDC/KCC

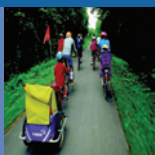
District	Air Quality Management Area	Date	Pollutants	Responsible Bodies
Tonbridge and Malling	M20	May 2001	NO <sub>2</sub> & PM <sub>10</sub>	TMBC/Highways Agency
	Tonbridge High Street	June 2005	NO <sub>2</sub>	TMBC/KCC
	A26 Tonbridge Road/Red Hill Wateringbury	June 2005	NO <sub>2</sub>	TMBC/KCC
	London Road/Station Road, Ditton	June 2005	NO <sub>2</sub>	TMBC/KCC
	London Road/Hall Road/Mills RoadCrossroads	Sept 2008	NO <sub>2</sub>	TMBC/KCC
	London Rd/New Hythe LaneCrossroads	Sept 2008	NO <sub>2</sub>	TMBC/KCC
	A26 London Road	November 2005	NO <sub>2</sub>	TWBC/KCC
Tunbridge Wells				

G Kent and Medway Network Automatic Air Quality Network Sites

Site	Name	Pollutants	Type	Start	Information
ZA2	Ashford Background	NO <sub>x</sub> PM <sub>10</sub> O <sub>3</sub>	Background	17 Jan 02	A292 Ashford School
ZY1	Canterbury	NO <sub>x</sub> PM <sub>10</sub> O <sub>3</sub>	Background	02 Jan 01	Western edge of Chaucer Technology School
ZY2	Canterbury Roadside	NO <sub>x</sub>	Roadside	08 Feb 99	St Dunstan's Canterbury
ZY3	Canterbury Military Road	NO <sub>x</sub>	Roadside	01 Oct 06	Military Road
	Canterbury St Peters Place	NO <sub>x</sub>	Roadside	30 July 09	St Peter's Place
ZC1	Chatham Roadside	NO <sub>x</sub> PM <sub>10</sub>	Roadside AURN 2010	12 Jan 97	Watling Street Chatham School Chatham
ZR3	Dartford Bean Interchange Roadside	NO <sub>x</sub> PM <sub>10</sub>	Roadside	15 Nov 02	Ightham Cottages Bean Interchange A2
ZR1	Dartford St Clements Roadside	NO <sub>x</sub> PM <sub>10</sub>	Roadside	21 Jun 99	London Road A226, Greenhithe
ZR2	Dartford Town Centre Roadside	NO <sub>x</sub> PM <sub>10</sub>	Roadside	05 Nov 02	Instone Street Dartford Town Centre
ZD3	Dover Langdon Cliff	SO <sub>2</sub>	Background	17 Mar 01	Langdon Cliff Dover (Closed)
ZD6	Dover Docks	NO <sub>x</sub> SO <sub>2</sub>	Industrial	16 Nov 06	Relocated in Dover Eastern Docks
ZD1	Dover Old Town Hall Roadside	NO <sub>x</sub>	Roadside	21 May 97	OldTown Hall Dover
ZD2	Dover Centre Roadside	PM <sub>10</sub>	Roadside	21 Dec 00	Junction of Townwall

						Street /Woolcomber Street, Dover
ZF1	Folkestone Suburban	NO <sub>x</sub> O <sub>3</sub> PM <sub>10</sub> SO <sub>2</sub>	Suburban		15 July 97	Cheriton Road Sports Ground Folkestone
ZG3	Gravesham Industrial Background	NO <sub>x</sub> PM <sub>10</sub>	Background		01 Jan 99	Lawn Road School High, Northfleet
ZG2	Gravesham A2 Roadside	NO <sub>x</sub> PM <sub>10</sub>	Roadside		31 Dec 98	A2 Painters Ash School Masefield Road Northfleet (Weather Station)
ZL1	Chatham Luton Background	CO NO <sub>x</sub> O <sub>3</sub> PM <sub>10</sub> SO <sub>2</sub>	Background		04 Jan 97	Luton Junior School Luton Road Chatham
ZM2	Maidstone A229 Kerbside	NO <sub>x</sub> PM <sub>10</sub>	Kerbside		01 June 99	Fairmeadow Maidstone Bridge Gyrary Maidstone
ZM3	Maidstone Rural	NO <sub>x</sub> O <sub>3</sub> PM <sub>10</sub> SO <sub>2</sub>	Rural		01 June 99	Near County Show Ground, Detling.
ZS1	Rochester Stoke	NO <sub>x</sub> O <sub>3</sub> PM <sub>10</sub> PM <sub>2.5</sub> SO <sub>2</sub>	AURN Site		26 Jan 96	Playing field in Lower Stoke village primary school. (Weather Station)
ZW2	Swale Sheerness	NO <sub>x</sub> PM <sub>10</sub> SO <sub>2</sub>	Background		14 Aug 03	Sheerness
ZW1	Swale Ospringe Roadside	NO <sub>x</sub> PM <sub>10</sub>	Roadside		14 Aug 03	A2 Ospringe Faversham (Closed)
ZW3	Swale Ospringe Roadside 2	NO <sub>x</sub> PM <sub>10</sub>	Roadside		15 Mar 06	Ospringe Faversham
ZH1	Thanet Rural	O <sub>3</sub>	Rural		23 Nov 98	(Closed)
ZH3	Thanet Airport	NO <sub>x</sub>	Background		02 May 02	Manston Airport

ZH2	Thanet Background	Margate	NO <sub>x</sub>		Background	14 Feb 01	Salmestone School Margate	College Road
ZH5	Thanet Roadside	Birchington	NO <sub>x</sub> PM <sub>10</sub>		Roadside	19 Mar 07	The Square, Birchington	
ZH4	Thanet Roadside	Ramsgate	NO <sub>x</sub> PM <sub>10</sub>		Roadside	01 Jan 03	Boundary Road, Ramsgate	
ZT2	Tunbridge Wells Centre	Town	NO <sub>x</sub>		Background	30 Mar 97	Town Hall, Tunbridge Wells	
ZT4	Tunbridge Wells Roadside	Wells A26	NO <sub>x</sub> PM <sub>10</sub>		Roadside	20 June 05	A26 St Johns Road	Tunbridge Wells
ZT5	Tonbridge Roadside 2		NO <sub>x</sub>		Roadside	10 July 07	12-14 High Street, Tonbridge	



## H Examples of Conditions/S106 Agreements used in the County

### **Ebbsfleet, Dartford**

Joint Monitoring Strategy – No part of the development hereby permitted shall be commenced until a joint monitoring strategy to set out a programme for monitoring the progress of the development and which shall include indicators which shall measure – includes i) air quality monitoring throughout the development of the project, and airbourne dust and monitoring during the construction process at major transport junctions.

The Joint Monitoring Strategy shall be consistent with the monitoring programme pursuant to the Transport Strategy.

### **Eastern Quarry, Dartford**

The owner will not permit the first occupation of more than 300 dwellings until the Air Quality Monitoring contribution has been paid to the Borough Council.

If any part of the site is designated as an Air Quality Management Area the owner will pay to the Borough Council within 20 Business Days of invoicing the full costs reasonable and properly incurred by the Borough Council (including consultants fees and costs):

- i) in making such designation: and
- ii) arising from such designation

including in each case the carrying out of assessment and productions of action plans PROVIDED THAT the Owner shall not be required to pay more than a total of £30,000.

If any part of the site is designated as an Air Quality Management Area, the Owner will assist with the implementation of the action plan where:

- It is reasonably within the ability of the Owner to do so;
- The Owner does not occur and significant costs (direct or indirect) (additional to those set out in the above paragraphs)

The Borough Council will provide to the Owners within 20 Business Days of receiving a written request from the Owner a report setting out the data and outputs produced by it from its air quality monitoring assessment in connection with an Air Quality Management Area.

### **Maidstone and Tunbridge Wells NHS Trust Pembury Hospital**

Section 106 agreement included a schedule of 52 requirements including;

- Regular bus service to be procured
- Average of 3 buses per hour to Tunbridge Wells Town Centre
- Average of 2 buses to Tonbridge and Malling
- Service to commence no later than Opening for Use and must run for at least 5 years
- £323,000 to be spent on Bus Access and Services per Annum
- Modal Split Survey to be undertaken.





For further examples of conditions/S.106 Agreements, please refer to the EPUK Guidance on Development Control: Planning for Air Quality (2006) and Defra & Low Emissions Strategy Partnership Guidance 'Low Emission Strategies:Using the Planning System to Reduce Transport Emissions. Good Practice Guidance January 2010'.

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The Planning Inspectorate have also published a list of model conditions to supplement those in Circular 11/95 (Welsh Office 35/95) to assist Local Planning Authorities. The conditions are not exhaustive and do not cover every situation where a condition may be imposed and the wording will need to be amended to address the individual circumstances of the case.

[http://www.planning-inspectorate.gov.uk/pins/appeals/model\\_conditions.html](http://www.planning-inspectorate.gov.uk/pins/appeals/model_conditions.html)



## I Contacts

### **Kent County Council**

Kent County Council carries out the formal processing of planning applications as well as pre-application advice, enforcement and monitoring and appeals arising from work related to the quarrying of minerals, waste management facilities, and the council's own community developments, such as new school facilities, children's centres, care homes and strategic highway schemes. KCC also has the responsibility to prepare a Minerals and Waste Development Framework and Local Transport Plan.

[Planning Applications](#)

[Minerals and Waste Development Framework](#)

[Local Transport Plan](#)

[Kent Highways Services](#)

### **District and Borough Councils**

Planning applications, such as commercial, industrial or household building works, are processed by the Kent district and borough councils. They also have the responsibility to prepare Local Development Frameworks and undertake Local Air Quality Management duties. The contact details for each is provided below.

[Ashford](#)

[Canterbury](#)

[Dartford](#)

[Dover](#)

[Gravesham](#)

[Maidstone](#)

[Sevenoaks](#)

[Shepway](#)

[Swale](#)

[Thanet](#)

[Tonbridge and Malling](#) [Tunbridge Wells](#)

District and County contacts in relation to **Environmental Health** - [Kent and Medway Air Quality web pages](#)

### **Medway Council**

As a Unitary Authority, Medway, have the responsibility to produce Development Plan Documents, determine all planning applications, undertake Local Air Quality Management duties, prepare a Minerals and Waste Development Framework and produce a Local Transport Plan.

[Planning](#) [Transport](#) [Environmental Health](#)

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