

Air Quality Action Plan 2013

Thanet District Council



April 2013

Executive summary

The Environment Act 1995 requires all Local authorities to review air quality within their districts. If it appears that any air quality "Objective" prescribed in the regulations and in the National Air Quality Strategy is not likely to be achieved then the local authority must designate the affected areas as Air Quality Management Areas (AQMAs). The Act then requires that an Action Plan be produced for any areas designated as AQMAs, setting out the actions that the District Council intend to take to achieve the National Air Quality Strategy.

Air quality across Thanet is excellent and pollution levels are well below health objectives set by government. However two small areas exceed the recommended annual objective level for nitrogen dioxide (NO₂): High Street, St Lawrence and The Square Birchington both are heavily trafficked junctions and on main routes coming in to Thanet. Both areas were declared AQMAs but following further consideration these were revoked and a much larger Urban Air Quality Management area was declared on 17th November 2011. This encompasses the two technical exceedence areas as well as a wider geographical area to enable the Action Plan to consider a broader approach to strategic planning, transport planning, sustainability and climate change measures. The Council will continue to work with the local highway authority, Kent County Council to help secure improvements to the network and has consulted widely with local organizations and the public in developing measures for inclusion in this Action Plan.

The Action Plan confirms the likely source of nitrogen dioxide is from transport and in particular from heavy goods vehicles, buses and congested traffic. Evidence suggests that a 21% reduction in traffic emissions of oxides of nitrogen (or NO_x which is a precursor to NO₂) is necessary (based on 2009 figures) to achieve the air quality standard. The Action Plan recommends 10 measures for implementation which are aimed at reducing levels of air pollution within the AQMA in Birchington and St Lawrence. It also sets out the framework of partnership working with other organisations, within which the actions have been developed and will be progressed and monitored.

The plan aims to reduce transport emissions in the AQMA by around 20% by 2015. It is anticipated that a reduction of this scale will lead to the achievement of the annual mean NO₂ air quality standard (40µg/m³) at the Birchington and St Lawrence junctions in future years. Additional measures may be required if feasibility study for the recommended measures conclude that implementation is not effective. It is acknowledged that the Action Plan is a continuously evolving document involving numerous groups and Authorities, which may require revision in the future.

In compiling this Action Plan, Government Guidance LAQM.PG (09) and previous Review and Assessment reports produced by the District Council have been referred to. The Action Plan has been subject to statutory and public consultation and has been amended accordingly prior to formal adoption by the District Council.

For further information concerning this report, please contact: Amanda Berry, Environmental Health Officer, Thanet District Council, Telephone: 01843 577422 Email: amanda.berry@thanet.gov.uk or Morgan Sproates, Environmental protection Manager, Thanet District Council, Telephone 01843 577081 Email: morgan.sproates@thanet.gov.uk

Table of contents

1	Introduction	5
2	Air Quality in Thanet	6
2.1	Health effects of poor air quality	6
2.2	Principal Sources of Air Pollution in Thanet.....	6
2.3	The legislative framework for air quality	7
2.4	Conclusions of previous review and assessment of air quality in Thanet.....	7
2.5	Recent trends in air quality within the previous two AQMAs	11
2.6	Conclusions from 2011 Monitoring Data.....	13
2.7	Conclusions	16
3	Development of the Action Plan.....	17
3.1	Partnership between the District Council and the Local Transport Authority (the County Council).....	17
3.2	Partnership with Development Planning.....	19
3.3	Formation of steering group	19
3.4	Action Plan options and their assessment.....	19
3.5	Measure dismissed on grounds of cost-effectiveness and feasibility	20
3.6	Measures to improve air quality.....	211
4	Implementation Plan	33
4.1	Consultation	33
5	Conclusions.....	34
6	Glossary of Terms.....	35

Appendices

Appendix 1	Air quality standards and objectives
Appendix 2	Kent and Medway Air Quality Partnership Air Quality and Planning Technical Guidance

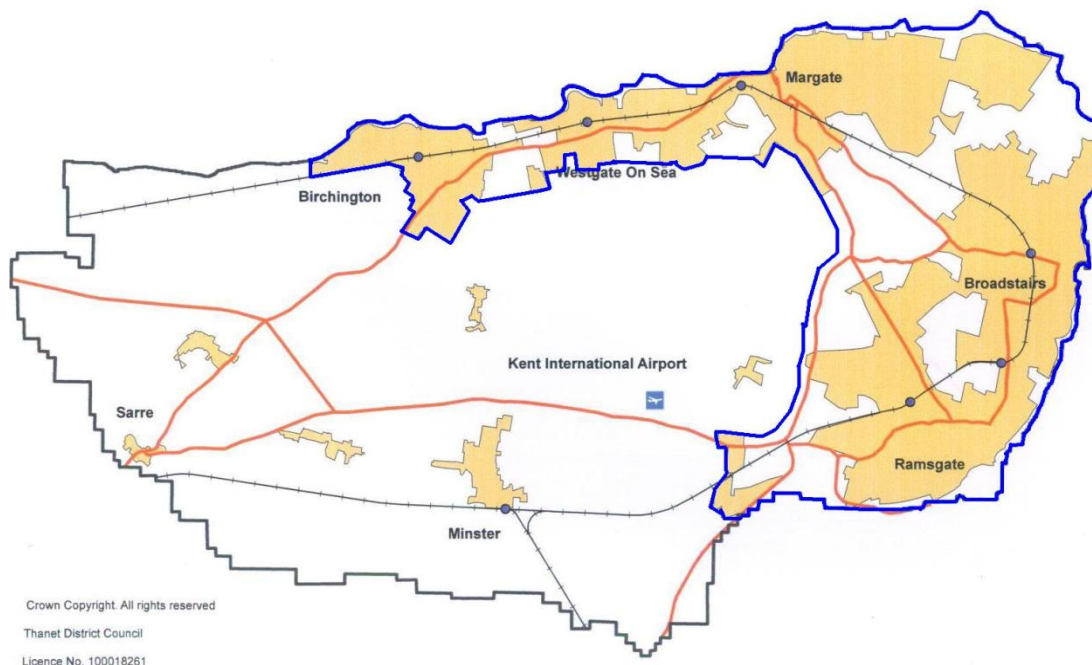
1 Introduction

This local Air Quality Action Plan sets out a work programme to improve air quality at The Square, Birchington and High Street, St Lawrence, and throughout the Thanet urban area by Thanet District Council in partnership with Kent County Council. Thanet District Council has consulted the public and other statutory consultees on the content of the plan in advance of the final plan being approved by central Government and both Councils and then implemented.

Thanet is located in the north east corner of Kent and is a diverse district incorporating coastal and rural environments, and urban areas dominated by the towns of Margate, Ramsgate and Broadstairs (Figure 1.1).

While the quality of our air is generally very good and well within the limits set by Government for the protection of human health, there are now two areas within the district where levels of pollution give rise for concern. Until recently, two Air Quality Management Areas were declared in the District, one in Birchington and the other in St Lawrence. Following further consideration of air quality, an Order has been made to revoke both of these AQMAs, and create a new Thanet urban AQMA (Figure 1) which encompasses both Birchington and St Lawrence and surrounding urban areas. This Order comes into effect on the 17th November 2011. The District has a statutory duty to develop an Action Plan to improve air quality in these locations. There are 41 other areas within the county that also exceed these limits ($40 \mu\text{g m}^{-3}$).

Figure 1. Thanet District Council, showing the Thanet urban Air Quality Management Area.



2 Air Quality in Thanet

This chapter sets out local authority duties in relation to Local Air Quality Management. These are the tasks that the District Council must complete as a statutory duty.

2.1 Health effects of poor air quality

There are various sources of air pollution in the UK. These can include transport (mainly road transport), energy – both use and production, commercial / industrial premises and natural sources.

This Action Plan is primarily aimed at reducing nitrogen dioxide (NO₂), but the initiatives within it will have a positive effect on the reduction of other air pollutants, especially particulates. Road transport is responsible for approximately 50% of the emissions of NO₂ in Britain. At high concentrations NO₂ has been identified as having various adverse health effects particularly on the respiratory system and in both asthmatics and non-asthmatics. Short-term exposure to this pollutant can increase the likelihood of reaction to allergens such as pollen and has been known to increase asthma in some people. Children exposed to this pollutant may have increased risk of respiratory infections.

2.2 Principal Sources of Air Pollution in Thanet

Nitrogen dioxide (NO₂) and nitric oxide (NO) are collectively known as Nitrogen Oxides (NO_x). Nitrogen Oxides, which are the main source of poor air quality, are produced during all combustion processes in air. The pollutant is usually emitted from the source in the form of NO which subsequently reacts with ozone (O₃) to form NO₂. The predominant source of NO_x in Britain is road transport and it is thought that half of emissions in Europe originate from this source; certainly the highest concentrations of NO₂ are generally found close to busy roads in urban areas. NO₂ pollution levels within the District follow a similar pattern with the majority of NO_x emissions being road transport related. Commercial, industrial and domestic sources also make a small contribution to background.

In the UK, air pollution is currently estimated to reduce the life expectancy of every person by an average of 7-8 months with estimated equivalent health costs of up to £20 billion each year. Air pollution also has a detrimental effect on our ecosystems and vegetation (UK Parliamentary Environmental Audit Committee, March 2010). Clearly there are significant benefits to be gained from further improvements.

To protect the health of the population, the Government have set out a national air quality strategy which includes statutory objectives (standards) for some key pollutants. The objectives are expressed as a maximum ambient concentration not to be exceeded, either without exception or with a permitted number of exceedences within a specified timescale (see Appendix 1). The objectives have been set throughout the UK and European Union at levels that aim to protect the vulnerable members of society from the harmful effects of breathing pollution.

In response, a number of measures have been introduced at an international level (including the UK) to reduce this impact. They include:

- Incremental reductions in emissions from vehicles and industry
- Climate change programme policies
- Local Air Quality Management (see following section)

The UK government recognises the important role that local authorities have and continue to play in helping deliver the air quality objectives.

2.3 The legislative framework for air quality

The Environment Act 1995 gives local authorities duties and responsibilities that are designed to secure improvements in air quality, particularly at the local level. These include the review and assessment of key pollutants in their area in a series of rounds every three years. If it appears that any of the air quality objectives set by government are not likely to be achieved resulting in members of the public being exposed to the pollution, the local authority must by order designate any part of its area so affected, as an Air Quality Management Area (AQMA). They must then prepare and implement a remedial Action Plan of measures to reduce air pollution levels in that AQMA. A Review and Assessment round consists of local authorities initially undertaking an Updating and Screening Assessment (USA) and then carrying out the following stages if any objectives are found to be exceeded:

- Detailed Assessment of those areas identified in the USA as potential AQMA's
- Designation of AQMA
- Further Assessment of air pollution in the AQMA
- Amendment if necessary of AQMA boundaries
- Action Plan
- Annual Action Plan Progress Reports

The fifth round of Review and Assessment commenced in 2012 with the Updating and Screening Assessment concluding that no new potential exceedence areas other than those already considered had been identified. Thanet District Council has currently designated one AQMA covering the wider Thanet urban areas, declared in November 2011. Prior to this an AQMA was declared in Birchington in March 2006, and another more recently declared in St Lawrence, declared in 2010. Both of these have now been revoked and replaced with the Thanet Urban AQMA. Both Birchington and St Lawrence remain technical exceedence areas. The new Thanet Urban AQMA is the subject of this Action Plan.

2.4 Conclusions of previous review and assessment of air quality in Thanet

Thanet District Council has completed its Local Air Quality Management duties in compliance with the government guidance. The bulk of the work to date has been to review air quality in the district and to assess whether any problems with achieving the health based air quality objectives exist now or are predicted for the future. This section provides a summary of this work.

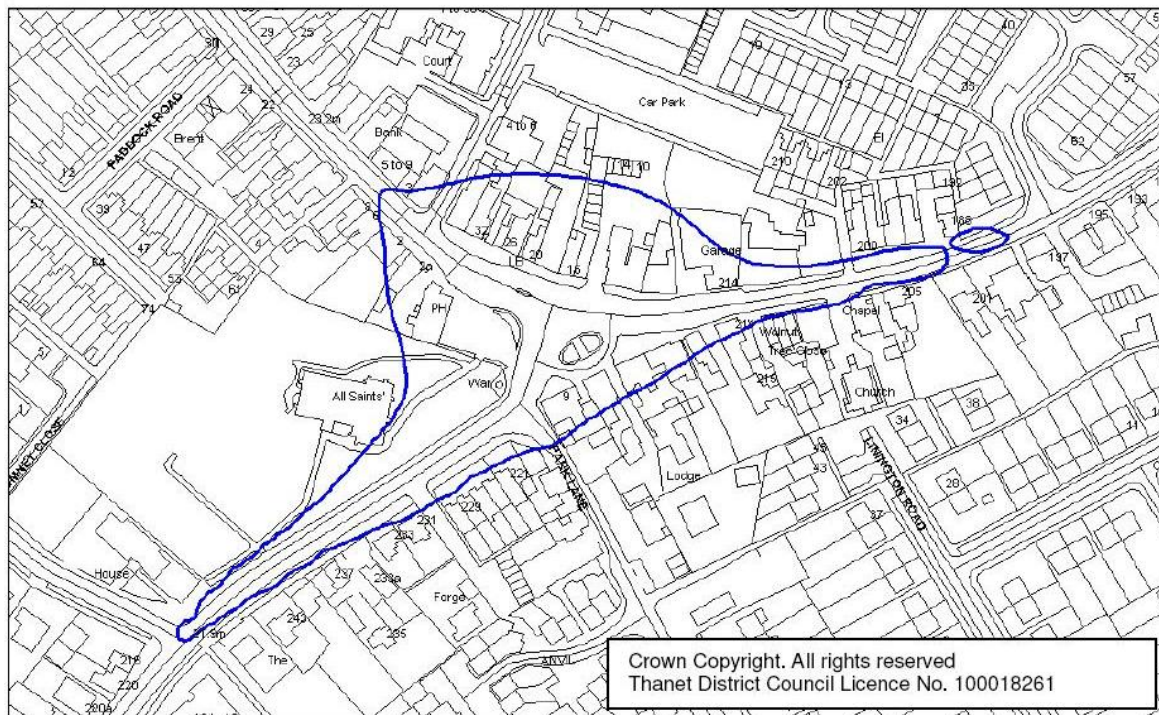
Initial assessment of air quality began in 1998, but it was not until the second round of review and assessment in 2004 that seven potential areas of NO₂ annual mean exceedence and five potential areas of PM₁₀ annual mean exceedence were highlighted. These were:

- The Square, Birchington (NO₂ and PM₁₀)
- King Street/Boundary Road/Hereson Road, Ramsgate (NO₂ and PM₁₀)
- Marine Gardens, Margate (NO₂ and PM₁₀)
- The Broadway, Broadstairs (NO₂)
- College Road, Margate (NO₂ and PM₁₀)
- Queens Avenue/Ramsgate Road, Margate (NO₂ and PM₁₀)
- Haine Road, Ramsgate (NO₂)

A Detailed Assessment undertaken in 2005 highlighted that one area, The Square, Birchington, was predicted to exceed these objectives and recommended that an Air Quality

Management Area (AQMA) should be declared due to emissions from local road traffic. This culminated in the declaration of the AQMA in March 2006 and the installation of an air quality monitoring station in 2007. Figure 2 shows the extent of the AQMA. This area comprises a roundabout on the A28 Canterbury Road (the primary Margate to Canterbury and Ashford route) and Station Road, which is the main shopping street in Birchington. Close to this junction Park Lane joins Canterbury Road. Park Lane carries a large proportion of the primary school traffic.

Figure 2. The Square, Birchington previous AQMA.



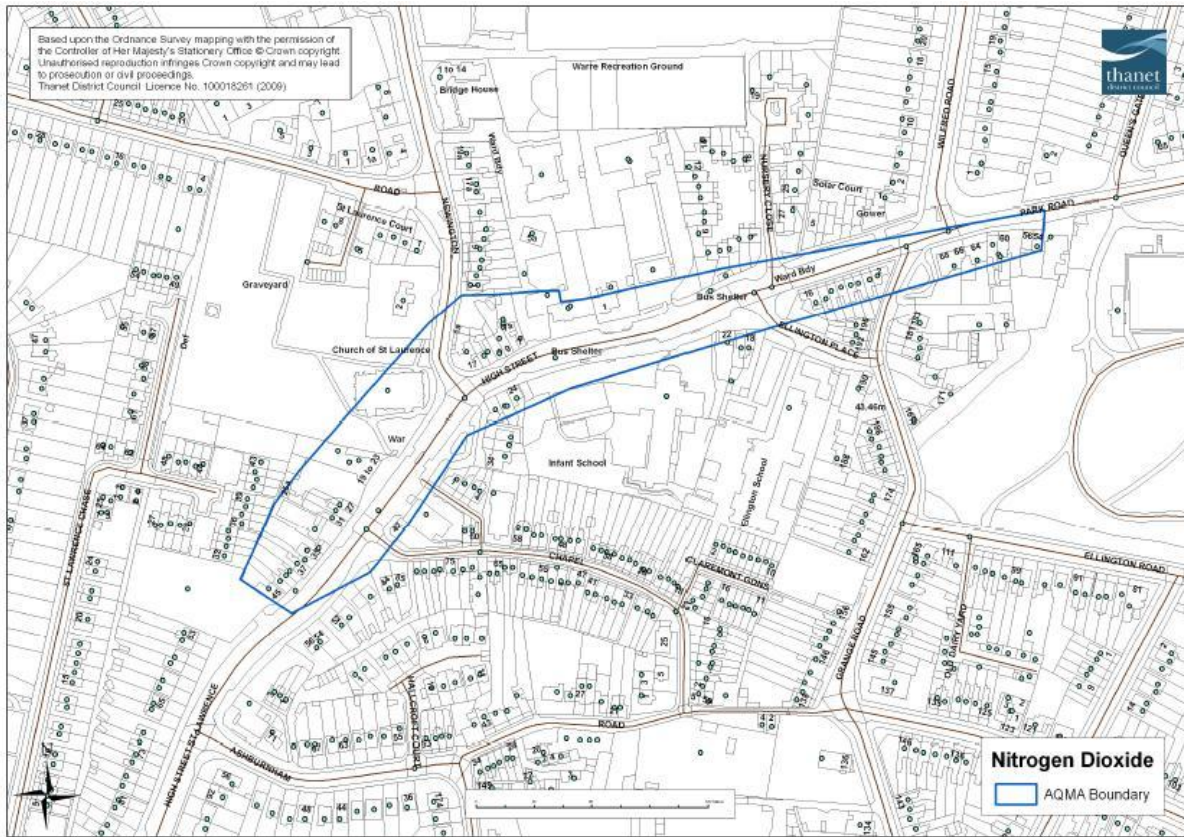
The Further Assessment undertaken for The Square, Birchington indicated that road traffic was the primary source of NO_x emissions (71%) and of this approximately a third was due to Heavy Duty Vehicle movements, even though they comprised less than 5% of the vehicle fleet. Background concentrations of PM₁₀ were found to make up 75% of the total concentrations with the remaining 25% originating from road traffic emissions.

A draft Action Plan was developed in October 2007 which set out the mechanisms through which the local authority would deliver measures to work towards meeting the Air Quality Objectives though joint working with the County Council and other organisations. This Action Plan now requires updating. This is addressed in this document.

The 2011 Annual Progress Report produced as part of the most recent round of Review and Assessment has found that concentrations of PM₁₀ within the Birchington AQMA have been consistently well below the annual mean objective concentration since continuous monitoring began within the AQMA in 2007. The Council has revoked the PM₁₀ AQMA declaration, and the declaration for NO₂ has been incorporated into the recently declared Thanet urban AQMA.

The USA undertaken at the start of the third round of review and assessment in 2006 concluded that a Detailed Assessment was required at two further locations, Hereson Road, Ramsgate and High Street, St Lawrence. This assessment, undertaken in 2008, predicted exceedance of the annual mean NO₂ objective at a small number of receptors on High Street, St Lawrence and an AQMA was declared in April 2010. Figure 3 shows the boundaries of this AQMA.

Figure 3. High Street, St Lawrence previous AQMA.



The Further Assessment undertaken in 2010 showed that five receptors were predicted to exceed the NO₂ annual mean objective. These are clustered on either side of Park Road close to the roundabout junction with Newington Road and High Street. This is demonstrated in Figure 4. Receptors 1 to 5 in Figure 4 were modelled to exceed the NO₂ Annual Air Quality Objective as presented in

Table 1.

The traffic data for the modelling were sourced for the A255 High Street / Park Road from Kent County Council traffic counts and completed with detailed fleet composition data for 2009. For Newington Road, data from automatic traffic counts carried out in October 2008 were used. Traffic data were projected to year 2010 using growth factors adjusted for the Thanet area.

Figure 4. High Street, St Lawrence previous AQMA showing modelled receptors. Map sourced from the 2011 Further Assessment¹.

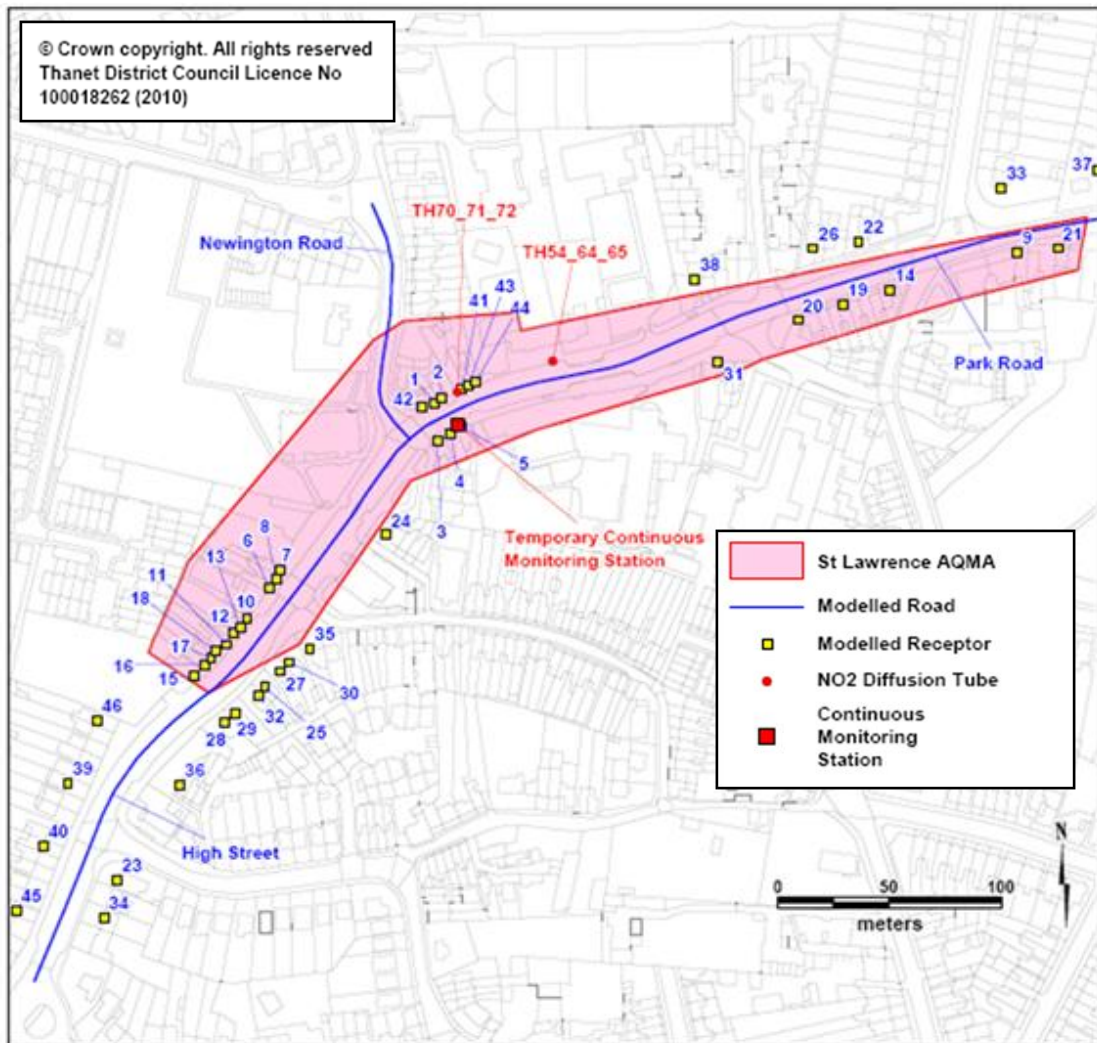


Table 1. Receptors on Park Road modelled to exceed the Annual NO₂ Air Quality Objective of 40 µg/m³.

Receptor ID	Total Modelled NO ₂ 2010 µg/m ³
1	42.2
2	41.4
3	44.3
4	41.3
5	41

Source apportionment showed that, although background pollution levels contribute significantly, road traffic is the main emissions source contributing to elevated levels of NO_x

¹ http://www.thanet.gov.uk/pdf/Thanet_DC_Further_Assessment2010_Final_word.pdf

and NO₂. Table 2 shows the results of the source apportionment calculations. Of the traffic emissions HDVs (HGV plus buses) are the most significant contributors.

Table 2. Source apportionment at highest predicted receptor

Source	NO _x %	NO ₂ %
Local background	11.6	16.8
Regional background	19.3	27.9
Road traffic	69.2	55.3
<i>Car</i>	26.5	21.2
<i>LGV</i>	13.3	10.7
<i>Bus</i>	9.6	7.6
<i>HGV</i>	19.8	15.8

The reduction in NO_x concentrations required to comply with the AQS objectives in the St Lawrence AQMA is approximately 13µg/m³ (equivalent to a 21% reduction in road-NO_x emissions). This equates to about 4µg/m³ reduction in NO₂ (10% reduction). Measures formulated in the Local Action Plan should aim to reduce the levels of NO_x / NO₂ within the AQMA by at least these amounts.

2.5 Recent trends in air quality within the previous two AQMAs

Table 3 shows annual mean concentrations of NO₂ at all monitoring sites located within the previous AQMAs. All diffusion tube data presented has been corrected for laboratory bias. The bias correction factor for each year has been calculated from collocation studies undertaken within the Thanet District Council area.

Table 3. Annual mean NO₂ concentrations (µg/m³) at monitoring sites located within the AQMAs

Site name	Monitoring method	2006	2007	2008	2009	2010	2011
The Square, Birchington previous AQMA							
The Square, Birchington	Automatic Monitoring Site	-	37	39	40	35	36
Birchington Square	Diffusion Tube TH13/46/47	51	42	42	49	41	44
Canterbury Rd, Birchington (A28) (Yew Tree)	Diffusion Tube TH48	32	32	33	37	31	31

Canterbury Rd, Birchington (A28) (Kent Gdns)	Diffusion Tube TH49	46	34	35	43	36	37
High Street, St Lawrence previous AQMA							
High Street, St Lawrence	Diffusion Tube TH54/64/65* (only TH54)	54	40	41	45	40	40
High Street, St Lawrence - Facade	Diffusion Tube TH66	-	29	29	31	29	27
High Street, St Lawrence Facade	Diffusion Tube TH70/71/72*	-	43	42	47	42	41

Table 3 shows that other than 2009, which saw a marked increase in concentrations at almost all the sites, the overall trend between 2007 and 2011 has been of fairly static annual mean concentrations. Concentrations in the year 2006 are elevated over subsequent years. This was a known high pollution year across the UK due to the meteorological conditions during the summer months.

Predicted background concentrations were expected to decrease over the past years and to continue to decrease into the future, as the national vehicle fleet gradually improved and other national policies to reduce emissions took effect. However, this expected decrease has not been seen in Thanet or indeed across the UK. It is now known that regulations introduced by the EU to reduce emissions from vehicles (Euro 1-3 standards) have not seen the reduction in emissions that were expected. In addition the introduction of particulate traps to reduce particle emissions on Heavy Goods Vehicles is believed to have led to a rise in direct NO₂ emissions leading to increased NO₂ concentrations at nearby receptors. This has resulted in projected reductions in pollutant concentrations not being realised in many areas of the UK, particular where concentrations are derived primarily from vehicle emissions. The resulting consequence of the reduction in emissions per vehicle not being realised is that it is important within the Action Plan to look at potential options for a reduction in vehicle numbers within the areas affected.

Table 4 demonstrates that concentrations on PM₁₀ are well below the two UK Air Quality Objectives. This evidence is sufficient to support the District's decision to revoke the AQMA for PM₁₀.

Table 4. Results on PM₁₀ monitoring within The Square, Birchington AQMA.

Site name	Monitoring method	2007	2008	2009	2010	2011
Annual mean concentrations (µg/m³)						
The Square, Birchington	Automatic Monitoring Site	24	23	23	24	29
Number of exceedences of daily mean objective (50 µg/m³)						
The Square, Birchington	Automatic Monitoring Site	11	6	10	6	31

2.6 Conclusions from 2011 Monitoring Data

Figure shows the bias-adjusted annual mean NO₂ concentrations measured at diffusion tube sites during 2011.

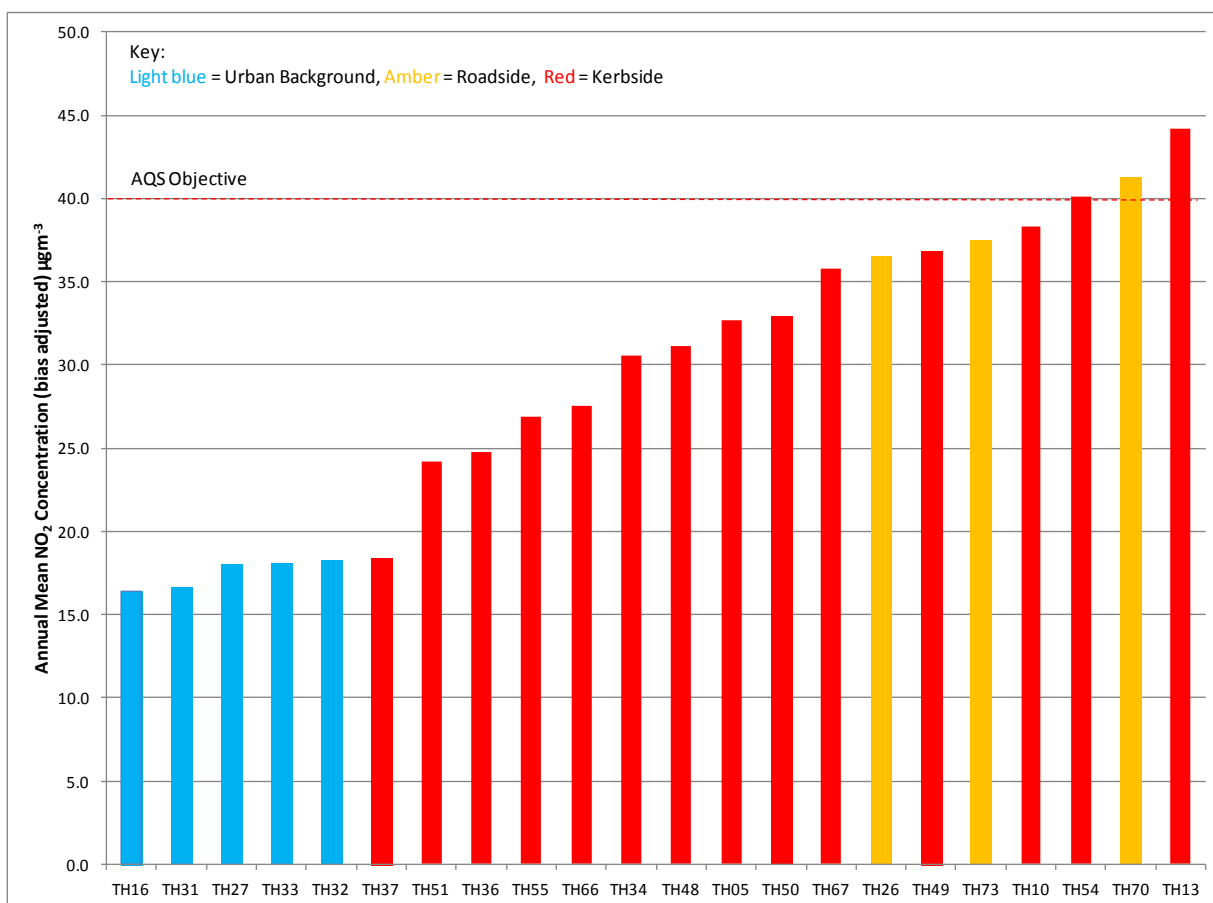


Figure 5: Annual Mean NO₂ at Diffusion Tube Sites in Thanet.

The majority of sites are kerbside, but (as in 2011) only two sites exceeded the AQS Objective of 40 µg m⁻³. Highest concentrations were measured at TH13 at The Square, Birchington and TH70 on the High Street, St Lawrence. These sites also showed highest concentrations in 2008, 2009 and 2010. Figures 6A-C show diffusion tube co-location results at three Thanet automatic NO₂ monitoring sites – Thanet Airport (Urban Background), Thanet Birchington Roadside, and Thanet Ramsgate Roadside respectively. (Diffusion tubes were not co-located at the fourth automatic monitoring site, Thanet Margate.)

It should be noted that the tubes at Thanet Birchington Roadside are not truly co-located, as the diffusion tubes are 5m from the inlet of the automatic analyser. Also, the diffusion tubes are approximately 1m from the kerb, whereas the automatic analyser inlet is approximately 4m from the kerb.

Diffusion tubes at all three sites exhibit positive bias but it is more pronounced for Thanet Birchington, possibly due to site-related factors.

Thanet District Council Air Quality Action Plan

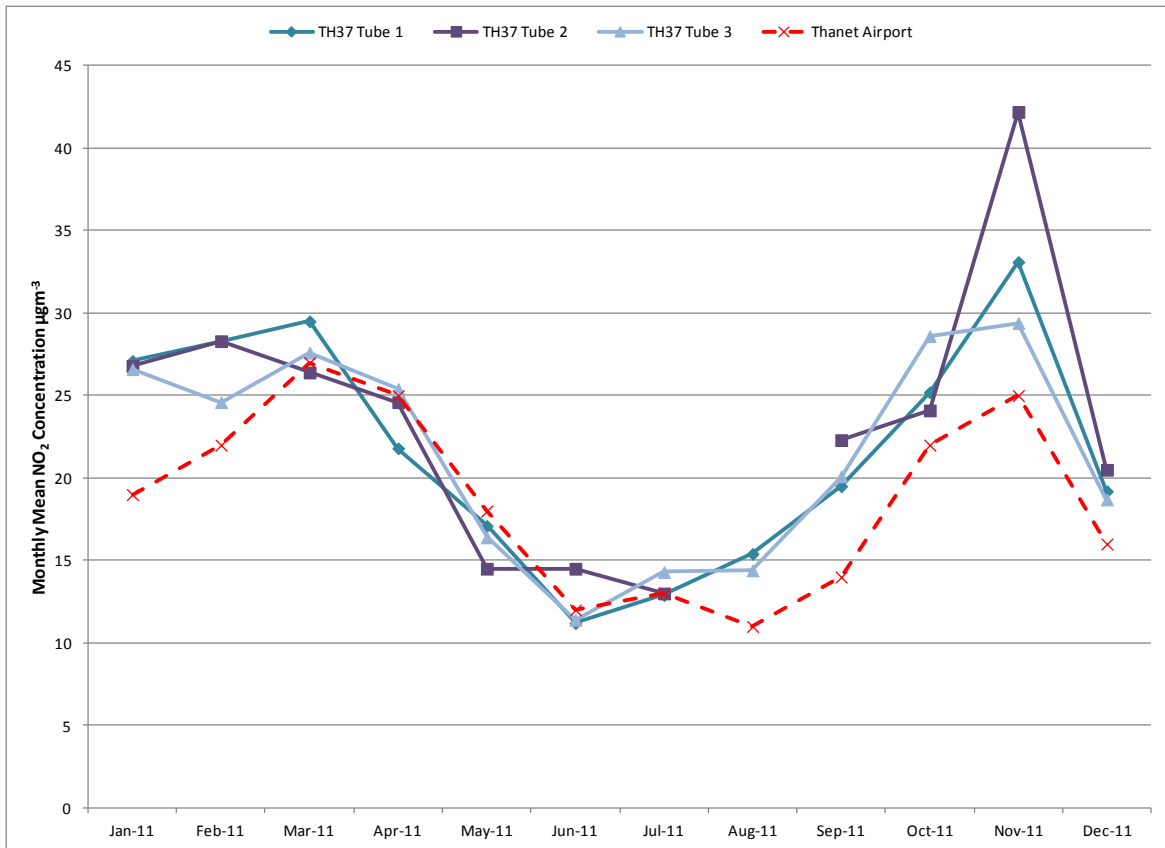


Figure 6A: Comparison of diffusion tubes and automatic analyser, Thanet Airport 2011 (no bias adjustment factor applied).

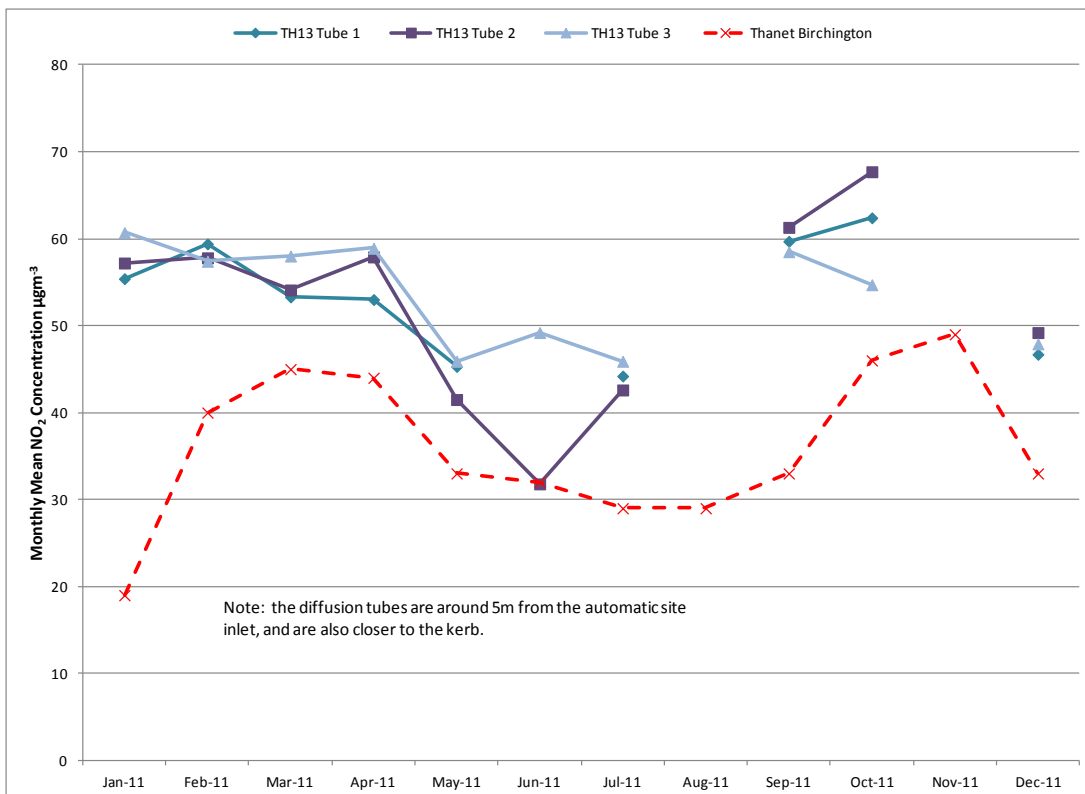


Figure 6B: Comparison of diffusion tubes and automatic analyser, Thanet Birchington Roadside 2011 (no bias adjustment factor applied). Nearby not co-located.

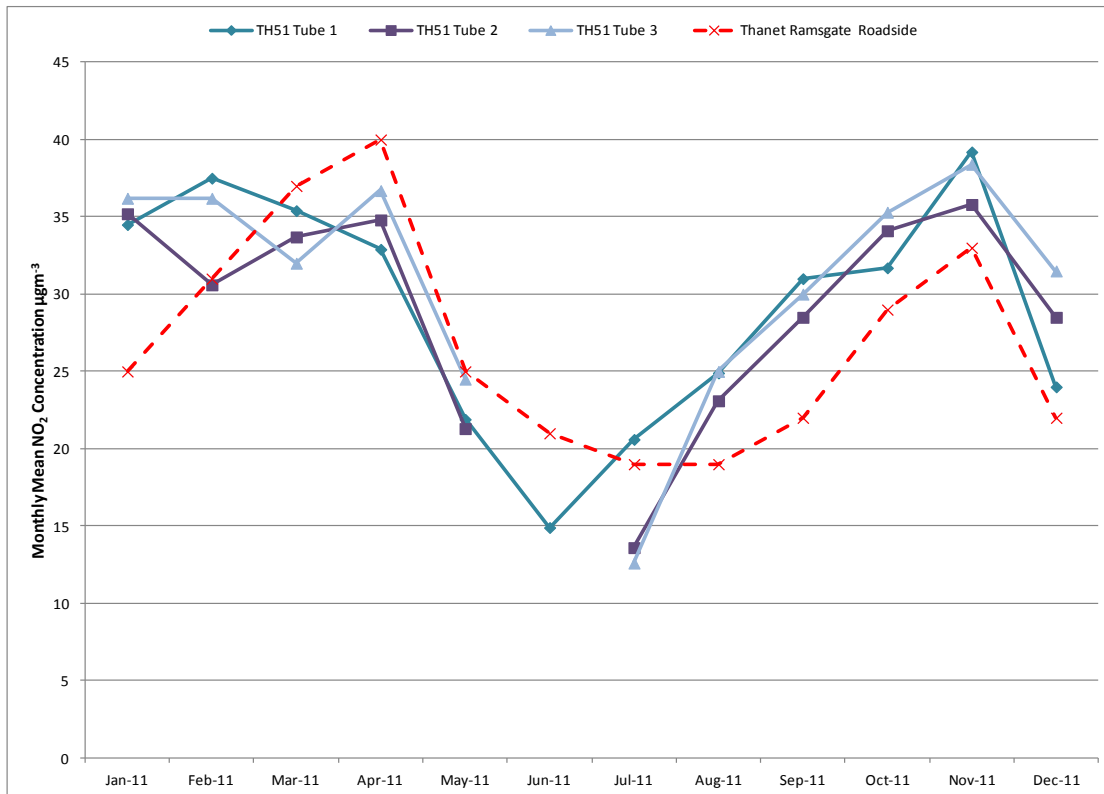


Figure 6C: Comparison of diffusion tubes and automatic analyser, Thanet Ramsgate Roadside 2011 (no bias adjustment factor applied).

Figure 7 shows a time series chart of mean concentrations. It includes means for all kerbside, all roadside and all urban background diffusion tube sites. Please note roadside sites are represented by just one long-running site, TH26. Urban background sites are represented by five long-running sites.

Also shown are the annual means for the four automatic sites and the diffusion tube sites co-located with them. The diffusion tube data are bias adjusted using the combined “national” bias adjustment factor. The diffusion tube data do not show any clear trend in NO₂ concentration. Similarly, the long-running automatic sites (Thanet Airport, Thanet Margate Background and Thanet Ramsgate Roadside) show no clear upward or downward trends.

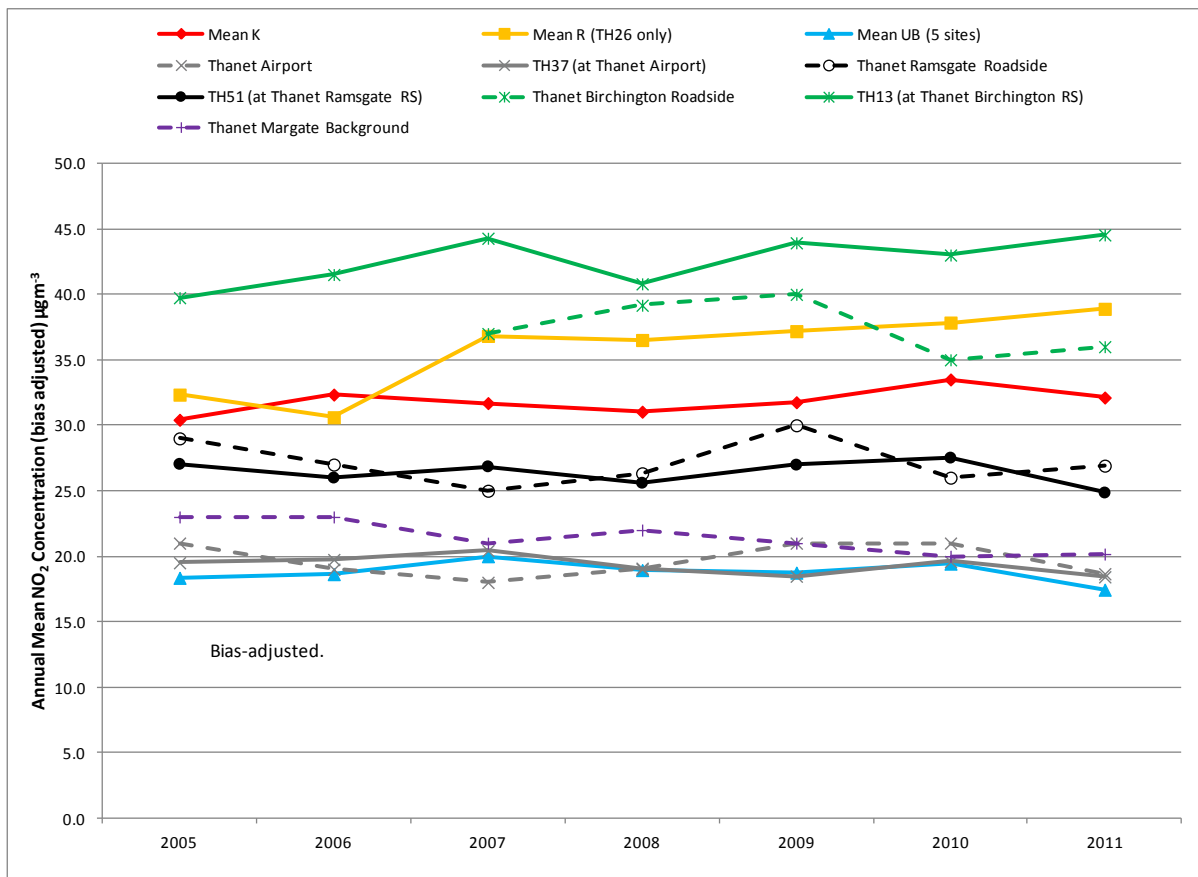


Figure 7: Time series of NO₂ concentrations in Thanet (diffusion tube data bias-adjusted).

2.7 Conclusions

1. Both junctions at The Square, Birchington and High Street, St Lawrence have a problem with local NO_x emissions causing levels of NO₂ to be above the health-based annual mean standard of 40 µg/m³.
2. Road transport at both junctions is the dominant local source of NO_x emissions. Therefore it is intended that this Action Plan will be integrated into the Kent County Council Local Transport Plan (LTP).
3. Based on the source apportionment analysis, options to reduce traffic emissions should firstly focus on reducing HGV movements.
4. This may solve the air quality problem but if not then additional options that focus on improving the flow of traffic through the junctions may also be considered.
5. Based on 2008 values, measures at High Street, St Lawrence would need to reduce traffic NO_x emissions by up to 21% to achieve the air quality standard.
6. Based on 2006 values, measures at The Square, Birchington would need to reduce traffic NO_x emissions by up to 20% to achieve the air quality standard.
7. Although this Action Plan will focus on making progress towards achieving the annual mean objective for NO₂, it will have additional value for the Thanet District community if it also addresses other objectives relating to traffic emissions including: reducing exposure to fine particulate matter (PM₁₀ for human health benefits) and reducing emissions of carbon dioxide (CO₂) as part of efforts to mitigate human-influenced climate change.

These conclusions will be referred to throughout the Action Plan.

3 Development of the Action Plan

The Action Plan must include:

- Quantification of the source contributions to the predicted exceedences of the objectives; this will allow the Action Plan measures to be effectively targeted.
- Evidence that all available options have been considered on the grounds of cost-effectiveness and feasibility
- How the local authority will use its powers and also work in conjunction with other organisations in pursuit of the air quality objectives
- Clear timescales in which the District Council and other organisations and agencies propose to implement the measures within the plan
- Quantification of the expected impacts of the proposed measures and where possible an indication as to whether the measures will be sufficient to meet the air quality objectives and
- How the local authority intends to fund, monitor and evaluate the effectiveness of the plan.

Once the Action Plan is adopted, the District Council will also report progress on the implementation of the Action Plan annually and revise it from time to time depending on circumstances.

3.1 Partnership between the District Council and the Local Transport Authority (the County Council)

In Kent, the County Council is responsible for overall transport strategy. As the AQMAs in Thanet are dominated by emissions from transport, a partnership arrangement between the District and County Councils for the development of this Action Plan has been used. The County Council has put forward proposed actions, which they themselves can implement in pursuit of the air quality objectives.

3.1.1 Integration with Local Transport Plan (LTP)

Local Transport Authorities are required to submit a 5-year Local Transport Plan (LTP) for their area that sets objectives and targets for transport, and strategies for achieving them. The plans must cover all forms of transport and establish strategies to tackle congestion and poor air quality. The LTP provides the basis for allocating resources to the Local Transport Authority in order for them to implement their plans. The Local Transport Authority for Kent is the County Council.

The Department for Transport (Dft) included air quality as one of four shared priority areas to be reported in the Second Local Transport Plan (LTP2) which covered the period from 2006 to 2011. This was the first time that air quality was addressed separately as a priority alongside three other areas: congestion; accessibility; and road safety. The Kent County Council LTP2 recognised the impacts of transport emissions on public health and was integrated with the Air Quality Action Plans prepared by Kent's district councils in those areas where concentrations exceeded the Government's prescribed limit.

In contrast to the first and second round of LTPs, LTP3 will not be formally assessed by the Department for Transport and there are fewer mandatory targets to report against. There is also no requirement to renew every five years but instead the requirement to include a separate Strategy and Implementation Plan setting out objectives and how these will be met. For LTP3 DfT published a set of five key goals and related challenges for development of the UK's future transport policy and infrastructure. One of these, "Contribute to Better Safety, Security and Health", specifies the reduction of "social and economic costs of transport to

public health, including air quality impacts in line with the UK's European obligations" thus maintaining the importance of reducing air quality impacts with the transition from LTP2 to LTP3.

Kent County Council has recently adopted its third Local Transport Plan which covers the period from 2011 to 2016². The Plan presents five themes based on the five Government Goals. These are:

1. Growth without Gridlock;
2. A Safer Healthier County;
3. Supporting Independence;
4. Tackling a Changing Climate;
5. Enjoying Life in Kent.

The document states that the implementation Plan for a Safer and Healthier County includes measures to protect communities from pollution and that these will be targeted at Air Quality Management Areas. Furthermore the Implementation Plan for Tackling a Changing Climate looks to reduce transport emissions which will indirectly lead to improvements in air quality. This will be achieved through a combination of promoting greener forms of transport, reducing the length of, and necessity to make, a journey and reducing the carbon footprint of KCC as the manager of the local road network.

The technical exceedance areas within the AQMA in Thanet are characterised by road geometry which do not lend to extensive infrastructure improvements or traffic management schemes – essentially they are pinch points in the road network. Previously traffic management via traffic lights were trialled at the Birchington exceedance area but results indicated that this was not an effective means of easing congestion and hence lowering emissions and improving air quality.

Focus during the preparation of this action plan has therefore been directed towards increasing sustainable transport in the whole district. This relies on the existing bus, walking and cycling strategies but includes new focus from Kent County Council on their successful Local Sustainable Transport Fund (LSTF) award from the Department of Transport.

Included in the LSTF project are sustainable transport improvements to encourage sustainable access and onward journeys from HS1 stations at Margate and Ramsgate. Funding includes:

- Station forecourt enhancements to improve integration between modes including a reduction in conflicting pedestrian and vehicle movements and improved bus stopping and lay-over facilities
- Enhanced cycle storage facilities
- Improved pedestrian and cycling links
- Customer work and the development of Personalised Travel Plans

This initiative aims to encourage modal shift from the passenger car to public transport and cycling which should result in lower emissions. Work at Margate will progress in 2013 with Ramsgate following on during 2014/15.

² http://www.kent.gov.uk/roads_and_transport/highway_improvements/our_transport_vision/local_transport_plan/local_transport_plan_3.aspx

3.2 Partnership with Development Planning

The planning system plays a key role in protecting and improving the environment. Land use planning and development control can become an effective tool to improve air quality by first locating developments in such a way as to reduce emissions overall, and secondly reducing the direct impacts of those developments. Although the presence of an AQMA makes consideration of the air quality impacts of a proposed development more important, there is still a need to regard air quality as a material factor in determining planning applications in any location. This is particularly important where the proposed development is not physically within the AQMA, but could have adverse impacts on air quality within it, or where air quality in that given area is close to exceeding guideline objectives itself.

The Government's commitment to the principles of sustainable development were set out in 'A Better Quality of Life – A Strategy for Sustainable Development for the UK', May 1999. Eight principles of particular relevance to planning and pollution control were set out: -

- Taking a long term perspective;
- Putting people at the centre;
- Taking account of costs and benefits;
- Respecting environmental limits;
- Applying the precautionary principle;
- Using scientific knowledge;
- Following procedures which are based on transparency, access to information, effective participation by stakeholders and access to justice; and
- Making the polluter pay.

The national air quality strategy reiterates that the government strongly believes that air quality issues should be dealt with in a holistic and multi-disciplinary way. In developing an air quality Action Plan the District Council has engaged with land-use and transport planners to ensure the actions are supported by all parts of the authority.

The District Council is currently preparing the Local Plan and air quality is acknowledged as an important consideration in the planning process. Where proposed development is likely to impact on air quality, it may be expected to contribute proportionately towards measures to implement the Action plan.

3.3 Formation of steering group

A steering group was established to develop the Action Plan, which included officers from Environmental Protection and Development Planning within the District Council and Transport Planning manager at the County Council.

3.4 Action Plan options and their assessment

The steering group, in developing the draft Action Plan, has considered a full range of relevant options to change traffic at the Birchington and St Lawrence exceedance areas. The process has been one of narrowing down the range of potential options to ones that are focussed on the problem, feasible, do not adversely impact on other locations or vulnerable highway users, and are cost-effective compared to others. This section summarises how this was done.

Essentially the steering group adopted the following procedure:

- Consideration was given to the full range of potential options.

- Initial decisions were made to determine whether any options were unfeasible or unacceptable and they were eliminated from the options list.
- Remaining options were defined further and underwent a detailed assessment.
- The results of the assessment identified those options to prioritise and to adopt as measures in the Action Plan.

There is a very wide range of options available to reduce the emissions from road transport. The District and County Councils do not necessarily have the power to implement them all directly but potentially they do have a role in attempting to influence those bodies or individuals who could implement them. Therefore, it is appropriate to initially consider all options.

3.5 Measures dismissed on the grounds of cost-effectiveness and feasibility

3.5.1 Bypass Construction

The provision of a bypass was discussed at the public meeting held back in October 2005 at the Birchington Centre and has been raised by many of the respondents to the Birchington air quality questionnaire taken at the time. This measure was considered when drawing up the Action Plan, but has been dismissed as it is highly unlikely that any funding would be forthcoming from Government. Such a scheme would not be considered by the Government as a cost-effective solution to the Birchington air quality problem. It is also considered by KCC and TDC that a new bypass would impact on the nearby properties adjacent to any proposed realignment and it would simply shift the problem to another part of the A28.

3.5.2 Low Emission Zone (LEZ) or Clear Zone

A Low Emission Zone (LEZ) is a geographic zone defined for an area where vehicles of an acceptable emissions standard (normally Euro III) can enter and move around. The concept is held widely as a way of achieving air quality objectives within large urban area where economies of scale can be achieved with respect to set-up and operating costs. Further consideration to the implementation of an LEZ within Birchington and St Lawrence are dismissed on the grounds of cost and feasibility.

A Clear Zone is a defined urban area, usually a City, which exploits new technologies and operational approaches to improve quality of life and support economic growth, whilst minimising the adverse impacts of its transport systems. The implementation of a Clear Zone within Birchington and St Lawrence is dismissed on the grounds of cost-effectiveness and feasibility.

3.5.3 Road User Charging or Workplace Parking Levy

The Transport Act 2000 gave local authorities powers to introduce road user charging or workplace parking levy schemes. The revenue generated from such schemes would be used to improve local transport in the area.

The costs of introducing a road charging scheme can be offset by the revenue that is generated. Area wide charging is likely to be more costly than a designated route. The feasibility of area wide schemes is being considered in the regional Multi-modal Studies and it is unlikely that they will be introduced in the short term to achieve the air quality objectives. Any scheme in Kent could only be introduced on a co-ordinated basis that dealt with all urban centres and did not give economic advantage to one over the other.

Based on charging workers for parking at their place of work, the implementation of a workplace parking levy could reduce the number of private vehicles entering The Square, Birchington. The traffic entering the Birchington AQMA is largely related to commuter through traffic and as such a work place parking levy would not tackle the main air quality issues. The proposal is dismissed on the grounds of cost-effectiveness and feasibility.

3.5.4 Roadside Emissions Testing

Under powers of authority (Roadside Vehicle Emissions (Fixed Penalty) Regulations 2002 local authorities are able to undertake roadside emissions testing of vehicles. The aim is to identify those vehicles that make a disproportionate contribution to emissions through poor maintenance with on-the-spot fines for those that fail. The scheme of a formal roadside emissions testing programme is not considered viable for stand-alone authorities and has therefore been dismissed as a possibility for inclusion in the current action plan. The use of voluntary vehicle emissions testing as a promotional tool is being explored and funding sought through Government air quality grants.

3.5.5 Idling Engine Emissions

The Road Traffic (Vehicle Emissions)(Fixed Penalty) (England) Regulations 2002 permit all English local authorities to take action against drivers who leave their vehicle engines running unnecessarily when parked. The local authority can issue a fixed penalty (£20) to any driver blatantly running their engine unnecessarily and who refuses all reasonable requests to switch off.

Tackling congestion and the volume of traffic passing through The Square, Birchington will be the main deliverer of air quality improvements in the AQMA. Idling emissions from parked vehicles are not considered a significant issue to warrant introducing specific measures with necessary resource implications. The proposal has therefore been dismissed on the ground of cost-effectiveness.

3.5.6 Park and Ride

Unlike Canterbury and Maidstone, Thanet does not have a main city centre with inadequate parking provision nor does it have and available for large car parks in convenient and accessible locations. Car parks are expensive to build and maintain, are space-intensive and require public transport users to own just as many cars as if public transport didn't exist. Thanet has several town centres as well as a popular shopping centre at Westwood Cross. Margate, Ramsgate Broadstairs and Westwood Cross are all successfully served by the Thanet Loop service operated by Stagecoach the success of which in attracting new bus passengers is discussed in Measure 3 below.

3.6 Measures to improve air quality

Ten key measures were identified via assessment for inclusion in this Action Plan as priorities for the improvement of air quality at the Birchington and St Lawrence and wider exceedence areas. These include:

1. Specific options aimed at promoting more sustainable travel choices and reducing queues at the Birchington and St Lawrence junctions
2. Strategic options aimed at integrating air quality into all relevant areas of decision making within the District and County Councils.

The measures in the Action Plan are detailed in the following section and a summary is presented in Table 5. This Plan is:

- Focussed – road transport is the dominant source of emissions in the AQMA and queuing vehicles and HDVs are particularly significant sources.
- Proportionate – the plan puts most emphasis on reducing queuing from all vehicles and contains specific measures to attempt to address HDV emissions.
- Realistic – the measures in the plan have been assessed as being the more feasible, acceptable and cost-effective among many options.
- Strategic – key measures to be implemented include improving the District Council's capacity to manage air quality in order to avoid worsening air quality and to make progress towards the air quality standards.
- Sustainable – we believe that the plan can contribute to the District Council community aims to reduce CO₂ emissions, improve quality of life (by improved health) and not compromise the local economy or pedestrians and cyclists.

The 10 measures in this Action Plan are the ones that the District and County Councils have considered for adoption and implementation in pursuit of the air quality standards within the Thanet urban AQMA. Detailed information on the 10 measures is presented below. Some of the identified measures require further study to facilitate which ones are most cost effective. After these studies are complete, the Councils will be able to decide which of the measures are fully warranted for implementation.

In summary, the Action Plan aims to reduce transport emissions in the AQMA by around 10%. Further reductions of up to another 10% are anticipated upon implementation of measure 1, though this will depend on the outcome of the feasibility of junction signal study. It is anticipated that a reduction of this scale will lead to the achievement of the annual mean NO₂ air quality standard (40µg/m³) within the AQMA based on 2010 monitoring data. No additional measures are thought to be required. However, it should be noted that 2009 data were significantly higher, and further measures would be required if this year is used as the basis for reduction. Air quality is significantly influenced by weather conditions, with calm weather giving rise to higher concentrations. The District Council will continue to review and assess air quality to monitor this situation.

Funding for the implementation of this Action Plan is through the Local Sustainable Transport Fund and the Local Transport Plan where existing projects complement the Action Plan. Further funding will be sought through the Defra air quality grant annual award scheme for the implementation of specific tasks within measures.

3.6.1 Measure 1: Investigate Traffic Signal and Junction Configuration to improve traffic flows

Stationary vehicles give rise to a high proportion of emissions relative to moving traffic. Consequently, measures to reduce traffic queues are likely to reduce emissions. Both The Square Birchington and High Street St Lawrence are busy junctions which regularly suffer from congestion issues. Initial consideration has been given to this with previous trials to optimise traffic flows to reduce congestion having been undertaken at the Birchington junction. Further detailed consideration of this measure at Birchington and St Lawrence should be undertaken to ascertain if any further option is available to reduce congestion. The location of pedestrian crossings and bus stops also warrants some consideration with respect to the impact on traffic flows. TDC will work in partnership with the relevant highways

authority KCC to investigate what additional traffic management measures could be implemented to improve flows in the vicinity of these junctions.

Neither The Square Birchington nor High Street St Lawrence are served by traffic lights but for those other junctions within the urban AQMA which are served by traffic lights the installation of a MOVA system - Microprocessor Optimised Vehicle Actuation (MOVA) is a self optimizing control system for traffic signals developed by the Transport Research Laboratory (TRL) should be investigated. Such improvements have been successful when implemented at Victoria Traffic lights, Margate in 2010. Using an online microprocessor MOVA maintains the optimum green stage, cycle time and control strategy to accommodate prevailing conditions and therefore minimise queuing at signalised junctions. TRL tests have shown on average a 13% delay saving for the motorist over conventional vehicle actuation controlled traffic signals. This reduction in queuing traffic should lead to a reduction in Nitrogen Dioxide levels at the junction. MOVA has been reported to produce emission reductions up to 15% (McCrae, 2009).

With regard to The Square, Birchington, there is currently one traffic management scheme proposed in the LTP, for Park Lane, linked to the Birchington Church of England Primary School Travel Plan. Selective speed reduction measures are proposed through speed humps to help overcome perceived 'rat-running' problems and assist with access to Birchington Church of England Primary School. B2048 Park Lane lies directly to the south-west of The Square and is a main route for school related traffic. At the junction of Park Lane/A28 Canterbury Road, Park Lane has single vehicular access resulting in queuing at peak times and adding to congestion issues in the area. Although this scheme has not been conceived with consideration to queuing at this junction and the potential air quality impacts, any reduction in traffic using this route as a result of traffic calming measures could have potential benefits.

3.6.2 Measure 2: Improving Movement of Freight

HGV movements within both technical exceedance areas are not significant in their number. However, HGVs give rise to a corresponding high emission of NO_x and it was demonstrated in a previous study that 5% HGV movements in Birchington resulted in about one third of the total NO_x emissions.

The current Freight Strategy is outdated; KCC Traffic Management Team has been working on a draft Kent Freight Action Plan (FAP) that will effectively help to address concerns with the movement of freight both through and within the county. The FAP sets out the vision to: Promote safe and sustainable freight distribution networks into, out of and within Kent, which support local and national economic prosperity and quality of life, whilst working to address any negative impacts on local communities and the environment both now and in the future. It has several objectives but of most relevance to air quality are:

- Objective 4: To take steps to address problems caused by freight traffic to communities i.e. use positive signing to direct HGVs onto the strategic road network.
- Objective 6: To encourage sustainable freight distribution.
Many people use home delivery for goods but a large proportion of deliveries fail and have to be redelivered. This primarily uses smaller vehicles but there is great potential to reduce the number of these on the roads and, therefore, their impact on congestion, air quality and noise.

The FAP should give consideration to include signage for freight movement within Thanet and consideration should be given to setting up a Freight Quality Partnership with major freight hauliers in local and regional areas which aims to address local environmental concerns with those of the haulage industry of meeting journey times.

To help identify substantial contributors to NO₂ a vehicle emissions study to characterise the distribution of on-road vehicle fleet emissions, including estimates of primary NO₂ emissions, classified by vehicle type (Car, Van, Light and Heavy Commercial Vehicle, Bus), age, fuel type, and emission standard (e.g. Euro 0-5) will be carried out. This will enable Thanet Council to identify the abundance and significance of high emitting vehicles and encourage improvements e.g. through eco-driving, which is the technique of driving in a smooth controlled manner, has been demonstrated to reduce fuel consumption and hence lower emissions of both air pollutants and carbon. For the haulage industry, a key benefit is fuel cost savings.

Consideration of eco-driving training should be investigated and promoted for selected haulage operators and also for the District Council refuse collection vehicle fleet.

The District Council will seek an air quality grant from Defra to undertake a vehicle emissions survey to characterise the distribution of on-road vehicle fleet emissions, including estimates of primary NO₂ emissions, classified by vehicle type (Car, Van, Light and Heavy Commercial Vehicle, Bus), age, fuel type, and emission standard (e.g. Euro 0-5). The study will identify the abundance and significance of high emitting vehicles and enable a targeted approach to improving identified heavy HGV polluters.

3.6.3 Measure 3: Encouragement of Public Transport Use

Generally in the UK, 25% of Britain's car journeys are less than 2 miles, which is a distance that can be covered by walking or cycling. Also, 17% of car journeys are travelling to and from work while school journeys are estimated at 17.5% of morning peak traffic in urban areas in term time. Indeed, if half of UK motorists received a lift one day a week, pollution would be reduced by 10% and traffic jams by 20%. It is therefore important to consider the promotion of public transport uptake, car sharing and travel planning within the Birchington and St Lawrence areas and Thanet in general. Passengers boarding within Thanet District have increased from 4m to 8m between 2004-5 and 2011-12, and whilst some of this is an inevitable result of reduced fares for pensioners and secondary school children, most can be attributed to the investment in buses, bus infrastructure and frequency.

A Quality Bus Partnership is an agreement between the principal bus company, County Council and the district council. The partnership aims to develop all aspects of bus travel and to increase the number of passengers using bus services, with the aim of bringing about significant improvements in the quality of bus services in the county, through co-ordinating investment from different parties in the bus routes.

Within a Quality Bus Partnership local authorities aim to invest in improvements such as bus lanes and bus priority at traffic lights. There are also bus stop improvements such as raised kerbing and traffic restrictions known as bus stop "clearways". The bus companies aim to invest in easy-access low-floor buses and improving the frequency, punctuality and reliability of their services. The planning authority will consider the potential for providing public transport (or other sustainable measures) as part of any planning consent to facilitate commercially sustainable public transport.

The first Quality Bus Partnership in East Kent was formed in Thanet and helped to pioneer the development of these in the rest of the county. The Thanet Quality Bus Partnership provided the framework for the introduction of 'The Loop' service linking Margate, Westwood Cross, Ramsgate, Broadstairs and Margate, which was supported with Kickstart funding from the Department for Transport and Kent County Council.

The success of The Loop in attracting new bus passengers and the growing of the bus business is an example of an effective quality bus partnership in action. This involves Thanet District Council providing bus stop clearways and enforcing them, Stagecoach in East Kent operating new vehicles to a higher frequency, and the County Council providing bus stop infrastructure improvements. A greater emphasis will be placed on the link between new

planning permissions and the provision of a commercially sustainable and publicly attractive sustainable transport measures by the district, whilst the County's next step is to consider improving the flow of buses in congested areas.

There have already been significant improvements to the bus stops within the Birchington and St Lawrence. The frequency on the Loop has increased from every 10 minutes to every 7 minutes. Birchington has for some years been served by buses every 10 minutes to Margate, and every 30 minutes to Minnis Bay and Canterbury. Following major service improvements by Stagecoach on a commercial basis in 2004 and 2009 frequencies are now an average of every 7.5 minutes to Margate and every 15 minutes to both Minnis Bay and Canterbury.

Buses on the Loop and small buses used for some of the St Lawrence and Birchington operations are Euro 3 standard for emissions. Buses on route 8 to Canterbury are Euro 4 standard. In spring 2013 all Loop buses will be replaced with new Euro 5 standard vehicles and this will allow midibuses serving Birchington to be upgraded to Euro 3 standard. Some Euro 1/Euro 2 standard large vehicles will be retained for rural and school peak routes into and around Thanet, but all of these will be replaced as DDA regulations require fleet replacements for various sizes of bus in 2014-2016. By January 2017 all local buses will require DDA certificates and the local Stagecoach fleet will therefore all be Euro 3 standard. KCC has provided Euro 4 buses for route 38 – the other local bus service in Birchington – as this is operated on behalf of KCC.

Stagecoach use Low Sulphur diesel fuel and vehicles are serviced more frequently than the licensed requirement with VOSA (every 21 days rather than every 28 days), and this includes a check on exhaust emissions and rectification if required. Stagecoach's "spot check" record with VOSA throughout Kent is extremely good, with all vehicles spot checked this financial year having been passed with "no apparent defects". Stagecoach therefore considers that their present day operation in Birchington is being as friendly to the environment of Birchington Square as they are reasonably able to provide.

All Stagecoach services through Birchington Square are operated commercially by Stagecoach, i.e. without direct support from KCC. Stagecoach has improved both overall frequency and more specifically evening and Sunday services since the advent of the Thanet QBP. This makes the service on this route and others in Thanet one of the most frequent and comprehensive to be operated in Kent evenings and Sundays without subsidy from KCC. If KCC and TDC are able to provide a funding stream for the route then options to improve it further could be considered.

Stagecoach has voiced their concerns at what they consider as the general lack of consideration for impact on road transport and congestion when planning development decisions are made. Bus services are gradually operating at slower average speeds and new residential and commercial build are considered to play a significant part in this.

The KCC contribution to the Quality Bus Partnership in terms of Integrated Transport Measure funding, as part of the LTP process, is ongoing and reviewed annually and any associated 'new' need to emerge e.g. at the A28 Birchington Square AQMA or High Street St Lawrence, will be investigated and could figure prominently in terms of justification and priority with respect to LTP objectives. Similarly as an active partner, TDC may consider a supplementary contribution to any physical measures identified and the operating partner Stagecoach would be encouraged to share-in the joint aspirations. Bus quality success indicators are included in the Table 5.

3.6.4 Measure 4: Car Sharing and Travel Planning

The encouragement of travellers to plan their journey and share transport when possible is likely to lead to fewer vehicle trips and, therefore, lower emissions. Car sharing and travel planning are therefore important measures to improve air quality. Car sharing schemes

operate in urban areas around the UK, and have been reported to reduce driver days by up to 36% (Jones, 2009).

Car Club

Kent has developed a successful contractual partnership with car club operator Zipcar over the last four years to implement a car club scheme in Maidstone. This is linked to the need to provide a cost effective and resource efficient pool car solution for County Hall based employees. The existing three cars are available as pool cars for KCC employees during office hours and help to provide a reliable and effective alternative to driving to work, enabling employees to travel by public transport, walking, cycling or car sharing. The financial viability of the scheme is ensured by making the cars available to local residents at evenings and weekends, providing an alternative to car ownership for those only requiring occasional usage of a car.

More recently, Section 106 monies have been secured from a nearby residential development, enabling the transfer of a vehicle to that site, supporting the aspirations of the developer to provide reduced levels of parking. KCC is currently working with Zipcar to develop opportunities to expand the car club network in Maidstone and to launch it in other parts of Kent. It is recommended that the use of a car club in Thanet be investigated with KCC.

Car Sharing

Kentjourneyshare.com is KCC's online car-sharing database operated under contract by Liftshare.com, the UK's largest provider of these services. The scheme enables car drivers and prospective passengers to log details of their journeys online and to search for matches to share their trip. To date, Kentjourneyshare.com has over 3,500 registered members and is estimated to save over 3.7 million car miles and 1,200 tonnes of CO₂ a year. Investigations should be undertaken to review the current usage and promotion of Kentjourneyshare.com scheme in Thanet.

Workplace travel plans

A Travel Plan (sometimes referred to as a green travel plan) is a package of measures designed to influence the travel behaviour of individuals, businesses, schools or other organisations through promoting sustainable travel. The general aim is to reduce the negative effects of traffic by encouraging alternatives to single-occupancy car-use.

The County Council is working with businesses, schools, developers and individuals by promoting sustainable travel through travel planning.

Within the District Council's Local Development Framework travel plans are to be sought under the Development Control Policy. Proposals for new development that would have significant transport implications should be accompanied by a Green Travel Plan'. It is not necessarily the size of the development that would trigger the need but more the nature of the use. It could include:

- new employment sites employing over an agreed threshold
- a use which is aimed at the public (eg retail, leisure activities)
- major residential development

The Travel Plans should seek to:

- (a) reduce the use of cars by encouraging car sharing;
- (b) provide links to enable the use of public transport;
- (c) improve road safety for pedestrians and cyclists; and

(d) Identify any mitigation works to be funded by the developer in conjunction with the proposal.

The County Council's Guidance on Travel Plans (revised in 2012) advocates a balanced approach to securing Travel Plans with less complex 'measures' based Travel Plans secured for the majority of sites. These Travel Plans would seek to secure a package of upfront measures designed to influence travel behaviour from the date of first occupation. More complex and strategic sites are required to develop 'outcomes' based Travel Plans with greater emphasis on ongoing monitoring and targets linked to the Transport Assessment. Failure to meet these targets or undertake monitoring could lead to sanction to be agreed in partnership with Thanet District Council as Local Planning Authority.

The County Council is also championing an initiative called 'New Way 2 Work' which aims to match the 'sticks' secured through planning with a range of corporate and individual benefits which participating organisations can access on behalf of their employees. The scheme is open to those organisations which demonstrate a clear commitment to encouraging sustainable travel choices.

In support of New Ways 2 Work, KCC has developed a web based resource hub, (www.newways2work.org.uk) and a more co-ordinated approach to sustainable travel campaigns, whilst retaining flexibility for their local interpretation and implementation.

It is recommended that the District Council liaises with the County Council on this issue to encourage more active participation in Thanet.

School Travel Plans

The County Council has worked with all schools in Thanet between 2004 and 2010 to develop a travel plan, aiming to encourage sustainable modes of transport for all school children. Recent efficiency savings at the County Council have led to the loss of the School Travel Planning team. Work with schools has continued, albeit with a reduced resource. This has necessitated a more strategic approach to project delivery and the development of a self-help tool-kit for schools and local partners to buy into. The work programme includes an ongoing partnership with the KM Charity Team (affiliated to the KM Newspaper Group) to support walking to school, Bike IT (Sustrans) and initiatives to reduce inconsiderate parking. Schools are still asked to complete an annual review and hands-up survey but the move of many schools to Academy status has reduced the level of influence the County Council has to make participation mandatory.

There are opportunities for District Councils to champion initiatives at the local level with the support of KCC. This has proved very successful in the delivery of the zig-zag awareness scheme where District Council Civil Enforcement Teams have played an active role.

TDC Travel Plan

To implement a staff travel plan was a priority measure in Thanet District Council Transport Plan 2005-2011. A number of the actions proposed in the Plan have been implemented but as yet no travel plan has been introduced. As a major employer in the District, the Council is developing its own Staff Travel Plan, to set an example of best practice to other employers as well as making a contribution to reducing traffic congestion and pollution.

3.6.5 Measure 5: Promotion of Cycling and Walking

Measures to encourage cycling and walking rather than using car especially for local journeys are important to reduce emissions and hence improve air quality.

The provision of facilities to encourage people to make short trips on foot or by bicycle, rather than by car is very important. Within the Local Transport Plan, the County Council has set out programmes of improvements to walking and cycling routes, with crossings in the centres

of the larger market towns to make it easier for people to access schools, shops and other local services. This measure comprises two tasks:

Task 1: Review the current walking and cycling routes across Birchington and St Lawrence and identify where improvements can be made

Task 2: Prepare a detailed implementation programme for such works in Birchington and St Lawrence.

Thanet Council published a walking strategy in back in 2005 called 'Feet First– enabling and promoting walking in Thanet'. The strategy recognises that walking has health benefits; is socially inclusive and contributes to reduced congestion and improved air quality.

The strategy has three objectives

- *To ensure that the appropriate infrastructure is provided and maintained to enable those wishing to walk to do so safely and conveniently.*
- *To promote and encourage walking as an healthy alternative to the private car for short work and leisure journeys and as a means of recreation.*
- *To identify priorities for implementing a planned programme of high quality walking routes in Thanet.*

Much of the planned program of work for creating/improving pedestrian routes outlined in the strategy has been completed.

3.6.6 Measure 6: Development Planning

The planning system plays a key role in protecting and improving the environment. Land use planning and development management can become an effective tool to improve air quality by first locating developments in such a way as to reduce emissions overall, and secondly reducing the direct impacts of those developments. As air quality is a material planning consideration and in view of the new urban wide AQMA and the withdrawal of the general planning guidance on air quality (planning Policy Statement 23: Planning and Pollution Control) as part of the National Planning Policy Framework, (NPPF), there is a need for local guidance on air quality.

The Kent and Medway Air Quality Partnership have produced Air Quality and Planning Technical Guidance document (Appendix 2). The Council and developers shall have regard to this guidance. It provides technical advice on how to deal with planning applications that could have an impact on air quality and human health. The guidance document will help to ensure consistency in the approach to dealing with air quality and planning across Kent. It will require developers to offset the impact of development on air quality.

Current planning policy for Thanet includes the 'saved' policies of the Thanet Local Plan (2006). It is fundamental to the achievement of the aims of the Air Quality Action Plan to have a Local Plan that recognises the importance of air quality in terms of the environmental impact of development and the need for sustainable transport measures. The Thanet Local Plan addresses air quality issues in the following "saved" policy (summarised below):

Policy EP5 Local Air Quality Monitoring

“Proposals for new development that would result in the national air quality objectives being exceeded will not be permitted.

Development proposals that might lead to such an exceedance, or to a significant deterioration in local air quality resulting in unacceptable effects on human health, local amenity or the natural environment, will require the submission of an air quality assessment, which should address:

- (1) The existing background levels of air quality;
- (2) The cumulative effects of further emissions;
- (3) The feasibility of any measures of mitigation that would prevent the national air quality objectives being exceeded, or would reduce the extent of air quality deterioration”

Policy TR15 Green Travel Plans

“Development proposals likely to generate significant travel demand and/or travel movement will be required to demonstrate, through green travel plans, specific measures to encourage and facilitate use of walking, cycling and public transport in preference to private car travel. The Council will seek to approve measures which will assist implementation of green travel plans and school travel plans.”

Policy TR12 Cycling

“In order to promote increased use of cycling:

A) The Council will seek the provision at the earliest opportunity, of a network of cycle routes. Planning permission will not be granted for any development which would prejudice the implementation of proposed cycle routes.

B) The Council will see the incorporation of facilities for cyclists into the design of new and improved roads, junction improvements and traffic management proposals.

C) Substantial development generating travel demand will be required to provide convenient and secure cycle parking and changing facilities. Proposals to provide such facilities as part of development proposals in town centres and at transport interchanges, schools and places of employment will be permitted.

D) In new residential development facilities for the secure parking and storage of cycles should be provided or, in exceptional circumstances where not provided, the design should facilitate the provision in future.”

The Council is developing a new Local Plan and will be reviewing all policies as part of that process.

3.6.7 Measure 7: Promotion of air quality issues

To monitor the impact of this Action Plan on the improvement of ambient air quality it is important that the District Council measures the air pollutant concentration and reports this into the public domain. With effective communications the District Council can raise awareness about the air pollution problem to encourage more sustainable travel in the AQMA. Thanet Council will continue to raise the level of knowledge of air pollution in across the district and release press statements when appropriate to promote sustainable travel options. Thanet Council will continue to undertake routine monitoring of air pollution in the existing AQMA and locations around the District and increase the number of monitoring points as necessary. Thanet Council will continue to report progress on air pollution monitoring.

3.6.8 Measure 8: Parking Enforcement

Unlawful and indiscriminate on-street parking in Birchington and St Lawrence exacerbates the traffic flow constraints and resulting air quality problems in the AQMA by obstructing the highway and causing congestion. Thanet District Council will tackle illegal on-street parking and help reduce congestion problems.

Thanet District Council Parking Strategy (currently at consultation stage) will ensure adequate enforcement of unlawful on-street parking in the vicinity of The Square, Birchington and St Lawrence to help relieve congestion problems.

3.6.9 Measure 9: Control of Industrial Emissions

Thanet District Council regulates 33 installations under the Environmental Permitting regime. The installations range from petrol stations, dry cleaners as well as other potential air pollution sources i.e. cement batching processes, concrete crushing, the cremation, ink manufacture and coatings of metal and plastic processes. These processes are controlled to minimise emissions and must meet the standards set out in Defra's Process Guidance notes and implement the Best Available Techniques (BAT) to control their emissions. Any installation that emits oxides of nitrogen and lies within the urban AQMA and adversely impacts on nitrogen dioxide levels will be subject to more stringent controls that go beyond BAT.

With the 'Polluter Pays Principle' in mind, revenue from the annual subsistence fees will be utilised to fund measures in this action plan with particular focus on assisting local schools to promote walking and cycling. This is particularly important since the reduced assistance from KCC and the loss of the School Travel Planning team (see measure 4 above).

3.6.10 Measure 10: Feasibility Studies and Funding

In preparing this Action Plan the District Council and the County Council have not had all relevant traffic data available to undertake a detailed analysis of all measures. Target emission reductions for each measure that have been derived are therefore uncertain for some measures and have been based on judgement and available information. It is therefore important that the Councils undertake some further feasibility studies for example to determine if junction alteration (measure 1) is appropriate. Funding streams have to be identified to enable such feasibility studies.

Thanet District Council and Kent County Council will work together to undertake identified feasibility studies of measures to determine more robustly the effectiveness and cost of options. These feasibility studies will require traffic counts to be undertaken which will be used in transport modelling to investigate the impact of the measure on traffic flows and emission reduction.

Table 5 Summary of the measures included in the Action Plan for the Thanet Urban AQMA.

No	Measure description	Focus	Lead Authority	Planning phase	Implementation phase	Indicator	Target emission reduction
1	Investigate Traffic Signal and Junction Configuration	Reduce queuing traffic at the lights	KCC/TDC	2011/12	2012-2015	Peak queue lengths	To be confirmed on completion of feasibility study (~10%)
2	Improving movement of freight	Update Freight Strategy and develop Freight Quality Partnership to reduce HGV movements Vehicles Emissions Study	KCC/TDC	2011/12	2012-2013	% HGV on roads through AQMA	2%
3	Encouragement of public transport use	Reduce emissions from buses through the District through development of bus quality partnerships	KCC/TDC	2012	2012-2015	Number of Euro IV or above buses, bus patronage, number of bus infrastructure improvement projects	5%
4	Car sharing and travel planning	Reduce car trips	TDC/KCC	2011/12	2012-2013	Number of registered users of scheme or travel plan	2%
5	Promotion of cycling and walking	Reduce traffic flows through the AQMA	TDC/KCC	2011/12	2012	Number of cyclists/walkers	1%
6	Development planning	Avoid worsening AQ and open the S106 funding stream	TDC	2011/12	2011/12	Kent wide Supplementary Planning Document on Air Quality adoption and	1%

Thanet District Council Air Quality Action Plan

						use of S106 funds in implementing the Action Plan	
7	Promotion of air quality issues	Reduce traffic flows in AQMA	TDC	2011/12	2012	Number of press releases, reports on websites	-
8	Parking Enforcement	Reduced congestion	TDC	2012	2013	Number PCN served	-
9	Control of Industrial Emissions	Apply BAT to all Environmental Permits with particular focus on nitrogen dioxide emitting installations. Re-allocation of annual subsistence fees to fund AQAP	TDC	2013	2013/14	Number of AQ initiatives funded.	-
10	Feasibility Studies and Funding	To fully understand the impact of identified measures	TDC	2011/12	2012	Feasibility studies completed	-

4 Implementation Plan

4.1 Consultation

Consultees for the Action Plan

This Action Plan will be issued to the following consultees and as appropriate, the plan will be amended to reflect their views and comments.

All properties in the Air Quality Management Areas
Kent County Council
Defra
All Parish and Town Councils within the Thanet District
Local Chambers of Commerce
Federation of Small Businesses
Bus Operators in Thanet
Neighbouring District Councils
All Thanet District Council Departments
Highways Agency
Environment Agency
English Nature
Freight Transport Association

Monitoring the Action Plan: The Action Plan will be monitored annually and the results collated for the yearly progress report on the implementation of the plan.

5 Conclusions

This Action Plan describes the air quality assessment process that has taken place in Thanet to date, identifies the role of traffic in the current problem and sets out a range of transport-focussed measures that could help improve air quality. In total, 10 measures have been recommended for implementation or further feasibility study. Some of these are based on measures already under consideration, and have been drawn from existing plans and policies. Additional measures have been suggested to complement planned and ongoing activity.

The objective of this Action Plan is to improve air quality at the Birchington and St Lawrence exceedance area and throughout the Thanet urban AQMA to work towards meeting the national air quality objective for the protection of human health. To this end, target emission reductions for the measures have been estimated and indicators to demonstrate progress have been identified. Prior to the implementation of this Action Plan a public and stakeholder consultation was undertaken.

6 Glossary of Terms

Abbreviation	Full name
AQMA	Air Quality Management Area
AQS	Air Quality Strategy
BAT	Best Available Technology
DEFRA	Department for Environment, Food and Rural Affairs
DETR	Department for Transport and Regions
DOE	Department of the Environment
HGV	Heavy goods vehicles
KCC	Kent County Council
K&MAQN	Kent & Medway Air Quality Network
K&MAQP	Kent & Medway Air Quality Partnership
LA21	Local Agenda 21
LAQM	Local air quality management
LDD	Local Development Documents
LDF	Local Development Framework
LEZ	Low Emission Zone
LTP	Local Transport Plan
NAQS	National Air Quality Strategy
NO ₂	Nitrogen dioxide
NO _x	Oxides of nitrogen
NSCA	National Society for Clean Air
PM ₁₀	Fine particle matter less than 10µm diameter
µg/m ³	Micrograms per cubic metre
TDC	Thanet District Council
UTMC	Urban Traffic Management Control
VMS	Variable Message Signage

Appendices

Appendix 1: UK air quality standards and objectives

Appendix 1 - UK air quality standards and objectives

Objectives included in the Air Quality Regulations 2000 and (Amendment) Regulations 2002 for the purpose of Local Air Quality Management

Pollutant	Air Quality Objective		Date to be achieved by
	Concentration	Measured as	
Benzene All authorities	16.25 µg/m ³	running annual mean	31.12.2003
Authorities in England and Wales only	5.00 µg/m ³	annual mean	31.12.2010
Authorities in open areas and coastal areas should be cleaner as air changes more frequently and Northern Ireland only	3.25 µg/m ³	running annual mean	31.12.2010
1,3-Butadiene	2.25 µg/m ³	running annual mean	31.12.2003
Carbon monoxide Authorities in England, Wales and Northern Ireland only	10.0 mg/m ³	maximum daily running 8-hour mean	31.12.2003
Authorities in Scotland only	10.0 mg/m ³	running 8-hour mean	31.12.2003
Lead	0.5 µg/m ³ 0.25 µg/m ³	annual mean annual mean	31.12.2004 31.12.2008
Nitrogen dioxide^{b,e}	200 µg/m ³ not to be exceeded more than 18 times a year 40 µg/m ³	1 hour mean annual mean	31.12.2005 31.12.2005
Particles (PM₁₀) (gravimetric)^c All authorities	50 µg/m ³ not to be exceeded more than 35 times a year 40 µg/m ³	24 hour mean annual mean	31.12.2004 31.12.2004
Authorities in Scotland only ^d	50 µg/m ³ not to be exceeded more than 7 times a year 18 µg/m ³	24 hour mean annual mean	31.12.2010 31.12.2010
Sulphur dioxide	350 µg/m ³ not to be exceeded more than 24 times a year 125 µg/m ³ not to be exceeded more than 3 times a year 266 µg/m ³ not to be exceeded more than 35 times a year	1 hour mean 24 hour mean 15 minute mean	31.12.2004 31.12.2004 31.12.2005

b. The objectives for nitrogen dioxide are provisional.

c. Measured using the European gravimetric transfer standard sampler or equivalent.

d. These 2010 Air Quality Objectives for PM₁₀ apply in Scotland only, as set out in the Air Quality (Scotland) Amendment Regulations 2002.

e. The annual average and 1 hour average nitrogen dioxides objectives are the same as the EU Limit Values but the EU Limit Values have to be achieved by the 1 January 2010 and maintained thereafter

Efforts to achieve these objectives should be focussed on locations where members of the public are likely to be exposed over the averaging period of the objective. The table below summarises the locations where these objectives should and should not apply.

Typical locations where the objectives should and should not apply			
Averaging Period	Pollutants	Objectives <i>should</i> apply at ...	Objectives should <i>not</i> generally apply at ...
Annual mean	1,3 Butadiene	All background locations where members of the public might be regularly exposed.	Building facades of offices or other places of work where members of the public do not have regular access.
	Benzene	Building facades of residential properties, schools, hospitals, libraries etc.	Gardens of residential properties.
	Lead		Kerbside sites (as opposed to locations at the building facade), or any other location where public exposure is expected to be short term
	Nitrogen dioxide		
	PM ₁₀		
24-hour mean and 8-hour mean	Carbon monoxide	All locations where the annual mean objective would apply.	Kerbside sites (as opposed to locations at the building facade), or any other location where public exposure is expected to be short term.
	PM ₁₀	Gardens of residential properties	
	Sulphur dioxide		
1 hour mean	Nitrogen dioxide	All locations where the annual mean and 24 and 8-hour mean objectives apply.	Kerbside sites where the public would not be expected to have regular access.
	Sulphur dioxide	Kerbside sites (e.g. pavements of busy shopping streets). Those parts of car parks and railway stations etc. which are not fully enclosed. Any outdoor locations to which the public might reasonably be expected to have access.	
15 minute mean	Sulphur dioxide	All locations where members of the public might reasonably be exposed for a period of 15 minutes or longer.	

Appendix 2 – Kent and Medway Air Quality Partnership Air Quality and Planning Technical Guidance

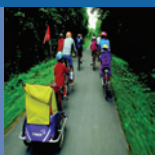
If you would like a copy of this document in a different format such as Braille, audio or large print, or in another language please call
01843 577165





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

July 2011



1	Introduction	1
	Background	1
	Purpose of the Guidance	1
	Local Air Quality Management	1
	Planning Policy	2
2	Air Quality Assessments for Planning Applications	4
	Introduction	4
	Developments that require an Air Quality Assessment	5
	General Principles of Air Quality Assessments	6
	Choosing a Suitable Method of Assessment	8
	Model Input Data	9
	Pollutant-Specific Concerns	10
	Model Output Area	11
	Model Verification	12
	Determining Significant Impacts on Air Quality	12
3	Mitigation of Air Quality Impacts	14
	Introduction	14
	Construction Phase	14
	Design of the Development	14
	Planning Conditions and Planning Obligations/Section 106	16
4	Glossary	19
5	References	20
■	Appendices	
A	The Air Quality Strategy for England, Scotland, Wales and Northern Ireland Air Quality Objectives July 2007	21
B	Pollutants of Concern	23
C	Map of the Air Quality Management Areas in Kent and Medway	25
D	The Planning Context	26
E	Air Quality Assessment Toolkit	30
F	AQMAs in Kent and Medway (July 2011)	40
G	Kent and Medway Network Automatic Air Quality Network Sites	43
H	Examples of Conditions/S106 Agreements used in the County	46
I	Contacts	48



1 Introduction

Background

1.1 Clean air is one of the basic essentials of life. Within Kent⁽¹⁾ 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⁽²⁾. 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)⁽³⁾ 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⁽⁴⁾, 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⁽⁵⁾ later amended in 2002⁽⁶⁾. 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 - PM₁₀ and PM_{2.5} 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 (NO₂) and or particulate matter (PM₁₀) and sulphur dioxide (SO₂), 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 SO₂ and Northfleet Industrial Area due to fugitive PM₁₀ 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⁽⁷⁾ 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"⁽⁸⁾. 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

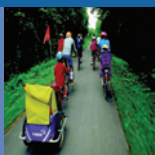
8 *ibid*, para 9.



1.9 The Regional Spatial Strategy (RSS), remains a material consideration until the Localism Bill is enacted later in 2011⁽⁹⁾. 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 PM₁₀, 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⁽¹⁰⁾. 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;

¹⁰ 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)⁽¹¹⁾.

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⁽¹²⁾ 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⁽¹³⁾ 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⁽¹⁴⁾ 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)⁽¹⁵⁾ 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⁽¹⁶⁾.

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)⁽¹⁷⁾ 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⁽¹⁸⁾ 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⁽¹⁹⁾.

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⁽²⁰⁾ 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)⁽²¹⁾. 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

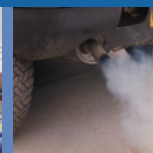
2.17 A Detailed Assessment is appropriate:

- 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)⁽²²⁾ 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⁽²³⁾.

2.19 Kent County Council on behalf of the Kent and Medway Air Quality Partnership have acquired the ADMS Urban⁽²⁴⁾ 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⁽²⁵⁾.

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⁽²⁶⁾. 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)

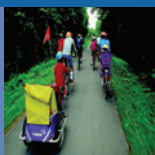
22 Local Air Quality Management Technical Guidance. LAQM.TG (09), Defra 2009.

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

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⁽²⁷⁾ 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](#)⁽²⁸⁾ www.kentair.org or, if not available, from the [National Air Quality Archive](#)⁽²⁹⁾. Background emissions data can also be gathered from the [National Atmospheric Emissions Inventory database](#)⁽³⁰⁾. 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

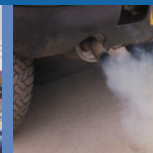
2.28 If a development is either expected to increase traffic volume or alter the types of traffic (e.g. increase in HGVs), PM₁₀ and NO₂ would normally be modelled, since widespread exceedences of these pollutants are predicted across many of Kent's major roads, and motor vehicles are a significant source 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, SO₂ and NO₂ should be considered for an oil-burning process or benzene from a petrol station or refinery or PM₁₀ and NO₂ from a biomass plant or PM₁₀ from a minerals facility). Appendix B provides further details on the pollutants of concern with respect to local air quality.

Nitrogen dioxide (NO₂)

- The chemistry scheme set-up in the model and the NO_x:NO₂ conversion scheme used should be detailed in the report (see LAQM.TG(09); and subsequent revised calculators);
- The objective for NO₂ that is likely to be hardest to meet is the annual mean objective.

Fine particulates (PM₁₀)

- The objectives for PM₁₀ are based on a gravimetric measurement. Any PM₁₀ modelling study should present results as a gravimetric equivalent. Projection of PM₁₀ for future years should follow the Defra guidance LAQM.TG (09), with consideration to primary, secondary and coarse PM₁₀ components.
- The objective for PM₁₀ that is likely to be hardest to meet is the 24-hour mean objective.

Sulphur dioxide (SO₂)

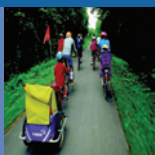
- The objective for SO₂ that is likely to be hardest to meet is the 15-minute objective. The assessment should demonstrate that the modelling methodology provides a reasonable assessment against the short-term objectives.

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)⁽³¹⁾. 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)⁽³²⁾. 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⁽³³⁾. 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⁽³⁴⁾. 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 CO₂ 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⁽³⁵⁾. 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⁽³⁶⁾ which aims to reduce CO₂ 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⁽³⁷⁾ 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 1,000m². 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 CO₂ 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)⁽³⁸⁾ 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⁽³⁹⁾ 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.

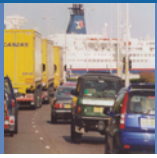
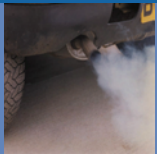
3.9 In the light of current Government policy, it is particularly important that climate change and air quality policies are joined up and that combustion processes such as biomass plants are used in the right place, and not in an area where such technology is likely to lead to poor

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, PM₁₀ and NO₂ 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 CO₂. The supplement to Planning Policy Statement 1⁽⁴⁰⁾ 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.

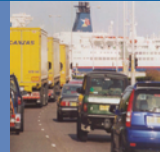
3.12 The design of development is an area that is subject to rapid change with the Government's desire for zero-carbon homes and with national and local policy regularly being updated. Through the preparation of LDFs, each local planning authority may set its own standards which may be more onerous than 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⁽⁴¹⁾ (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⁽⁴²⁾. 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⁽⁴³⁾, 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)⁽⁴⁴⁾ 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⁽⁴⁵⁾.

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

41 except where exemptions apply e.g affordable housing

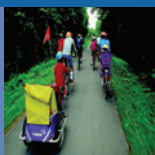
42 <http://www.communities.gov.uk/corporate/>

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 CO₂ 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⁽⁴⁷⁾.

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⁽⁴⁸⁾.

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
AQMA	Air Quality Management Area
AQAP	Air Quality Action Plan
ADMS URBAN	Atmospheric Dispersion Model
CIL	Community Infrastructure Levy
CHP	Combined Heat and Power
DEFRA	Department of Environment Food and Rural Affairs
DfT	Department for Transport
EPUK	Environmental Protection UK (formerly National Society for Clean Air (NSCA))
KCC	Kent County Council
KMAQMN	Kent and Medway Air Quality Monitoring Network
KMAQP	Kent and Medway Air Quality Partnership
LAQM	Local Air Quality Management
LDD	Local Development Documents
LDF	Local Development Frameworks
LDV	Light Duty Vehicles
LTP	Local Transport Plan
NAQS	National Air Quality Strategy
NAQO	National Air Quality Objective
NO₂	Nitrogen dioxide
NO_x	Oxide of nitrogen
O₃	Ozone
PM_{2.5}	Fine particles (less than 2.5µg in diameter)
PM₁₀	Fine particles (less than 10µg in diameter)
SO₂	Sulphur dioxide
µg/m³	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 ³ not to be exceeded more than 35 times/year	15 minute mean	31 st Dec 2005		
	350µg/m ³ not to be exceeded more than 24 times a year	1 hr mean	31 st Dec 2004	350µg/m ³ not to be exceeded more than 24 times a year	1 st Jan 2005
	125µg/m ³ not to be exceeded more than 3 times a year	24hr mean	31 st Dec 2004	125µg/m ³ not to be exceeded more than 3 times a year	1 st Jan 2005
PAH's*	0.25ng/m ³ B[a]P	Annual Average	31 st Dec 2004	Target of 1ng/m ³	31 st Dec 2012
Benzene	16.25µg/m ³	Running annual mean	31 st Dec 2003		
	5µg/m ³	Annual Average	31 st Dec 2010	5µg/m ³	1 st Jan 2010
1, 3 Butadiene	2.25µg/m ³	Running annual mean	31 st Dec 2003		
	10µg/m ³	Max daily running 8 hour mean	31 st Dec 2003	10µg/m ³	1 st Jan 2005
Carbon Monoxide	0.5µg/m ³	Annual mean	31 st Dec 2004	0.5µg/m ³	1 st Jan 2005
	0.25µg/m ³	Annual mean	31 st Dec 2008		

Pollutant	Objective	Concentration	Date	European Obligations	Date to be achieved
Particles PM ₁₀	50µg/m ³ not to be exceeded more than 35 times a year	24 hr mean	31 st Dec 2004		
	40µg/m ³	Annual mean	31 st Dec 2004	40µg/m ³	1 st Jan 2005
Particles PM _{2.5} * (Exposure Reduction)	25µg/m ³	Annual mean	2020	Target value 25µg/m ³	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 ₂)	200µg/m ³ not to be exceeded more than 18 times a year	1 hour mean	31 st Dec 2005		1 st Jan 2010
	40µg/m ³	Annual mean	31 st Dec 2005	40µg/m ³	1 st Jan 2010
Ozone*	100µg/m ³ not to be exceeded more than 10 times a year	8 hour mean	31 st Dec 2005	Target of 120µg/m ³ not to be exceeded more than 25 times a year averaged over 3 years.	31st Dec 2010

* not prescribed for Local Air Quality Management

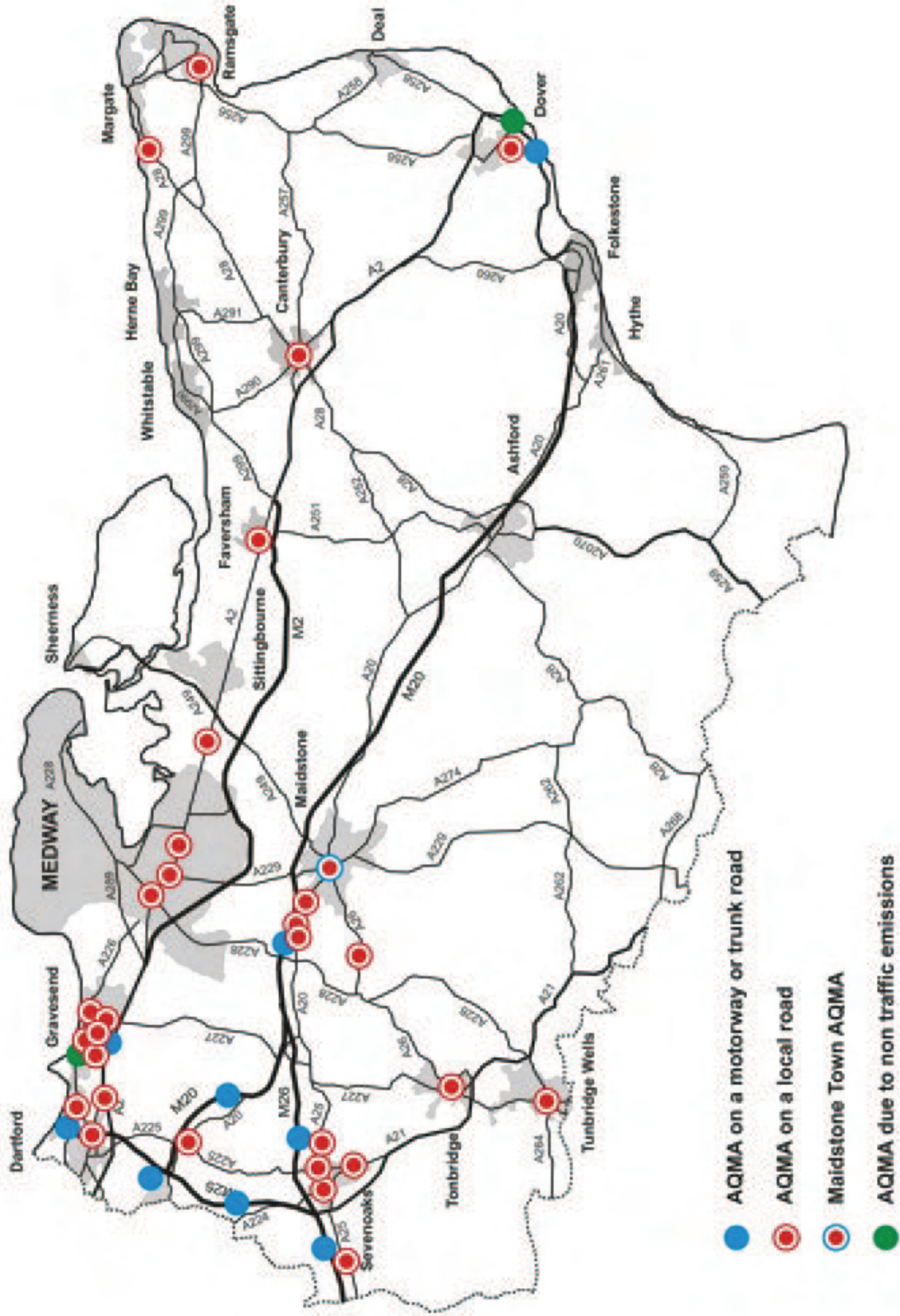
B Pollutants of Concern

Pollutant	Source	Health effects
Nitrogen dioxide (NO ₂)	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 ₁₀)	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 ₂)	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

29

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.



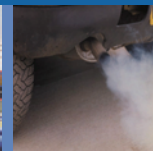
E Air Quality Assessment Toolkit

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.

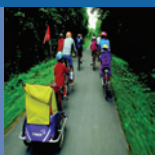
Description	Criteria
Locality of development	<ul style="list-style-type: none"> • Developments within or which may impact on sensitive areas or areas of poor air quality e.g. Air Quality Management Areas. • Introduction of new relevant exposure where potential existing pollution sources occur e.g. residential development in an industrial/commercial area. • Along roads with narrow streets (street canyons) and stationary or queuing traffic.
Nature of development	<ul style="list-style-type: none"> • New industrial development (e.g. boiler plant/energy production/permitted installations/authorised processes); • New rail, road building and signalling, bridge, tunnel, port or airport developments; • Waste handling activities; • Minerals development; • Significant heating plant.
Scale of development	<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"> • <i>commercial development with a gross floor space of >1000m²;</i> • <i>Residential development with >80 residential units.</i>
Traffic Impact Assessment	<p>For roads >10,000 annual average daily traffic (AADT) flows:</p> <ul style="list-style-type: none"> • Traffic volume change of >5%; • Traffic speed change of 10kph.



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).
Parking spaces	100 parking spaces (outside an AQMA) and 50 parking spaces (inside an AQMA) ⁽⁴⁹⁾ .
Construction Impacts <ul style="list-style-type: none"> Nature and scale of development Timescale and phasing 	<p>Developments with significant dust potential where relevant exposure. Proximity of nearby residents <200m.</p> <p>Significant scale of demolition/construction phase.</p> <p>Risk category: HIGH.</p> <ul style="list-style-type: none"> Development of over 15,000m² of land, or; Development of over 150 properties or; Potential for emissions and dust to have significant impact on sensitive receptors or; Major development as defined by a Kent and Medway authority. <p>Length of time >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
Locality of development	<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>
Nature and scale of development	Type of development e.g. mixed-use, residential, commercial. The number of residential units proposed and commercial floor space.
Timescale and phasing	The proposed year(s) development is due to take place and any phasing of development stages.



Information Required	Description
Traffic Impact Assessment	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.
Parking spaces	The number of parking spaces that are proposed.
Road Access	Information on any alteration to the access roads, or road layouts as result of the development.
Energy usage	The planned source of energy and number of appliances. CHP, individual boilers, use of biomass.
Committed developments	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

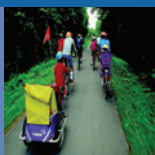
Information Required	Description
Air quality model to be used	Identify whether a detailed dispersion model or screening assessment model is appropriate. Provide details of the model being proposed and why it's appropriate.
Emissions factors	Identify appropriate emissions factors to be used.
Traffic data	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
Meteorological Data	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.
Background Source Data	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
<i>Pollutants to be modelled</i>	What pollutants are required to be modelled, taking into account the end use and local air quality constraints.
<i>Model output</i>	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.
<i>How will the model be verified</i>	Comparison against recent local monitoring data. Suitable roadside sites for verification to be agreed.
<i>Assessment of construction and demolition dust</i>	Identification of risk. Proposed mitigation measures.

Checklist 4: Basic Requirements for Air Quality Assessments

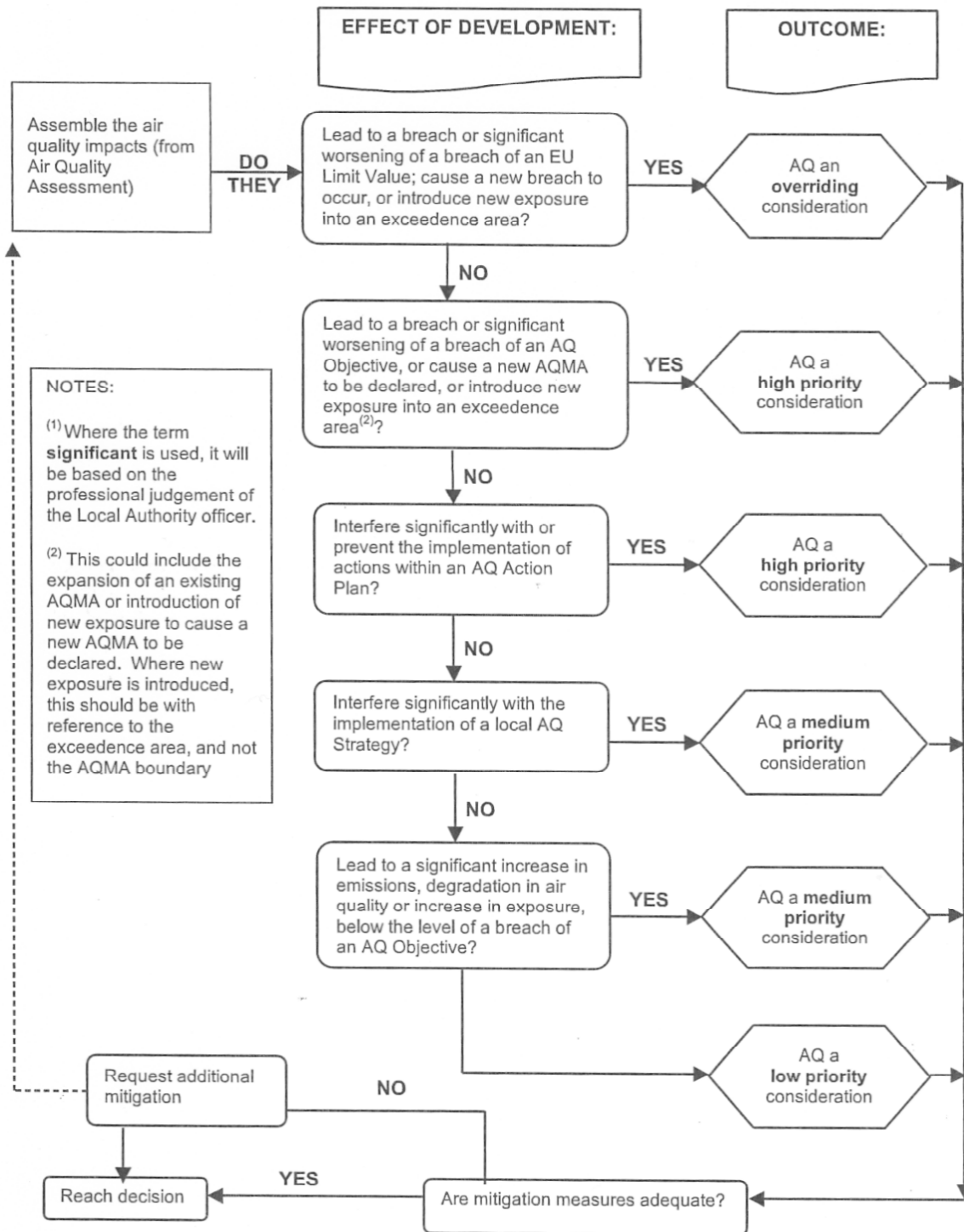
Requirement	Commentary
Determine the type of Assessment <ul style="list-style-type: none"> Screening Assessment Detailed Assessment 	<ul style="list-style-type: none"> Screening Assessments are simple modelling assessments for small-scale developments where no air quality constraints have been identified; Detailed Assessments involve complex dispersion modelling and/or monitoring assessments, as required for larger potentially polluting developments and where poor air quality exists.
Choice of model	<ul style="list-style-type: none"> Examples - DMRB for road transport screening assessment; detailed dispersion model, e.g. ADMS, for a detailed assessment.
Assessment of baseline conditions	<ul style="list-style-type: none"> Refer to local authority review and assessment work and local monitoring data; Identify areas of air quality constraint relative to the development.
Pollutants to be modelled	<ul style="list-style-type: none"> Dependant on the emission source. NO₂ and PM₁₀ for road traffic assessments.
Choice of receptors	<ul style="list-style-type: none"> Representative of relevant exposure as per Defra Technical Guidance; Coverage over the expected area of impact of the development.

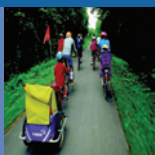


Requirement	Commentary
Model Input requirements Emissions factors	<ul style="list-style-type: none"> • Latest DfT vehicle emissions factors to be used for road traffic impacts; • NAEI or locally derived factors to be clearly stated.
Traffic data	<ul style="list-style-type: none"> • All traffic count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



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 ⁽⁵⁰⁾ .	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

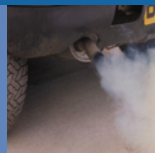
Tasks to assess	Comments
Modelling	
<ul style="list-style-type: none"> Model to be used in the assessment? 	Description of model and justification for its use. Detailed assessments should be undertaken using approved dispersion models; DMRB may be suitable for screening assessments.
<ul style="list-style-type: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

50 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.

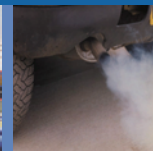


Tasks to assess	Comments
<ul style="list-style-type: none"> Adequacy of input data? 	
<ul style="list-style-type: none"> Traffic & emissions data? 	<p>Recent baseline counts required; preferably within last 5 years. Correct projection factors used for projecting traffic count data to 24 hour AADT and to future years using appropriate methodology e.g. Tempro. ⁽⁵¹⁾ 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"> Meteorological data? 	<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"> Background concentrations? 	<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"> NO_x: NO₂ relationship? 	<p>Appropriate consideration to local NO_x: NO₂ relationship required through latest Defra NO_x: NO₂ recommended calculations or local monitoring data.</p>
<ul style="list-style-type: none"> Receptor locations? 	<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"> Other relevant input data? 	<p>Building height data for street canyons.</p>
Monitoring	
<ul style="list-style-type: none"> Local baseline monitoring information included? 	<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"> Monitoring locations described? 	<p>Pollutants monitored, site type, site description, grid references.</p>
<ul style="list-style-type: none"> Relevant exposure considered? 	<p>Sites representative of relevant exposure? Façade projections for kerbside sites?</p>
<ul style="list-style-type: none"> QA/QC information provided? 	

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"> Bias adjustment of NO₂ tubes provided? 	<p>Preference for local authority co-location study. Otherwise utilise relevant Review and Assessment website bias factor</p> <p>http://www.uwe.ac.uk/aqm/review/mguidance.html#Bias Adjustment).</p>
<ul style="list-style-type: none"> Other QA/QC information provided? 	<p>Data capture above recommended 90%? Data ratified?</p>
Presentation of Results	
<ul style="list-style-type: none"> Appropriate pollutants and/or objectives considered? 	<p>Significant pollutants for road traffic assessments are NO₂ and PM₁₀; Annual mean objective for NO₂ and 24 hour mean objective for PM₁₀ are the most likely to be exceeded. For industrial assessments, short term objectives are the most significant e.g. 15 minute SO₂, hourly NO₂ or 24 hour mean PM₁₀.</p>
<ul style="list-style-type: none"> Correct units? 	<p>Units should be provided in µg/m³.</p>
<ul style="list-style-type: none"> Changes in emissions (source, pollutants, time period) and likely magnitude of concentrations as a result of development reported? 	
<ul style="list-style-type: none"> Impact in relation to air quality objectives and EU Limit Values? 	
<ul style="list-style-type: none"> Significance of impact described? 	<p>Use of methodology described in Checklist 5 and standard descriptors in EPUK Planning Guidance (2010).</p>
<ul style="list-style-type: none"> Potential impact on neighbouring local authorities (some evidence of consideration at least)? 	
Other information to be included	
<ul style="list-style-type: none"> Description of proposals? 	<p>Type, scale, location, timescales/phasing of development proposal.</p>



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

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

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

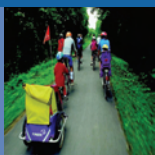
District	Air Quality Management Area	Date	Pollutants	Responsible Bodies
Tonbridge and Malling	M20	May 2001	NO ₂ & PM ₁₀	TMBC/Highways Agency
	Tonbridge High Street	June 2005	NO ₂	TMBC/KCC
	A26 Tonbridge Road/Red Hill Wateringbury	June 2005	NO ₂	TMBC/KCC
	London Road/Station Road, Ditton	June 2005	NO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

G Kent and Medway Network Automatic Air Quality Network Sites

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

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

ZH2	Thanet Background	Margate	NO _x		Background	14 Feb 01	Salmestone School Margate	College Road
ZH5	Thanet Roadside	Birchington	NO _x PM ₁₀		Roadside	19 Mar 07	The Square, Birchington	
ZH4	Thanet Roadside	Ramsgate	NO _x PM ₁₀		Roadside	01 Jan 03	Boundary Road, Ramsgate	
ZT2	Tunbridge Wells Town Centre		NO _x		Background	30 Mar 97	Town Hall, Tunbridge Wells	
ZT4	Tunbridge Wells Roadside	Wells A26	NO _x PM ₁₀		Roadside	20 June 05	A26 St Johns Road	Tunbridge Wells
ZT5	Tonbridge Roadside 2		NO _x		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.

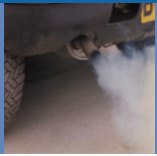


For further examples of conditions/S.106 Agreements, please refer to the EPUK Guidance on Development Control: Planning for Air Quality (2006) and Defra & Low Emissions Strategy Partnership Guidance 'Low Emission Strategies:Using the Planning System to Reduce Transport Emissions. Good Practice Guidance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

47

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



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](#)

