

11. Air Quality Strategy

11.1 Introduction and Overview

Air quality is a key issue for society. It has the potential to impact on human health and the environment. Air quality is largely determined by the emissions from activities such as energy production, industrial processes and road transport. These activities contribute a variety of pollutants at differing concentrations into the air.

Poor air quality can be particularly harmful for the most vulnerable members of society such as young children, the elderly and those with pre-existing illnesses such as asthma, heart disease or other cardio-respiratory conditions. Exposure to poor air quality, particularly over a long period and at elevated concentrations, is believed to play a role in diseases such as asthma and cancer. Depending on the pollutant type, exposure to high levels over short time scales can lead to difficulties in breathing and acute symptoms such as wheezing, coughing, headache and nausea.

Poor air quality does not just impact upon human health. Air pollution can also have an adverse effect upon wildlife and vegetation, including crops. Some pollutants contribute to acid rain which can erode the facades of buildings and other structures. Certain pollutants (specifically carbon dioxide in relation to road transport) are now known to directly contribute to global climate change.

Activities such as those highlighted above can also affect the immediate environment and human health on a local scale. An Air Quality Strategy for Warwickshire will help to manage potentially polluting actions and activities, particularly the use of road transport and its impact on air quality. It is hoped that this will lead to a healthier environment, as well as encouraging more sustainable patterns of travel.

The Air Quality Strategy aims to focus on air quality issues within Warwickshire, drawing strong links with the five District/Borough Councils (in their role as the local Environmental Health Authorities), whilst also taking into account regional considerations and the UK National Air Quality Strategy objectives. The Government's targets on reducing greenhouse gas (carbon dioxide) emissions are also taken into consideration, as is the promotion of more sustainable lifestyles.

The Strategy focuses on road transport as this is the main contributor of polluting emissions in Warwickshire, and puts forward an Air Quality Action Plan for reducing these emissions. Many of the schemes and initiatives outlined in the Action Plan have common, interlinked approaches, answering directly to the most relevant air quality issues in the County, often seeking the same end result. Many of them also complement the wider objectives of the LTP.

Improving local air quality delivers a number of benefits, the most important of which is the improvement of health and quality of life. In addition to influencing air quality, transport policy can determine other benefits including the improvement of road safety, increased provision, security and comfort of public transport, public realm enhancements and the promotion of healthier lifestyles through the encouragement of walking and cycling. Addressing air quality issues can also help meet Government objectives on greenhouse gas emissions.

The Government has set out standards in legislation for seven key pollutants in its National Air Quality Strategy. The standards are in place to protect human health and are based on European legislation and guidance from organisations such as the World Health Organisation. In the UK each local authority is obliged to meet these standards within their respective areas.

The remainder of this Strategy sets out:

- The local, regional and national policy framework related to air quality;
- An overview of the current situation in terms of key pollutants and the geographical variances which exist across the County;
- The Air Quality Strategy developed in response to these issues;
- An Action Plan for delivering the Strategy; and
- Targets and Monitoring of the Action Plan.

11.2 The Policy Context

11.2.1 National Policy

The provisions of Part IV of the Environment Act 1995 establish a national framework for air quality management, which requires all local authorities in England, Scotland and Wales to conduct local air quality reviews. Section 82(1) of the Act requires these reviews to include an assessment of the current air quality in the area and the predicted air quality in future years. Should the reviews indicate that the standards prescribed in the UK Air Quality Strategy¹ and the Air Quality Standards Regulations 2007² will not be met, the local authority is required to designate an Air Quality Management Area (AQMA). Action must then be taken at a local level to ensure that air quality in the area improves. This process is known as 'local air quality management'.

National air quality policy comes in the form of the Local Air Quality Management Policy Guidance Note LAQM. PG(09), which provides guidance and assists local authorities in working towards meeting the UK air quality standards and objectives. LAQM. PG(09) also provides guidance on the development of local and regional air quality strategies. Chapter 5 of the document includes particular points of guidance such as:

- Co-operation between local authorities, neighbouring authorities and local authority departments in the devising of air quality strategies to ensure a fully-integrated, "corporate" approach;
- Linking strategies to other local initiatives and strategies;
- Linking the strategy to plans such as the Local Transport Plan;
- Setting out measures to maintain or further improve areas with existing air quality as well as seeking to improve areas with poor air quality; and
- Following the same principles in developing an air quality strategy as one would in developing an Air Quality Action Plan for an Air Quality Management Area.

Advice is also given in documents such as the National Society for Clean Air (NSCA) 'Planning for Air Quality, 2006 Update', which suggests that objectives and targets within schemes and initiatives are:

- Practicable, to ensure that they can actually be carried out as desired;
- Measurable, in order to determine their success;
- Set to be carried out within a reasonable timescale; and
- Have the involvement and support of key stakeholders as well as ensuring that the wider benefits of a Strategy are given greater emphasis to the public.

It is also recommended that longer-term objectives and targets be considered as well as the more medium and short-term ones.

¹ DEFRA, The Air Quality Strategy for England, Scotland, Wales and Northern Ireland, 2007.

² DEFRA, The Air Quality Standards Regulations 2007.

UK national policy also exists in terms of climate change and the emission of greenhouse gases. Following the Kyoto Protocol, the UK Government committed itself to reducing carbon dioxide emissions by 20% below 1990 levels by 2010, and to cut overall greenhouse gas emissions by 12.5% below 1990 levels by 2008 – 2012. The Government has now set a long term aim of reducing CO₂ levels by 80% by the year 2050. This Strategy and the wider proposals in the LTP have a key role to play in meeting these targets.

In terms of the national transport goals and challenges, the Air Quality Strategy is directly relevant in the following areas:

- **Tackling Climate Change:** Deliver quantified reductions in greenhouse gas emissions within cities and regional networks, taking account of cross-network policy measures;
- **Contributing to better safety, security and health:** Reduce the social and economic costs of transport to public health, including air quality impacts; and
- **Improving Quality of Life:** Minimise the impacts of transport on the natural environment, heritage and landscape and seek solutions that deliver long-term environmental benefits.

11.2.2 Regional Policy

There are a number of regional policies in the West Midlands Regional Spatial Strategy relating directly to transport and therefore impacting on air quality. Policies include reducing the need to travel (Policy T2), delivering improvements for walking and cycling (Policy T3) and promoting travel awareness (Policy T4).

Other policies that have positive implications for air quality include improving access to public transport (Policy T5), putting in place Strategic Park and Ride schemes where viable (Policy T6), managing the demand for travel (Policy T8) and addressing the impact of freight, particularly in terms of encouraging the movement of goods by rail (Policy T10).

11.3 Overview of the Current Situation

11.3.1 Key Pollutants

There are seven key pollutants considered in the UK Air Quality Strategy, each of which has a specific threshold of concentrations in the air to protect human health. All of these substances are present in the atmosphere at background levels. It is human activities that contribute to an excess or elevated concentrations of these substances in quantities enough for them to become polluting. These seven pollutants, including their primary sources and effects are briefly described below.

11.3.2 Nitrogen dioxide

The main source of nitrogen dioxide (NO₂) in the UK is road transport (around 43% of total emissions). It is the primary pollutant of concern in Warwickshire and gives rise most frequently to the declaration of Air Quality Management Areas.

The health effects of exposure to nitrogen dioxide at levels above normal ambient concentrations include irritation of the lungs and an increase in the symptoms felt by those with existing lung conditions such as asthma and also those with heart conditions. Exposure of young children to high levels of nitrogen dioxide can increase the risk of respiratory conditions and can even limit lung growth, leading to poor lung function in the long-term.

11.3.3 Particulate Matter (PM₁₀)

Particles less than 10 µm (0.01 mm) are considered a pollutant because they are easily inhaled into the human lungs and airways, potentially causing damage. In Warwickshire there are currently no exceedances of the PM₁₀ objective, although it is still a pollutant of some concern in parts of the County.

11.3.4 Carbon Monoxide

Carbon monoxide levels have dropped considerably in the UK in the last 35 years and it is not a significant pollutant for Warwickshire.

11.3.5 Benzene

Benzene levels in Warwickshire are appreciably below the UK objective and this is not considered to be a pollutant of concern in the County.

11.3.6 1,3-Butadiene

1,3-butadiene levels in Warwickshire are not significant.

11.3.7 Lead

As a result of the introduction of unleaded fuels and the catalytic converter the emissions of lead from road transport have significantly reduced in the last 35 years. As such lead is not an air pollutant of significant concern in Warwickshire.

11.3.8 Sulphur Dioxide

The principal sources of sulphur dioxide in the UK are energy production and industrial combustion, and road transport is a comparatively insignificant source.

11.4 Air Quality in Warwickshire

Air quality across Warwickshire is generally good. There are a number of areas however where the air quality objective for nitrogen dioxide is not being met. In these locations Air Quality Management Areas (AQMA) have been declared by the relevant District/Borough Council. In each of these AQMAs, road transport has been identified as the most significant contributor to elevated air pollution levels. The County Council, as Highway Authority, has assisted in the preparation of Air Quality Action Plans (AQAPs) to address these AQMAs during LTP2. These draw extensively upon the existing strategies and proposals contained within the Local Transport Plan. In line with Government guidance we have fully integrated the existing AQAPs into this LTP. The general policies and action plan which can be found towards the end of this strategy will be used to form the basis of subsequent AQAPs as they come forward within the County.

11.4.1 North Warwickshire Borough

A declared AQMA for NO₂ at Coleshill in North Warwickshire has been in place since March 2001, and relates to one residential property adjacent to Junction 4 of the M6 where it intersects with the A446 and the M42. The AQMA is bounded by Stonebridge Road, Coleshill Heath Road, the M42, the M6 and M6 Toll, and relates directly to traffic on these motorways. The AQMA was originally declared for a marginal exceedance of the NO₂ objective.

The A446 has recently been detrunked, with responsibility passing to the County Council from the Highways Agency. However, given the predominant cause of the NO₂ exceedance being traffic levels on the M6 and M42, the Highways Agency has a key role to play in addressing the AQMA in partnership with the County Council and North Warwickshire Borough Council.

Following the declaration of the AQMA near Coleshill, an AQAP was prepared by North Warwickshire Borough Council in conjunction with the Highways Agency. This was finalised in March 2003, and is reproduced in full in Appendix C. Given that the AQMA is principally related to the volume of traffic on the surrounding motorway network, any measures to have a positive impact on air quality are largely outside the influence of either the Borough or County Council. The focus has therefore been on establishing a monitoring regime to accurately measure air quality, in order to ascertain a timescale for the possible revocation of the AQMA. It is hoped that the transfer of traffic to the M6 Toll, along with the recent introduction of Active Traffic Management on the M42 will have a positive impact on traffic levels in the vicinity of the AQMA. Over the last few years the levels of NO₂ monitored have decreased at the site. If this trend continues it is possible that levels could fall below the annual mean objective level for NO₂. If this occurs, the AQMA could potentially be revoked.

It is also worth noting that the affected farmhouse within the AQMA is currently unoccupied and has been so for the past year. Attempts have been made to contact the estate manager responsible for the property to establish its intended future use, but this has been to no avail. If the property remains unoccupied it could potentially fall into a state of disrepair and this could also possibly result in the AQMA being revoked.

11.4.2 Nuneaton and Bedworth Borough

Since the submission of LTP2, Nuneaton and Bedworth Borough Council has declared two AQMAs within the urban area of Nuneaton. The first is located on the A47 Old Hinckley Road/Leicester Road gyratory, immediately east of the railway station, and was declared in December 2006 for a marginal exceedance of NO₂. The AQMA includes a number of residential properties along with the Etone Comprehensive School. An Air Quality Action Plan was subsequently prepared by the Borough Council and the County Council, and is reproduced in full in Appendix C.

A second AQMA has recently been declared around the junction of Corporation Street/Central Avenue/Midland Road/Abbey Street close to the Nuneaton Ring Road. An AQAP is currently being prepared by the Borough Council and the County Council to address the AQMA.

11.4.3 Rugby Borough

An AQMA was declared for the whole of the urban area of Rugby in December 2004. The AQMA is bounded by the M6 to the north, the M1 to the east, and the A45 to the south. The actual exceedances of NO₂ recorded since 2004 generally occur within the urban area and are focused around the Warwick Street gyratory, Oliver Street, Corporation Street and Newbold Road. Recent monitoring undertaken by the Borough Council has highlighted that these exceedances have increased slightly due to the road closures for the construction of the Rugby Western Relief Road, other road works in and around the town centre, and the recent opening of the Swan Centre (Asda) off Corporation Street.

In September 2006, a working group was established to develop an AQAP for the AQMA, including representatives from both the Borough and County Council, and the local bus operator Stagecoach. The AQAP was adopted by the Borough Council in March 2008 following a period of consultation. A full copy of the AQAP is reproduced in Appendix C of the LTP.

11.4.4 Warwick District

There are currently four declared AQMAs within Warwick District. Three were declared in December 2004 in Warwick, Leamington Spa and Barford, the last of which has subsequently been revoked. Two further AQMAs were declared in Kenilworth in 2008.

The AQMA in Warwick has been extended from the original declaration, and now includes High Street up to the junction with Bowling Green Street, Theatre Street/Saltisford up to the junction with Vittle Drive, Northgate/The Butts, Smith Street and St Nicholas Church Street. This effectively means that the majority of the town centre core is covered by the AQMA.

The AQMA in Leamington Spa is located at the junction of High Street/Bath Street/Old Warwick Road/Clemens Street, and like Warwick it contains a substantial number of receptors including both residential and business properties.

On-going monitoring of the Barford AQMA following its declaration showed a substantial reduction in NO₂ levels following the opening of the A429 Barford Bypass in 2007. The AQMA was formally revoked in 2009.

The two AQMAs in Kenilworth are located on the Warwick Road between Waverley Road and Station Road in the town centre, and on New Street immediately east of the junction of Bridge Street, High Street, New Street and Fieldgate Lane.

An AQAP to cover the AQMAs in Warwick, Leamington Spa and Barford was prepared by the District Council and the County Council in 2008, a full copy of which is reproduced in Appendix C of the LTP. A revised AQAP for the District covering the two AQMAs that have recently been declared in Kenilworth will be prepared in Spring 2011.

Monitoring of air quality by the District Council in the Coventry Road/St Johns area of Warwick has indicated that it may be necessary to declare a further AQMA within the town. Subject to this proceeding, it is proposed to consider how to address this issue as part of the preparation of the revised Air Quality Action Plan.

11.4.5 Stratford-on-Avon District

There are currently two declared AQMAs within the District in Studley and the urban area of Stratford-upon-Avon. The former relates directly to the high levels of traffic carried through the town by the A435, whilst the latter has been triggered by traffic congestion at a number of hot-spots across the town, including Grove Road, Tiddington Road and Wood Street.

The A435 was until recently part of the trunk road network, and carries a high level of HGV movements between the M42 (Junction 3), the A46 at Alcester and the M5 at Ashchurch. The Air Quality Action Plan being prepared by the District Council and the County Council for the AQMA is still in draft form, although some of the identified measures are already in the process of being implemented. An AQAP for Stratford-upon-Avon will be prepared in due course.

Monitoring in Henley-in-Arden has identified that air quality is deteriorating due to traffic build up around the junction of the A4189 and the A3400. The District Council has indicated that a declaration of an AQMA at this location is imminent.

11.5 Key Challenges

The current position regarding air quality within the County indicates that there are a number of areas with emerging air quality issues which will need to be monitored closely. The primary

purpose of this Strategy is to assist these areas and ensure that air quality does not deteriorate further. The Strategy also aims to assist areas that have declared AQMAs to help regain the UK standards for air quality.

If policies and action plans to improve and maintain air quality in Warwickshire are not put in place then certain areas may degrade further. Other areas that are seen as potential future problems may also become real and significant problems. All the potentially emerging air quality issues in Warwickshire are related to road traffic in and around the county's town centres and along major commuter arterial routes and junctions.

There are a number of challenges related to air quality in Warwickshire that need to be addressed by this Strategy. These include:

- Discerning whether the dispersal of congested traffic to other areas merely moves air quality problems to adjacent areas;
- Continuing monitoring in areas that may emerge as significant air quality problem areas in the future;
- Solving existing or potential air quality problems related to key arterial routes in the County;
- Assessing whether traffic problems are a result of localised traffic or through traffic in order to allow the best approaches to traffic and air quality management;
- Dealing with town centre traffic, (in terms of both commuter and visitor/ tourist traffic in towns such as Warwick, Leamington Spa, Rugby, Nuneaton and Stratford-upon-Avon) where the majority of air quality problems within the County occur, including the presence of HGVs in town centres; and
- School related traffic.

11.6 The Strategy

The objectives of the Air Quality Strategy (which reflect the wider objectives of the LTP), have been prepared to support local, regional and national policy on air quality and transport. The objectives of the Strategy are:

- To address air quality issues that have, or will arise, due to transport-related issues;
- To inform and complement the County Council's wider policies on transport contained in the LTP;
- To take a proactive, rather than a reactive approach, to dealing with future air quality issues and taking measures to minimise them before they occur;
- To create a realistic, deliverable Action Plan with schemes and initiatives for improving air quality related to transport issues within the County; and
- To integrate the Strategy fully within the Local Transport Plan, complementing the schemes and objectives contained in other parts of the document.

The vision of the County Council's Air Quality Strategy is:

'To take a proactive approach to maintaining and improving air quality within the County where transport is causing unacceptable levels of air pollution, in order to improve health and quality of life for all'.

The aim of the Air Quality Strategy is therefore to work in partnership to improve areas of existing air quality problems, maintain areas with good air quality and to promote and support practices, activities and lifestyle choices that can achieve this. The Air Quality Strategy also aims to support and promote all transport policies that contribute to improving air quality within Warwickshire.

The Air Quality Strategy seeks to present a number of broad ranging policies, highlighting the air quality problems specific to Warwickshire. These inform the specific schemes and initiatives in the Action Plan.

11.6.1 Policies

Policy AQA: The contribution of air quality improvements to the national targets on greenhouse gases

The County Council will contribute to the national targets on greenhouse gases, which includes an overall reduction of 20% in CO₂ emissions by 2010 and a 80% reduction by 2050.

Policy AQA2: Improving poor air quality through partnership working

Within 18 months of the declaration of an Air Quality Management Area, the County Council will assist the relevant District/Borough Council in drawing up an Air Quality Action Plan, and provide support in its implementation. Where air quality issues relate primarily to transport, the Action Plan will comprise existing schemes drawn from the LTP, plus other complementary measures as appropriate. Progress on addressing air quality issues within Warwickshire will be reported to DfT and DEFRA as required.

The County Council will liaise with the five Warwickshire District/Borough Councils, neighbouring authorities and other organisations such as the Highways Agency, in order to maximise the awareness of air quality issues within the County.

The five Warwickshire District/Borough Councils will carry out regular monitoring of air quality, in order to identify any potential problems, improve the local and regional air quality data set, and enhance the knowledge and understanding of air quality within the County.

The County Council will aim to operate a “cleaner” vehicle fleet by introducing alternative-fuel vehicles as they become more widely available, and where it is economically viable to do so.

Policy AQA3: Maintaining areas of good air quality

The County Council will seek to maintain good air quality in areas without existing air quality problems. A proactive approach will be undertaken with the five District/Borough Councils in Warwickshire to monitor and address emerging air quality problems in the County, in order to ensure that potential AQMAs are tackled prior to any formal declaration. The County Council will use its own traffic data to verify existing and emerging trends in air quality highlighted by the information collected by the five District/Borough Councils.

Policy AQA4: Education and Information

The County Council will promote the use of public transport, walking and cycling as alternative methods of transport to the private car, in parallel with changing travel behaviour initiatives such as travel plans for schools and workplaces.

The County Council will keep the dedicated air quality page on the Warwickshire County Council website up to date.

The County Council will actively encourage its own staff to travel to work and undertake work related activities through the use of public transport, cycling or walking.

Policy AQA5: Integration of air quality and transport planning

Through the planning process, the County Council and the five Warwickshire District/Borough Councils will take into account known and emerging air quality issues to ensure that new development:

- (i) Does not exacerbate an existing air quality problem, or trigger the declaration of a new Air Quality Management Area;
- (ii) Is well served by public transport, walking and cycling facilities; and
- (iii) Is supported by measures such as Travel Plans to ensure that sustainable travel patterns are maintained.

Policy AQA6: Strategy Review

The Air Quality Strategy will be reviewed on a regular basis, keeping it up to date with the latest air quality information in the County, advances in air quality knowledge and best practice techniques, regional and national policy and legislative developments. The schemes and initiatives in the Action Plan will also be revised as necessary to reflect any changes to the Strategy.

11.7 The Action Plan

Actions for delivering the Air Quality Strategy are set out in the table below. Individual geographical proposals for each Air Quality Management Area can be found in the relevant Air Quality Action Plan.

Table AQ1: Action Plan

Policy	Action	Timescale
Policy AQA1 - The contribution of air quality improvements to the national targets on greenhouse gases	Implementation of the wider LTP policies contained in the Public Transport, Cycling, Walking and Changing Travel Behaviour Strategies.	Ongoing
Policy AQA2 - Improving poor air quality through partnership working	Preparation of Air Quality Action Plans to address Air Quality Management Areas (in conjunction with the relevant District/Borough Council and/or the Highways Agency).	As appropriate
	Implementation of measures within Air Quality Action Plans, such as traffic management improvements (e.g. Urban Traffic Management Control, Variable Message Signing, reviews of fixed highway signage), improvements to public transport, walking and cycling facilities, and initiatives to change travel behaviour.	As appropriate

	Monitoring of Air Quality Action Plans and reporting to DfT/DEFRA.	Ongoing
	Regular liaison with District/Borough Councils, adjoining Authorities and other organisations (e.g. Highways Agency)	Ongoing
	Regular monitoring of air quality (by the five Warwickshire District/Borough Councils).	Ongoing
	Regular review of the Lorry Route Map for Warwickshire.	Every 2-3 years
	Introduction of cleaner vehicle fleets.	Ongoing
Policy AQA3 - Maintaining areas of good air quality	Regular liaison with District/Borough Councils and interrogation of WCC traffic data.	Ongoing
	Implementation of the wider LTP policies contained in the Public Transport, Cycling, Walking and Changing Travel Behaviour Strategies.	Ongoing
	Regular review of the Lorry Route Map for Warwickshire.	Every 2-3 years
Policy AQA4 - Education and Information	Implementation of the wider LTP policies contained in the Public Transport, Cycling, Walking and Changing Travel Behaviour Strategies.	Ongoing
	Regular review and update of the Air Quality web page.	Annual
	Implementation of the County Council's Green Travel Plan.	Ongoing
Policy AQA5 - Integration of air quality and transport planning	Provide input to the preparation of District/Borough Council Local Development Frameworks, both within Warwickshire and in adjoining areas.	Ongoing
	Provide input to individual planning applications, and negotiate appropriate improvements (e.g. traffic management measures, walking and cycling improvements and Travel Plans).	Ongoing
Policy AQA6 - Strategy Review	The County Council will keep the Air Quality Strategy under regular review. This will be informed by the local reviews of air quality undertaken by the five Warwickshire District/Borough Councils.	Every 2-3 years

11.8 Targets and Monitoring

National Indicators

There are no National Indicators that are directly relevant to this strategy.

Warwickshire Local Indicators

WLI6 is monitored to measure the progress which is being made to deliver the Air Quality Strategy. This involves the collection of traffic count data within each of the declared Air Quality Management Areas (AQMAs) in Warwickshire.

This data will be collected for all existing and new AQMAs during LTP3. It will be used to inform the LTP3 indicator as well as general trends in traffic movements and associated levels of air quality.