Warwick District Air Quality Action Plan 2008

This report has been prepared by Officers of Warwick District Council, Warwickshire County Council and in consultation with Air Quality Consultants Ltd.

Warwick District Council

1	**Paul Briggs** (Divisional Environmental Health Officer) ☏: (01926) 456714 🖷: (01926) 456746 ✉: paul.briggs@warwickdc.gov.uk
2	**Christopher Davis** (Senior Environmental Health Officer) ☏: (01926) 456721 🖷: (01926) 456746 ✉: chrism.davis@warwickdc.gov.uk
3	**John Langley** (Senior Technical Officer / Chemist) ☏: (01926) 456722 🖷: (01926) 456746 ✉: john.langley@warwickdc.gov.uk

Warwickshire County Council

1	**Adrian Hart** (Team Leader – Transport Planning) ☏: (01926) 735667 🖷: (01926) 735662 ✉: adrianhart@warwickshire.gov.uk
2	**Dr. Shirley Reynolds** (Team Leader – Traffic Studies) ☏: (01926) 735668 🖷: (01926) 735662 ✉: shirleyreynolds@warwickshire.gov.uk

Air Quality Consultants Ltd.

1	**Dr. Clare Beattie** ☏: (0117) 9741086 ✉: clarebeattie@aqconsultants.co.uk

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Executive Summary

Warwick District Council, in association with Warwickshire County Council (WCC), is legally responsible for the introduction of actions to improve the air quality throughout the District, and thereby improve the health of people living or working within the District.

This report follows on from assessment work undertaken within the District over a number of years. Following these assessments, areas (predominantly in the urban centres) have been identified as having poor air quality, specifically identifying the pollutant Nitrogen Dioxide (NO_2), with the major source identified as being emissions from road traffic.

This work lead to the declaration of AQMA's in Warwick, Barford and Leamington Spa in 2004 and, in 2007, the identification of two further areas within Kenilworth requiring declaration as AQMA's, and the extension of the previously declared Warwick AQMA, where levels of NO_2 consistently exceeded the Air Quality Standard (AQS).

This Action Plan has been produced following recent consultation with statutory bodies, a public consultation and involvement of other stakeholders. The Report has been prepared in association with WCC to integrate with, and complement, the WCC Local Transport Plan 2006 – 2011 (LTP), and has been drawn up identifying potential options available to tackle pollution levels. Actions being considered within the report are grouped under the following themes:

- Specific proposals related to the AQMA's
- Non-specific proposals for improving air quality throughout the District
- Vehicle emission reduction
- Improvement in alternative transport / public transport
- Other non-transport related measures.

Warwickshire County Council is the local authority responsible for the roads within the District, and as such is responsible for the delivery of the Government's Shared Priorities for Transport, requiring them to:

- Improve air quality
- Tackle congestion
- Make roads safer
- Deliver accessibility

The Action Plan also incorporates data, in particular pollution monitoring and traffic flow data, which have been used to estimate improvements required to achieve the air quality objectives and identify contributions from different vehicle classes to pollutant concentrations. The Council will continue to monitor the concentrations of Nitrogen Dioxide (NO_2) within the District to confirm the expected reductions with the aim of revoking the Air Quality Management Areas designations as soon as is practicable

WDC Air Quality Strategy – Outline of Document

1. Introduction

This report is relevant for all available information up to and including the 'Progress Report' of June 2008.

1.1 Context Setting

This Air Quality Action Plan is the culmination of the second round of local air quality review and assessment for Warwick District Council (WDC). The process of Local Air Quality Management (LAQM) review and assessment has been set down in Part IV of the Environment Act 1995, which forms part of the Government's response to European Directives on Air Quality to which the UK Air Quality Strategy responds.

Following the Detailed Assessment in 2004 and the Department for Environment, Food and Rural Affairs (DEFRA) acceptance of the findings of the report, WDC declared Air Quality Management Areas (AQMA's) in Leamington Spa, Warwick and Barford. Following a Further Assessment the AQMA in Warwick was extended with effect from 1st July 2008. Following the Detailed Assessment in Kenilworth, two new AQMA's are proposed, in sections of Warwick Road and New Street.

As such, the aim of this Action Plan is to identify how WDC will use its existing powers and work together with other organisations in pursuit of the Air Quality Objectives for nitrogen dioxide. Measures are proposed to improve air quality both within the AQMA's and across the District as a whole.

Warwickshire County Council (WCC) is responsible for the management of the local highway network and as such is responsible for any direct actions proposed for the AQMA's in order to reduce road traffic emissions. WDC will work together with the County Council to improve air quality within the AQMA's and throughout the District.

The direct measures, either already undertaken or in the process of being implemented, within the AQMA's are:

- Construction of the A429 Barford bypass (completed in 2007)
- Improving the effectiveness of public transport
- Establishment of a demonstration Urban Mixed Priority Route scheme in Leamington Spa
- Improving the local urban cycle network, including National Cycle Network routes proposed by Sustrans
- Development of Intelligent Transport Systems (ITS), including car park management systems and Variable Message Signing
- Improving and promoting bus and passenger rail services
- Delivering a sustainable Parking Strategy
- Delivering improvements for Powered Two Wheelers

The indirect measures to improve air quality across the whole District are:

- Changing travel behaviour by working with the County Council to promote car sharing and other travel campaigns
- Decreasing the number of utility journeys made by car by encouraging walking and cycling
- Encouraging new development in the District to be sustainable by providing improvements to public transport, walking and cycling

- Supporting improvements to Junctions 13, 14 and 15 of the M40 where existing levels of traffic can affect travel habits and route choice (J15 due for completion in 2010 no projected dates to start J13 and 14)
- WDC to continue their commitment to local air quality monitoring

The proposed actions will help work towards the NO_2 Air Quality Objectives.

It has not been possible to assess all the air quality impacts of the measures to improve air quality within this Plan through detailed modelling, so additional benefits beyond those assessed may be achieved. A qualitative assessment of impacts of all measures has been included in the action plan summary tables by way of indication of potential benefits. The impacts of measures will be further considered through future progress reports.

1.2 Consultation

Under Schedule 11 of the Environment Act, Local Authorities are required to consult on their draft LAQM Action Plan. It is important for the success of the Action Plan to have involvement from all local stakeholders including local residents, community groups and local businesses in drawing up the Action Plan, in addition to their active participation in achieving the action plan measures. The Action Plan was prepared for consultation with relevant environmental health, planning and transport representatives from both WDC and WCC.

The following is a list of statutory and non-statutory consultees to which this draft Plan was sent:

- The Secretary of State
- The Environment Agency
- The Highways Agency
- Primary Care Trusts
- WDC and WCC Councillors and Officers
- Neighbouring local authorities
- Local residents within and bordering the AQMA's
- Relevant local businesses, community groups and forums
- Other relevant local stakeholders

The Public Consultation commenced on the 5th November 2007 and concluded on the 1st January 2008. All comments from both statutory and non-statutory consultees received on the draft Action Plan have been considered and incorporated, where appropriate, into the final Action Plan. (see Appendix 4 for the results of the public consultation)

1.3 Project Background

A working document relating ultimately to the completion of a Local Air Quality Management Action Plan for Leamington Spa and Warwick town centres has been devised. Consideration of the declared AQMA within Barford will be reviewed in the context of the A429 Barford bypass, which opened in March 2007. This document will equally be applicable to the identified AQMA's in Kenilworth

This Action Plan will review current measures undertaken by WDC to tackle air quality, as well as a review of proposed measures, including those detailed within the County Council's second local transport (LTP2) and Air Quality Strategy.

Clearly, the aims of the Action Plan will be to describe those measures and indicate how they may translate to achieving delivery of the Air Quality Strategy contained within the LTP2 and its five key areas of action.

An Action Plan is required to be prepared as part of the local authority's statutory duties as defined within Part IV of the Environment Act 1995. Figure 1.1 illustrates the linkages between the Air Quality Strategy and other LTP strategies.

2. Aims and Objectives

The overall aim of this Action Plan is to reduce the impact of transport on the environment, and thus improve local air quality to an acceptable level.

The objectives by which this aim will be delivered are as follows:

- To improve areas with poor air quality and maintain those areas that currently experience good air quality;
- To encourage sustainable forms of transport, in order to reduce reliance on the private car and thus minimise emissions to air; and
- To promote awareness of alternative travel choices.

Figure 1.1 : The Air Quality Strategy and other LTP Strategies

3. Legislative and Policy Background

3.1 National

Part IV of the Environment Act 1995 places a statutory duty on local authorities to periodically review and assess air quality within their area. This involves consideration of present and likely future air quality against air quality standards and objectives. Guidelines for the 'Review and Assessment' of local air quality were published in the 1997 National Air Quality Strategy (NAQS)[1] and associated guidance and technical guidance. In 2000, Government reviewed the NAQS and set down a revised Air Quality Strategy for England, Scotland, Wales and Northern Ireland[2] (AQS). The Air Quality Strategy (AQS) along with its addendum[3] contains national air quality standards and objectives established by the Government to protect human health and set by Regulation[4,5,6]. The Air Quality Strategy for England, Scotland, Wales and Northern Ireland was further revised in 2007, with no further changes to the air quality objectives for local air quality management.

Where it appears that the air quality objectives will not be met by the designated target dates local authorities must declare an Air Quality Management Area (AQMA) and develop action plans in pursuit of the air quality objectives. Following declaration, Warwick District Council is required to develop an Action Plan for the AQMA within 12 – 18 months.

Policy Guidance LAQM.PG(03) was published by the Government in 2003, which included guidance on the development of action plans. The NSCA have published guidance 'Air Quality Action Plans (2000)' and 'Air Quality: Planning for Action (2001)'. These guidance documents have been taken into account in development of this Action Plan for WDC, alongside guidance provided by the Department for Environment, Food and Rural Affairs through its Air Quality Action Plan Help Desk, which provides examples of best practice and an Action Plan appraisal checklist.

[1] DoE (1997) The United Kingdom Nation Air Quality Strategy The Stationery Office

[2] DETR (2000) The Air Quality Strategy for England, Scotland, Wales and Northern Ireland – Working together for Clean Air, The Stationery Office

[3] Defra (2002) The Air Quality Strategy for England, Scotland, Wales and Northern Ireland: Addendum, The Stationery Office

[4] DETR (2000) The Air Quality Regulations 2000, The Stationery Office

[5] Defra (2002) The Air Quality Regulations 2002,The Stationery Office

[6] Defra (2007), The Air Quality Standard Regulations 2007

3.2 Regional and Countywide

3.2.1 West Midlands Regional Spatial Strategy (RSS)

The West Midlands Regional Spatial Strategy (RSS) covers a wide range of subjects including housing, economic development, the built, historic and natural environment, renewable energy, minerals, waste and transport. The Strategy seeks to establish a more balanced and sustainable pattern of development by way of local authority development plans and local transport plans.

There are a number of strategic objectives that make up the focus of the RSS. However, in relation to this Draft Action Plan, the RSS provides a context for policies relating to the conservation of the environment and the improvement of the Region's transport systems.

For example, Policy QE4 states the following:

Policy QE4: Greenery, Urban Green-Space and Public Spaces

"Local authorities and others should also encourage patterns of development which maintain and improve air quality and minimise the impact of noise upon public space."

The RSS includes both the Regional Transport Strategy and the Transport Delivery Plan (see Sections 3.2.2 and 3.2.3, respectively) and is currently being reviewed. The scale of development proposed for Warwick District within the RSS may have a significant impact on Air Quality in Leamington Spa and Warwick. However, any such changes will need to be reviewed in future rounds of the Air Quality Review and Assessment process once the revised RSS has been published.

3.2.2 West Midlands Regional Transport Strategy (RTS)

The Regional Transport Strategy (RTS) forms part of the Regional Spatial Strategy for the West Midlands.

The aim of the RTS is to provide a strategic framework for regional and local transport planning in the West Midlands by:

- ensuring better integration between transport policies and priorities and the wider Spatial Strategy;
- bringing together the outcomes of the multi-modal studies affecting the Region; and
- steering the development of the Region's LTP's.

A major theme of the RTS (and this Draft Action Plan) is the need for behavioural change across the Region. As such, the RTS puts forward a number of measures aimed at changing behavioural travel patterns. These are as follows:

- measures to reduce the need to travel;
- well located facilities;
- provision of good quality, well designed walking and cycling facilities;
- promotion of travel awareness initiatives;
- better public transport;
- introduction of well-designed Park & Ride schemes;
- improved provisions for powered two-wheelers and taxis;
- better management of public and private car parking; and
- consideration of appropriate demand management measures.

These measures are formalised through Policies T1 to T8 in the RTS, with wider policies relating to "Transport and Accessibility" covered in Policies T9 to T12.

3.2.3 Transport Delivery Plan (TDP)

By way of achieving an ongoing review of the RTS, the West Midlands Regional Assembly has established an active Transport Partnership (including local authorities, the Highways Agency, the Department for Transport, Centro, the business community, Birmingham International Airport, the freight industry and bus and rail industries), and a Transport Delivery Plan was produced in March 2005.

The current version of the TDP focuses on the status and progress of implementing each of the RTS Priorities for Investment (as detailed under Policy T12), with the aim of ensuring that the RSS policies are reflected in other plans and strategies such as LTP's. Interventions include changing travel behaviour, local congestion charging studies and strategic 'Park & Ride' schemes.

3.2.4 Regional Sustainable Development Framework

The Regional Sustainable Development Framework has been designed such that it helps all strategies, policies and plans to contribute to a sustainable future for the West Midlands at all levels (regional, sub-regional and local). The main objectives of the Regional SDF are centred on the key regional priorities relating to society, the environment, resources and the economy.

These objectives are as follows:

- Sustainable consumption and production;
- Climate change and energy;
- Natural resource protection and environmental enhancement; and
- Sustainable communities.

More specifically (with regard to air quality), Objective 3.3 states the following:

> *"Minimise air, water, soil, light and noise pollution levels and create good quality air, water and soils"*

3.2.5 Warwickshire Local Transport Plan (2006 – 2011)

Warwickshire County Council is responsible for preparing the Local Transport Plan. This document sets out the transport improvements that are due to come forward over the next five years. These improvements are set within the context of the four Shared Priorities for Transport, these being:

- Delivering accessibility;
- Tackling congestion;
- Better air quality; and
- Making roads safer.

The LTP provides the main emphasis for those measures detailed in Section 6 of this Action Plan.

"In considering the issues relating to traffic management in Warwick town centre and the above priorities, a stakeholder group, Warwick Town Centre Traffic Management Forum, was convened in 2004. The Forum's vision is "To make Warwick's historic town centre safer, easier and more pleasurable to live in, to work in, and to visit, now and in the future". The need to reduce pollution and its impact on people and buildings is one of its principle objectives. Over the last four years the Forum has produced an approach to traffic management in Warwick through consensus building, the implementation of which is incorporated in many parts of this action plan."

3.2.6 Warwickshire Air Quality Strategy

Formally, the Warwickshire Air Quality Strategy sits within the LTP (see Section 1.1) as a Core Strategy (along with Accessibility, Road Safety and Congestion). As part of the Air Quality Strategy, a number of targets and indicators have been set. These are detailed in Table 3.1 below:

Table 3.1 : Air Quality Strategy – Targets and Indicators

Local Target / Indicator	Performance Indicator	Source of Data	Frequency of Monitoring
Target (LTP8): Reduce the number of exceedences of the national air quality standards and objectives between 2005 and 2010	Monitored and modelled pollutant levels across the County. The revocation of AQMA's.	Countywide air quality monitoring stations	Annual
Target: Retain traffic volumes at 2004 levels in the urban areas of Nuneaton, Rugby, Warwick and Leamington Spa	Road traffic levels on local road networks	Road traffic surveys. Traffic modelling	Annual
Local Indicator: Ensure that air pollutant levels do not exceed national standards in the County where they occur	Air quality assessment of major transport proposals within Warwickshire	Countywide air quality monitoring stations. Regular and continued dialogue with the District / Borough Councils	Annual

The measures included in this Action Plan have been set within the context of other LTP strategies which will have a significant impact of air quality, most notably:

- Congestion Strategy;
- Sustainable Freight Distribution Strategy;
- Public Transport Strategy, which includes Bus Strategy, Passenger Rail Strategy, Community Transport Strategy, Bus Information Strategy and the Public Transport Interchange Strategy;
- Cycling Strategy;
- Walking Strategy;
- Safer Routes to School/School Travel Plan Strategy;
- Changing Travel Behaviour Strategy; and
- Land Use and Transportation Strategy.

3.2.7 Warwickshire Structure Plan (WASP)

The Warwickshire Structure Plan (WASP) for the period 1996 – 2011 was adopted by Warwickshire County Council in August 2001. WASP is the strategic land use plan for Warwickshire and forms part of the statutory development plan for the county. In relation to air quality, relevant objectives contained within WASP are as follows:

- reduce the distances people need to travel, whilst acknowledging the continuing role of commuting in the County and the need to facilitate this through transport improvement;
- protect from unnecessary harm, the environment and our cultural, historical and social heritage;
- support walking, cycling and public transport as alternatives to the private car;
- maintain and improve a regional and county strategic transport network;
- encourage new tourism, recreation and leisure initiatives where these are compatible with the built and natural environment; and
- encourage the use of renewable natural resources, and conserve non-renewable resources.

As an extension to Policy ER.1 (which seeks to apply international, national and regional policy framework to the environmental resources within Warwickshire), Policy ER.2 is intended to be applied through more detailed local plan policies and reflect environmental assessment requirements in accordance with the Town and Country Planning (Environmental Impact Assessment) Regulations 1999, and other Government guidance. Policy ER.2 is summarised below:

Policy ER.2: Environmental Impact of Development

"The environmental impact of all proposed development on human beings, soil, fauna, flora, water, air, climate, the landscape, geology, cultural heritage and material assets must be thoroughly assessed, and measures secured to mitigate adverse environmental effects to acceptable levels. Local plans should include policies to ensure this takes place. The impact of existing sources of environmental pollution on the occupants of any proposed new development should also be taken into account. All assessment of environmental impact should take account of, and where possible seek to reduce, uncertainty over the implications of the proposed development. If adverse impacts cannot be mitigated to acceptable levels, development will not be permitted."

3.2.8 Warwickshire County Council Green Travel Plan

Warwickshire County Council established a Green Travel Plan in July 2004. The overall aim of the Travel Plan is to ensure that staff working at the Warwickshire County Council headquarters uses modes of transport other than cars in order to get to and from work. Such a Plan portrays an outgoing, proactive image of the Council and that its own employees are able to lead by example, providing positive publicity throughout the County and a better response by members of the public in relation to those measures discussed in this document.

The five key objectives that the Green Travel Plan incorporates are as follows:

- to set out measures that will enable the organisation to meet the target car / employee ratio as set out by WCC for other businesses in the area;
- to enhance the organisations corporate social responsibility and environmental image;
- to encourage the use of more sustainable modes of transport;
- to reduce unnecessary travel; and
- to ensure that all staff are aware of the Travel Plan.

The core measures adopted as part of the Green Travel Plan aim to reduce the use of cars, where possible, by way of increasing the number of people walking, cycling, using motorcycles, using public transport, and the number of people lift sharing. Integral to these objectives is the promotion of the Councils commitment to the Green Travel Plan, both internally (to employees) and externally (to visitors to the Councils offices in Warwick).

A monitoring strategy has also been defined that will allow the objectives of the Green Transport Plan to be assessed.

3.3 Local

3.3.1 Warwick District Local Plan

The Local Plan details the land use planning policies and proposals for the District. The Local Plan conforms to strategic planning policies, as set out in the Warwickshire Structure Plan (WASP) prepared by Warwickshire County Council and the Regional Planning Guidance (by way of the Regional Spatial Strategy) prepared by the West Midlands Regional Assembly.

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. Warwick District Local Plan (2005) incorporates relevant policies of WASP and Regional Spatial Strategy (RSS), and addresses air quality issues through the following policies within the Core Strategy and Development Policies chapters (summarised):

Chapter 3: Core Strategy

Objective 2F : To protect and improve air quality

Warwick District Council will seek to maintain and improve local air quality by guiding and controlling the location of new development, particularly where this would have an impact upon public health or the natural environment.

Chapter 4: Development Policies

DP2 Amenity[7]: Development will not be permitted which has an unacceptable adverse impact on the amenity of nearby uses and residents, and / or does not provide acceptable standards of amenity for future users / occupiers of the development. This policy is applicable to all development proposals, including extensions and changes of use

DP7 Traffic Generation: Development will not be permitted which generates significant road traffic movements unless practicable and effective measures are taken to avoid adverse impact from traffic generation

DP9 Pollution Control: Development will only be permitted which does not give rise to soil contamination or air, noise, radiation, light or water pollution where the level of discharge, emissions or contamination could cause harm to sensitive receptors

In addition to a policy on Pollution, the Local Plan includes strategies and policies with the following aims:

- to reduce the need to travel;
- to promote the use of more sustainable travel options;
- to ensure the prudent use of scarce resources, and limit and reduce the impacts of climate change;
- to protect and enhance the natural environment; and
- to promote sustainable tourism.

3.3.2 Other Local Plans and Strategies

The Air Quality Action Plan will directly contribute to the Warwick District Council Corporate Strategy 2008 – 2011 and the Warwick District 2020 Community Plan in the areas of Safety, Health, and Sustainability.

3.3.3 Planning & General Development

The potential affect of proposed developments on local air quality as well as the potential effects of poor air quality on proposed development will be assessed and comments made to the planning authorities (County and District), as appropriate, in line with the objectives of this action plan.

[7] 'Amenity' is defined as the extent to which people are able to enjoy public places and their own dwellings without undue distance or intrusion from nearby uses. Examples of disturbance and intrusion include air pollution

4. Overview of Air Quality in Warwick District

The main sources of air pollution in Warwick District are road traffic emissions. A summary of Warwick District Councils review and assessment of air quality (second round) is summarised briefly in Table 4.1

Table 4.1 : Summary of Air Quality Review and Assessment for Warwick District Council

USA (2003)	Detailed Assessment (2004)	Progress Report (2005)	Further Assessment (2006)	Progress Report (2008)
NO_2	Confirmed annual mean NO_2 concentrations were expected to exceed the AQS objective in each of the assessment areas. AQMA's declared in 2004 in Leamington Spa, Warwick, and Barford	Recommended that the study area for the Further Assessment be increased to consider additional areas of monitored exceedences and re-assess the boundary of the existing AQMA's	Confirmed the AQMA in Warwick town centre requires extension to encompass roadside properties along Saltisford, Theatre Street, Bowling Green Street, West Street, St. Nicholas Church Street, Smith Street, and The Butts. The existing AQMA in Leamington Spa is required to be retained The Barford AQMA was not modelled due to the construction of a bypass (see Section 2.1)	There were exceedences of annual mean objective in Warwick. Also exceedence of hourly objective at Pageant House, which was covered by the AQMA Warwick (Variation) order which came into effect from 1st July 2008. Coventry Road, currently outside the Warwick AQMA, exceeds the annual mean objective and is subject to further assessment for possible future inclusion
PM_{10}	No Detailed Assessment required	No exceedences of the PM_{10} objective, although it is still a pollutant of some concern in the County. The remaining pollutants are not considered to be a concern within WDC	No Further Assessment required	No exceedences of the PM_{10} objective, although it is still a pollutant of some concern in the County. The remaining pollutants are not considered to be a concern within WDC
CO				
Benzene				
1,3 Butadiene				
Lead				
SO_2				

4.1 Source Apportionment and NO_2 Reduction

Table 4.1 (shown on page 20) gave an overview of all Air Quality parameters as relating to Warwick District Council, indicating NO_2 exceedence as the only parameter of concern.

In order to develop an appropriate action plan it is necessary to identify the sources contributing to the objective exceedences at locations within the AQMA's. Figure 1.2 is provided in Appendix 1 and sets out the source contributions of traffic related sources which have been apportioned to the following categories:

- Cars;
- Light Goods Vehicles;
- Rigid Heavy Goods Vehicles;
- Articulated Heavy Goods Vehicles; and
- Buses and Coaches.

A number of locations within the AQMA's have been chosen to provide an overview of source contributions at these different locations. The locations cover the majority of roads within the AQMA's. The proportions of vehicles in the different categories above have been run through the Emissions Factor Toolkit[8] to convert proportions of vehicles to proportions of emissions. The proportions of emissions are then illustrated in Figure 1.2

Of the locally-generated road component of nitrogen oxides, cars and rigid HGV's make up the major proportion of emissions.

As part of the Further Assessment (2006), it was identified as part of the source apportionment work that for both the Warwick and Leamington Spa AQMA's, emissions from HGV traffic were significant, despite making up a relatively small proportion of the vehicle fleet. Along those streets in Warwick and Leamington Spa where predicted NOx concentrations are highest, the contribution from HGV traffic is highest (42.2%) along the High Street (junction with Wise Street) in Leamington Spa. This compares with 24.4% for LDV and 33.8% for background at the same location. The highest NOx contribution from HGV traffic in Warwick (26.3%) occurs along High Street (Jury Street), compared with 38.8% for LDV and 40.2% for background in the same location. A table presenting the source apportionment work carried out as part of the Further Assessment is provided in Appendix 1 – Tables A1 and A1.1

This document has also considered the NOx and NO_2 reduction required at the worst case receptors in each AQMA, based on monitored concentrations in 2007. These are detailed in Table 4.2

Within the Warwick AQMA, a minimum reduction of 43.1% in NOx is required. For the Leamington Spa AQMA, a minimum reduction of 45.3% in NOx is required.

[8] Available from www.airquality.co.uk/archive/laqm/tools.php

Table 4.2 : Minimum NOx and NO_2 reduction required in 2007 based on monitored data

Location	Predicted NOx 2005	NOx (equivalent to 40µg/m^3 NO_2) µg/m^3	Reduction required		Predicted NO_2 2005	NO_2 AQS objective µg/m^3	Reduction required	
			µg/m^3	%			µg/m^3	%
Jury Street	140.9	80.2	60.7	43.1%	56.4	40.0	16.4	29.1%
Wise Street	146.6	80.2	66.4	45.3%	52.3	40.0	12.3	23.5%

4.2 Air Quality Management Areas

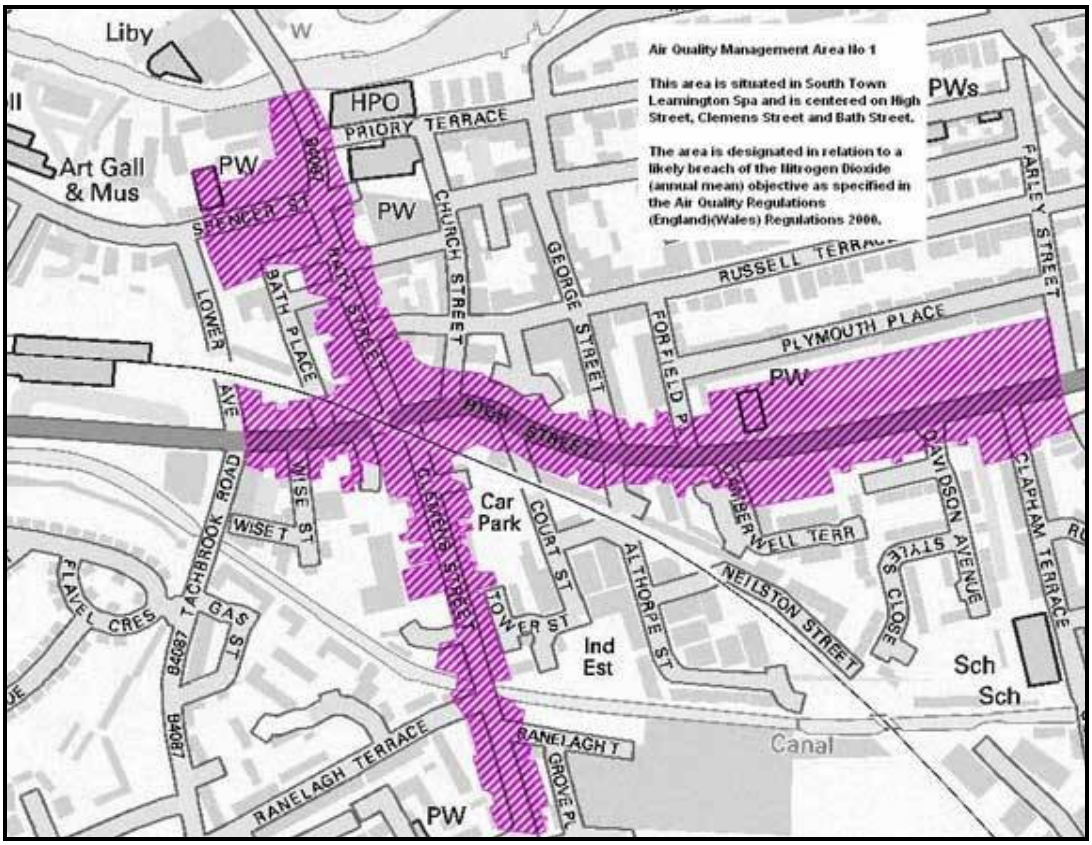
Following the Detailed Assessment in 2004 and the Department for Environment, Food and Rural Affairs (DEFRA) acceptance of the findings of the report, WDC declared AQMA's in Leamington Spa, Warwick and Barford.

The NO_2 passive tube monitoring within Leamington Spa and Barford has determined that the existing boundary of the AQMA's do not require altering.

The NO_2 passive tube monitoring within Warwick has resulted in the extension of the AQMA in force from 1st July 2008 to include most of the central roads within Warwick.

4.2.1 Leamington Spa

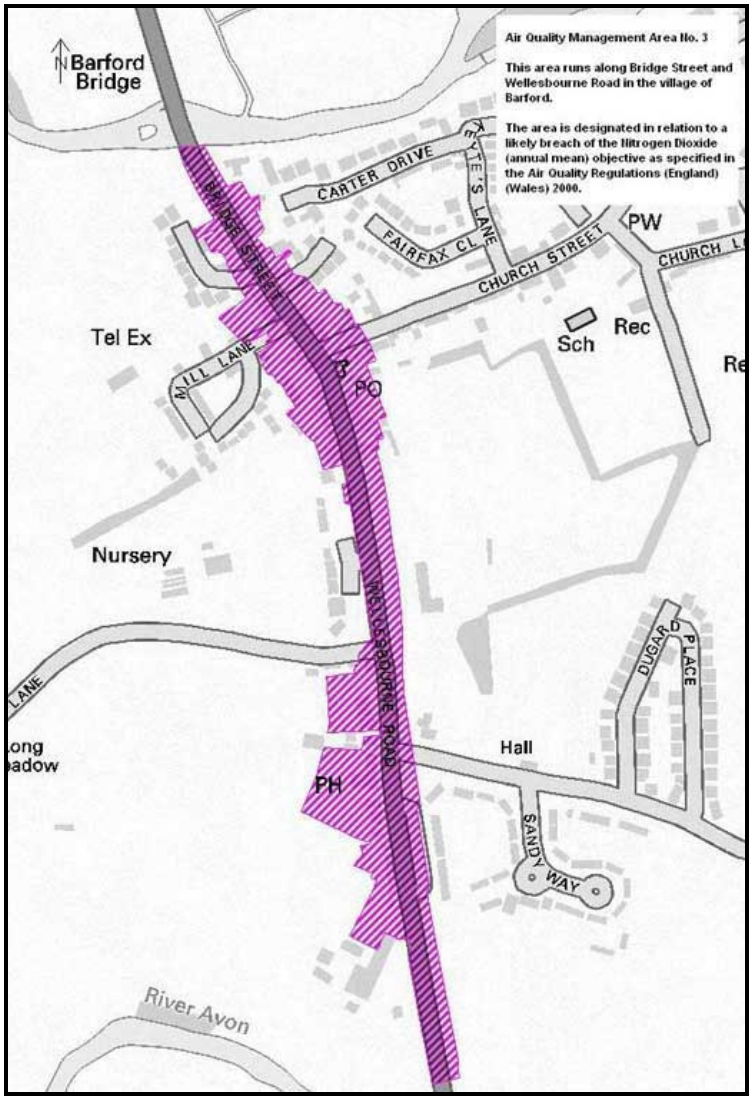
This area is situated in South Town Leamington Spa and is centred on High Street, Clemens Street and Bath Street. The area is designated in relation to a likely breach of the Nitrogen Dioxide (annual mean) objective as specified in the Air Quality Regulations (England) (Wales) 2000 (as amended).



View from Clements Street Junction looking up Bath Street, Leamington Spa

4.2.2 Barford

This area runs along Bridge Street and Wellesbourne Road in the village of Barford. The area is designated in relation to a likely breach of the Nitrogen Dioxide (annual mean) objective as specified in the Air Quality Regulations (England) (Wales) 2000 (as amended).



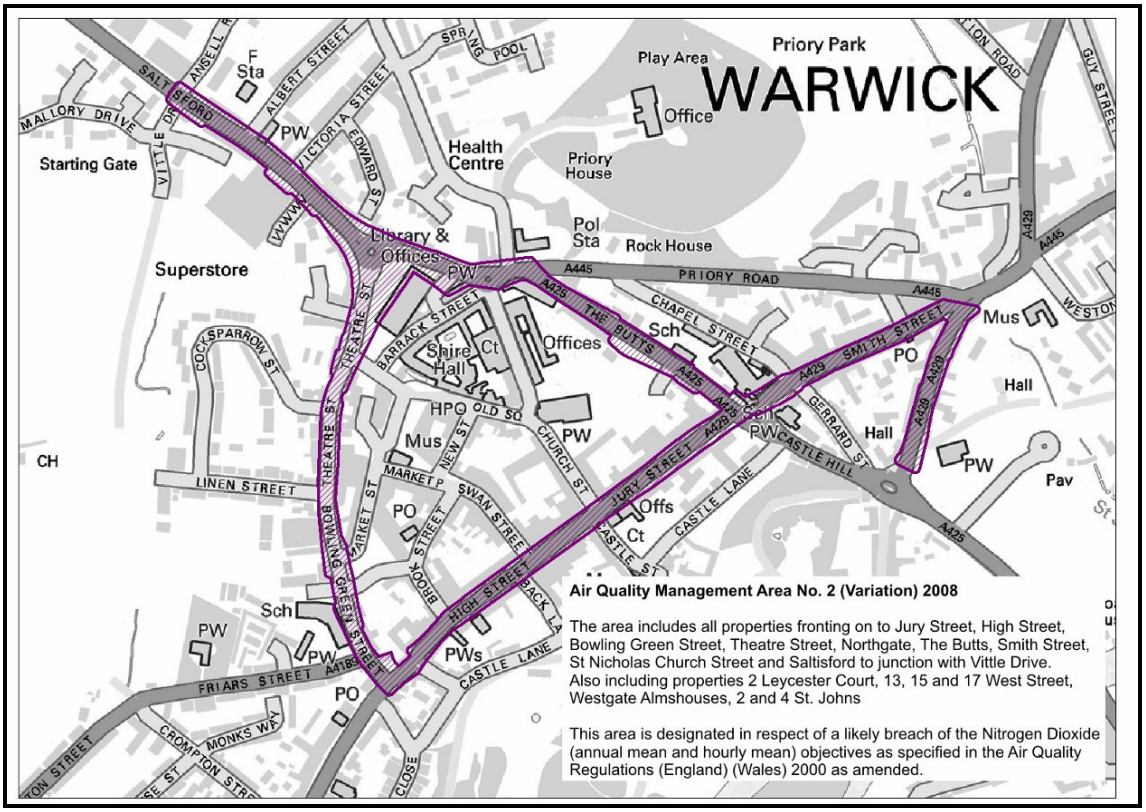
Following declaration of the AQMA's, a Further Assessment of the AQMA in Barford was not carried out due to the recent construction of the A429 Barford bypass. Given that the Barford AQMA was declared on the basis of road traffic sources, it was considered likely the annual mean NO_2 concentrations within Barford would decrease following completion of the bypass such that the annual mean objective would not be exceeded and the AQMA could be revoked.

The results of NO_2 passive tube monitoring from March 2007 to April 2008 has shown a decrease in NO_2 levels. Monitoring will continue for a further twelve months, as advised by DEFRA. Following assessment of the results, consideration will then be given to revoking the AQMA Order.

View of Barford Village Centre (Bridge Street)

4.2.3 Warwick

This area runs along High Street, Jury Street, Bowling Green Street, Theatre Street, the Butts and Northgate in the centre of Warwick, as well as The Saltisford (to the Vittle Drive / Ansell Way junction), Smith Street, and St. Nicholas Church Street on the edges of Warwick town centre. The area is designated in relation to a likely breach of the Nitrogen Dioxide (annual mean and hourly mean) objectives as specified in the Air Quality Regulations (England) (Wales) 2000 (as amended).



View of The Butts in Warwick

View of Jury Street, Warwick

4.2.4 Whitnash and other Parishes within Warwick District

There are currently no designated AQMA's within any of these areas. NO_2 monitoring and modelling have been conducted within the District. The modelling has been undertaken in earlier reports and the results have shown that no high concentrations of NO_2 currently exist in these areas.

4.3 Other areas of concern

4.3.1 Kenilworth

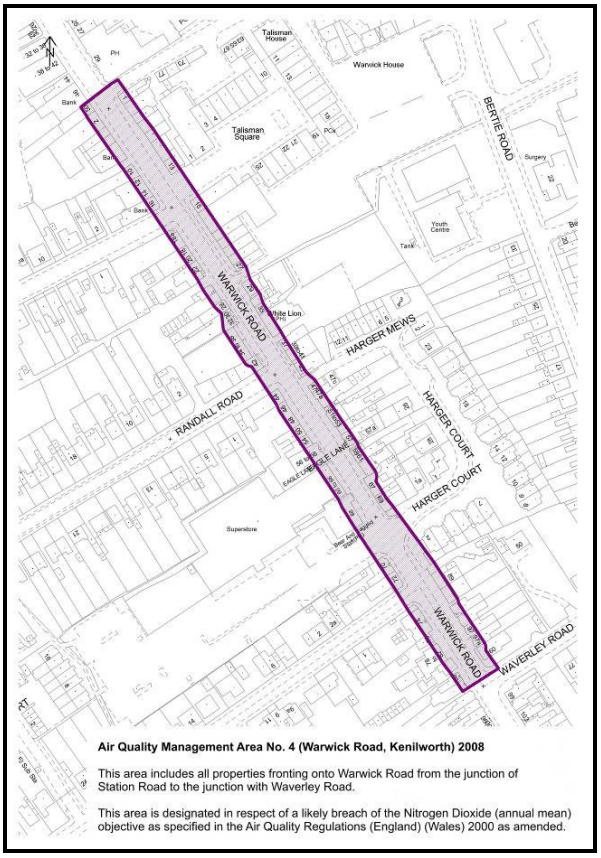
Initial monitoring in 2005, as reported in Updated and Screening Assessment Report, September 2006 identified a number of potential areas of poor air quality in Kenilworth. Further extended monitoring and assessment in 2006 / 2007 as reported in the Detailed Assessment (Kenilworth) report of November 2007 identified the potential need for declaration of AQMA's in New Street and Warwick Road in Kenilworth

The first AQMA area runs along the length of Warwick Road between the Station Road and Waverly Road junctions in the centre of Kenilworth.

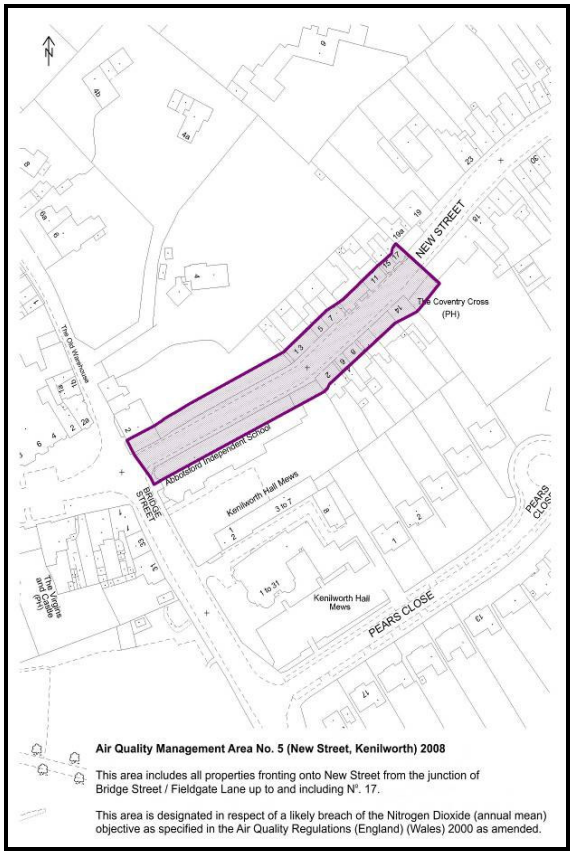
The second AQMA area runs along New Street from the junction with Bridge Street / Fieldgate Lane to Nº. 17 New Street.

The areas are designated in relation to a likely breach of the Nitrogen Dioxide (annual mean) objective as specified in the Air Quality Regulations (England) (Wales) 2000 (as amended).

Warwick Road



New Street



Proposed AQMA 1 : View of Warwick Road, Kenilworth

Proposed AQMA 2 : View of New Street, Kenilworth

4.3.2 Warwick and Leamington Spa

Roads adjacent to the current AQMA's are continuing to be assessed, together with isolated locations where traffic movements indicate potential exceedence of NO_2 levels. These include Coventry Road, Warwick; at road junctions along Emscote Road, Warwick and Rugby Road, Leamington Spa.

4.4 Monitoring and Reporting Arrangements

Warwick District Council currently has 62 NO_2 passive tubes installed within the identified AQMA's. There are also other tubes currently located in other areas of potential NO_2 exceedence.

The data is collated on an annual basis, together with continuous monitoring results from the Pageant House, Jury Street, Warwick site and the AURN site located at Hamilton Terrace, Leamington Spa, and forwarded to expert air quality consultants (contracted by Warwick District Council) for assessment.

As required under legislation, the data and assessments are then compiled into reports with recommendations for monitoring and declarations of AQMA's, and forwarded to DEFRA for assessment and acceptance.

4.5 Monitoring Network

The monitoring network operated by Warwick District Council in 2006 consists of two continuous NOx / NO_2 monitoring stations, including one AURN monitoring station (NOx / NO_2, PM_{10}, CO, O_3 and SO_2), and the use of NO_2 passive monitoring diffusion tubes. Both continuous monitoring stations are operated and maintained by Warwick District Council.

The monitoring results from these sites are discussed and summarised in the following sections.

4.6 Continuous Monitoring Stations

Warwick District Council operates a continuous monitoring station installed at Pageant House, Jury Street, Warwick. The monitor was previously located at the junction between High Street and Clemens Street, Leamington Spa, until April 2005. A summary of the data collected at this monitoring station is provided in Table A2. (Appendix 2) Table A2 also provides a summary of the data collected from the AURN monitoring station adjacent to Hamilton Terrace, Leamington Spa.

Continuous monitoring at Pageant House, Jury Street indicates an exceedence of the annual mean and hourly objective NO_2 objective in 2005. This continuous monitoring station is located within the extended AQMA actioned from on 1st July 2008.

The continuous AURN monitoring station at the rear of 10 Hamilton Terrace in Leamington Spa is classified as an urban background site. The measured concentrations in 2007 are significantly lower than the relevant AQS objectives for NO_2 and PM_{10}.

4.7 NO_2 Diffusion Tubes

Warwick District Council has currently established 62 NO_2 diffusion tubes throughout the District. Details relating to the current set of diffusion tubes are provided in Table 4.3, with bias adjustment calculations provided in Tables A2.1 and A2.2 (Appendix 2). Bias adjustment factors have been calculated based on co-located diffusion tubes at the Hamilton Terrace AURN site (Leamington Spa) and the Pageant House (Warwick) continuous monitoring stations.

Table 4.3 : NO_2 (µg/m^3) Bias Adjusted Diffusion Tube Monitoring Results

Location	Grid Ref	2006 Annual Mean (µg/m^3)	2007 Annual Mean (µg/m^3)
WARWICK			
Church Street	428189, 264930	25.1	25.1
St Marys Churchyard	428270, 264982	23.2	24.2
Saltisford / Northgate	428026, 265158	**53.1**	**54.4**
The Butts	428240, 265088	**46.3**	**43.8**
Coventry Road	428715, 265202	**49.0**	**46.2**
Bowling Green Street	427992, 264695	**51.1**	**49.2**
Theatre Street	427938, 264947	**41.0**	38.3
Pageant House 1	428263, 264877	**57.7**	**56.4**
Pageant House 2			
Pageant House 3			
Jury Street	428391,264966	**55.6**	**50.2**
High Street	428132, 264799	-	**42.7**
West Street	427974, 264613	-	28.6
Crompton Street	427910, 264541	-	33.5
Friars Street	427905, 264682	-	29.0
West Rock	427930, 265200	-	**41.0**
Albert Street / Saltisford Junc	427887, 265275	-	37.4
Priory Road	428422, 265127	-	20.6
Smith Street	428522, 265039	-	**42.5**
Gerrard Street	428501, 264967	-	28.9
St. Nicholas Church Street	428600, 264983	-	34.2
St Johns	428748, 265166	-	26.2
Coten End	426896, 260760	-	36.5
Emscote Road	429514, 265469	-	**40.6**
Charles Street	429500, 265492	-	**40.8**
Bridge Street	430020, 265721	-	37.0
Greville Road	429974, 265733	-	31.8
BARFORD			
Barford 1	426834, 260856	**50.2**	29.6
Barford 2			
Barford 3			
Bridge Street	426896, 260760	-	22.4

(Table 4.3 is continued overleaf…))

Location	Grid Ref	2006 Annual Mean (µg/m^3)	2007 Annual Mean (µg/m^3)
LEAMINGTON SPA			
Hamilton Terrace 1	431943, 265730	24.9	28.1
Hamilton Terrace 2			
Hamilton Terrace 3			
High Street	432054, 265218	**52.3**	**45.1**
Spencer Street	431860, 265365	**42.8**	**41.7**
Farley Street	432560, 265254	32.1	36.9
Clemens Street	432051, 265060	28.0	30.6
George Street	432163, 265294	31.9	30.6
Wise Street	431900, 265189	**65.5**	**52.3**
Tachbrook Road 1	431862, 265169	39.3	41.3
Tachbrook Road 2			
Old Warwick Road 1	431849, 265193	**43.7**	**42.8**
Old Warwick Road 2			
Bath Street (Old)[(a)]	431989, 265277	37.2	-
Bath Street (Old)[(b)]		**41.8**	-
Bath Street (New)[(c)]	437978, 265280	-	**48.7**
Clapham Terrace 1	432514, 265062	22.8	23.2
Clapham Terrace 2			
New Street	432255, 265435	26.8	27.9
KENILWORTH			
Bertie Road	428974, 271697	22.9	25.2
Barrow Road	428816, 271618	**48.1**	**43.9**
New Street	428707, 272556	38.1	37.5
Fieldgate Lane	428652, 272524	**43.4**	36.3
Warwick Road	428906, 271496	**45.1**	**42.6**
Moorlands Avenue	429078, 271207	-	38.0
Waverley Road	428974, 271402	-	33.7
The Square	428714, 271769	-	30.3

(a) Includes monitoring data in June, July and August when Bath Street was closed
(b) Excludes monitoring data in June, July and August when Bath Street was closed
(c) The diffusion tube along Bath Street was relocated at the end of August 2006. Current Bath Street data should be used and interpreted with caution

The monitored concentrations in Warwick, Leamington Spa, Barford, and Kenilworth are discussed below.

4.7.1 Warwick

Concentrations monitored within the AQMA, at Pageant House and Jury Street (kerbside) sites were above the AQS objective for 2006, confirming the need for the existing AQMA. The monitoring data outside the AQMA (the Saltisford / Northgate junction, the Butts, the St. Johns / Coventry Road junction and Bowling Green Street) also indicates an exceedence of the AQS objective for 2006 and 2007, triggering the revision, increasing the area of AQMA in the newly-declared AQMA in 2008. Monitoring along Theatre Street is lower than the annual mean AQS objective. With the exception of Jury Street (kerbside), all these diffusion tubes are close to the façades of residential properties. Therefore concentrations are likely to exceed the objectives at these properties.

Concentrations monitored at Church Street and St. Mary's Churchyard in 2007 are well below the annual mean AQS objective of 40 µg/m^3.

4.7.2 Leamington Spa

Annual mean NO_2 concentrations monitored in 2006 along the High Street, within the AQMA, are above the AQS objective. The concentration measured in 2007 at Wise Street, just within the western boundary of the AQMA, is well above the AQS objective at 52.3 µg/m^3.

Concentrations measured in 2007 along Bath Street at its new location (approximately 10m north northeast of its previous position), monitoring over the year shows an exceedence of the AQS annual mean objective.

Concentrations at all other sites, excluding Spencer Street (within the AQMA) are below the AQS objective.

4.7.3 Barford and Kenilworth

Concentrations monitored within the AQMA in Barford exceed the AQS objective for NO_2 in 2006. Following the construction of the bypass in 2007, the current monitoring shows significant reduction in NO_2 which is being factored into any further decisions, including future likely revocation of the existing AQMA status once sufficient data has been procured.

Concentration of NO_2 monitored in Kenilworth in 2006 and 2007 approached or exceeded the annual mean AQS objective. This resulted in the proposal to declare AQMA's in part of Warwick Road, and New Street. Following a public consultation formal declaration will occur later in 2008.

5. Problems and Opportunities

5.1 Problems

A full discussion of the transport problems within Warwick District can be found within the Warwickshire LTP. The main issues are:

- High levels of car ownership;
- Lowest peak period journey speeds within the County;
- Public transport hampered by traffic congestion;
- Inappropriate use of local roads when congestion or an incident affects the nearby motorway and trunk road network;
- The large numbers of visitors who come to the area;
- The historic nature of the transport network limits capacity and route choice; and
- Crime and fear of crime can deter people from walking, cycling or using public transport.

5.2 Opportunities

A full discussion of the transport opportunities within Warwick District can be found within the Warwickshire LTP. The main issues are:

- The majority of the population within the area live within easy walking or cycling distance of local services, public transport routes and interchange points;
- Bus service coverage within the main urban areas is generally comprehensive;
- There is good access to the national rail network at Warwick, Warwick Parkway and Leamington Spa;
- The provision of transport infrastructure to support the regeneration of Kenilworth town centre; and
- Improvements to the motorway and trunk road network, including the current works to improve M40 Junction 15 (Longbridge).

6. The Strategy

As set out earlier, the overall aim of this Action Plan is to reduce the impact of transport on the environment, and thus improve local air quality to an acceptable level.

The objectives by which this aim will be delivered are as follows:

- To improve areas with poor air quality and maintain those areas that currently experience good air quality;
- To encourage sustainable forms of transport, in order to reduce reliance on the private car and thus minimise emissions to air; and
- To promote awareness of alternative travel choices.

Policy AQ1 – Improving poor air quality through partnership working

Warwick District Council and Warwickshire County Council will work in partnership to work towards the UK air quality objectives, focusing on existing Air Quality Management Areas to achieve improved air quality. Within 18 months of the declaration of an AQMA, the two Authorities will work together to formulate an Air Quality Action Plan designed to revoke the AQMA over a specified period.

Policy AQ2 – Maintaining areas of good air quality

Warwick District Council and Warwickshire County Council will work in partnership to maintain good air quality in areas without any existing air quality problems. A proactive approach will be undertaken to monitor and address known air quality problems in the area, in order to ensure that potential AQMA's are tackled prior to any formal declaration.

Policy AQ3 – Education and Information

Warwick District Council and Warwickshire County Council will work in partnership to promote, educate and inform as widely as possible about air quality, transport choices and their implications for air quality and health. Both Authorities will actively encourage their staff to travel to work and undertake work related activities through the use of public transport, cycling and walking.

Policy AQ4 – Review of the Action Plan

The Air Quality Action Plan will be reviewed at regular intervals, in order to keep it up to date with the latest air quality information, 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.

Policy AQ5 – Integration of air quality with land use and transport planning goals

Warwick District Council and Warwickshire County Council will work in partnership to locate new development in a sustainable way.

Warwickshire County Council will promote the use of public transport, and will seek to provide better services and facilities to improve accessibility and safety, and reduce dependency on the private car. The County Council will actively promote cycling and walking as alternative modes of transport to the car, especially for shorter journeys.

6.1 Other Policies and Strategies to Improve Air Quality

There are a number of other related policies and strategies at the local and regional level that can be tied in directly with the aims of the Air Quality Action Plan, and will help contribute to overall improvements in air quality across Warwick District Council.

6.2 Constraints to delivering the Strategy

6.2.1 Sustainable Economy

There will always be a need to balance the economic pressures for public access to commercial and retail properties within the area, with the desire to restrict both commercial and private vehicles within the same potential area.

6.2.2 Financing

Financing will always pose constraints on the timeframe and scheduling of actions within the plan.

One of the key changes to the way that transport improvements are now funded has been the move towards the provision of 'planning guideline' figures from the Department for Transport, which have a five-year time horizon. This has allowed Transport Authorities to establish more robust plans with a greater degree of certainty regarding their funding.

The LTP contains a Delivery Strategy, which sets out the measures and improvements that will be funded over the period 2006 – 2011. Following receipt of the annual LTP settlement from Government in December, the Transport Capital Programme for the forthcoming year is established and agreed by the County Council's Cabinet. A significant number of the schemes set out in Section 6 of this Action Plan will be brought forward via this process.

6.3 Scenario Testing

The actions set out in this Plan are designed, either individually or in combination, to improve the air quality within the identified AQMA's.

In Appendix 3 the outcome of some scenarios are set out, utilising the data reported in Section 4, Table 4.3, and Appendix 2, together with traffic data, determining the improvements required to meet the designated air quality standards.

7. The Action Plan

7.1 Proposed Measures

Outlined below are the proposed direct measures for the identified AQMA's and indirect measures to improve air quality throughout the whole of Warwick District.

7.1.1 Direct Measures

Direct measures to reduce NO_2 concentrations within the AQMA's concentrate on the dominant source of emissions – road traffic. Direct measures incorporate the following themes:

- Theme A1 : Reduction of traffic flows within the AQMA's;
- Theme A2 : Reduction of pollutant emissions within the AQMA's; and
- Theme A3 : Encouraging public transport.

7.1.2 Indirect Measures

Indirect measures target those general emissions within an area that aim to further reduce background levels of pollution above and beyond that likely to be achieved by existing national and international agreements. Indirect measures incorporate the following themes:

- Theme B1 : Reduction of the need to travel by car; and
- Theme B2 : Reduction of background concentrations.

Unless stated otherwise, all those actions discussed in the following Sections are reflected in Warwick District Councils Local Plan (as discussed in Section 3.1), which itself conforms to the RSS, the WASP and the LTP2.

7.1.3 Proposed Direct Measures for Existing AQMA's

The following provides a number of action plan measures that have been proposed to reduce NOx / NO_2 emissions from traffic in the Warwick, Leamington Spa, and Barford AQMA's in pursuit of the NO_2 annual mean Air Quality Objective. A summary of the measures is provided in Table A3.1 (Appendix 3).

7.1.4 Theme A1 – Reduction in Traffic Flows

Action 1 : Highway Improvements and Traffic Management Measures

There is little scope to significantly increase highway capacity within the urban areas of the District. Measures will be implemented by way of continued support for improvements to Junctions 13, 14 and 15 on the M40 where existing levels of traffic can affect travel habits and route choice in and around Warwick and Leamington Spa.

The County Council is assessing the causes of queuing traffic at Junction 14 of the M40 (from the exit slip to Greys Mallory roundabout and at the roundabout itself). Alleviating congestion in this area could have a significant impact on travel patterns throughout Warwick and Leamington, and thus on the AQMA's.

In the particular case of Warwick, there is an ongoing project to look at various traffic management measures to reduce the amount of traffic in the town centre. A Forum of local residents and other stakeholders have drawn up a series of proposals for various town centre streets, and officers are being asked to investigate a number of different demand management measures to complement these. The effectiveness of these measures in improving air quality will be assessed as part of the decision making process.

Action 2 : Cycling Improvements

The main focus of the proposals in the LTP is the development of the urban cycle network within Warwick and Leamington Spa, in line with the County Council's Cycling Strategy. The development of such a network aims to increase the number of utility trips undertaken by bike.

In addition, as part of the continued development of the local and regional cycle route network, Warwick District Council, Warwickshire County Council and Sustrans will work closely to improve the National Cycle Network routes between Warwick and Kenilworth, Warwick and Stratford, and Leamington Spa and Rugby.

Action 3 : Powered Two Wheeler (PTW) Strategy

The Powered Two Wheeler Strategy includes the establishment of dedicated secure on or off-street parking facilities in Leamington Spa and Warwick.

7.1.5 Theme A2 – Reduction in Pollutant Emissions

Action 4 : Intelligent Transport Systems (ITS) Strategy

There are proposals in LTP2 which have the potential to improve local air quality through the use of ITS. The ITS Strategy includes such measures as urban traffic control, car park management, bus priority and travel information.

Following the success of ITS within Stratford-upon-Avon, a timetable for implementation has been drawn up for the entire County, including Leamington Spa and Warwick (for timescale see Table 7.1; page 46, Action 4).

Not all measures included within the Stratford ITS scheme will be rolled out across every town in Warwickshire. There are four key projects which will be implemented within the Warwick District area as a result of the ITS Strategy. These are as follows:

- Warwick car park management and information system;
- Leamington Spa car park management and information system;
- Provision of free text Variable Message Signing in Warwick / Leamington Spa, to advise on incidents and congestion; and
- Provision of Real Time information on Travel Coventry Service 12 between Leamington Spa and Warwick University / Coventry.

7.1.6 Theme A3 – Encouraging Public Transport

Action 5 : Improving the Attractiveness of Public Transport

A major transport scheme known as SPARK is being developed to achieve a 'step change' in the attractiveness of public transport in the Warwick, Leamington Spa and Whitnash area. SPARK will deliver a fully integrated and improved public transport network that will focus on the co-ordinated provision of Park and Ride, high quality bus services, real time information and integrated ticketing.

Action 6 : Public Transport Interchange Strategy

The LTP Public Transport Interchange Strategy aims to contribute towards the achievement of those objectives in the LTP by promoting a passenger transport network which offers the following:

- better accessibility, both in terms of physical access to transport and its availability, to the widest cross section of the population;
- more travel choices to access work, services and leisure activities;
- an attractive and sustainable travel alternative to the car thereby helping to reduce traffic congestion and pollution levels and improving air quality and the environment; and
- better integration with other modes of transport.

Action 7 : Bus Strategy

The Bus Strategy will contribute to achieving the objectives of the LTP by promoting a bus network, which provides an attractive and sustainable travel alternative to the car thereby helping to reduce traffic congestion and pollution levels and improving air quality and the environment.

The County Council works in partnership with Stagecoach (as the principal local bus operator within Warwick District) to improve the quality of vehicles that operate on both the commercial and tendered service network. Route 66 between Warwick, Leamington Spa and Whitnash has recently been re-branded as the G1 'Goldline', with the introduction of a dedicated fleet of high quality, low emission vehicles. Service 63 / 64 between Rugby, Southam and Leamington Spa has also been improved through the introduction of new low emission vehicles. It is planned to deliver similar improvements on other routes within the District through the LTP process, or where opportunities for new or cascaded vehicles arise.

Action 8 : Bus Information Strategy

The Bus Information Strategy will contribute to achieving the objectives in the LTP by promoting a transport network which offers the following:

- better accessibility to the widest cross section of the population;
- more travel choices to access work, services and leisure activities;
- an attractive and sustainable travel alternative to the car thereby helping to reduce traffic congestion and pollution levels and improving air quality and the environment; and
- better integration with other modes of transport

Action 9 : Passenger Rail Strategy

As with the Bus Strategy, the Passenger Rail Strategy will also contribute to achieving the objectives of the LTP by promoting a passenger rail network, which provides an attractive and sustainable travel alternative to the car thereby helping to reduce traffic congestion and pollution levels and improving air quality and the environment.

The West Midlands Route Utilisation Strategy (RUS) presents solutions to the principal issues that face the railways in the West Midlands. These are identified as improving performance, managing peak passenger demand and crowding, responding to forecast growth and managing growing and changing freight demand. The West Midlands RUS also acknowledges the need for a new station at Kenilworth, and improved track capacity between Leamington Spa and Coventry.

In relation to the proposed Kenilworth station, this is a key LTP proposal. As such, Warwickshire County Council is working with the new operator of the Cross Country franchise (Arriva) to deliver the scheme. In addition, the Warwick District Council Local Plan safeguards the site for the station.

Action 10 : Parking Strategy

The LTP Parking Strategy provides an opportunity to integrate a number of different mechanisms, such as the use of Intelligent Traffic Systems (ITS) to provide better information in relation to town centre car parking, the introduction of Decriminalised Parking Enforcement (DPE) in order to tackle on-street parking issues and improve traffic levels, and the introduction of Park and Ride schemes.

7.2 Proposed Indirect Measures to Improve Air Quality across Warwick District

There are a number of indirect measures that can be implemented by both the District and County Council that can improve air quality throughout Warwick District. These will reduce background pollution concentrations and indirectly will work towards achieving the Air Quality Objectives within the AQMA's. A summary of the measures is provided in Table 7.2 (Section 7.2.2).

7.2.1 Theme B1 – Reduction of the need to travel by car

Action 11 : Changing Travel Behaviour Strategy

The LTP contains a strategy with the aim to reduce the impact of cars on the environment by promoting and encouraging different modes of transport. The strategy focuses largely on school journeys (e.g. Walk to School initiatives) as well as journeys to and from work, with the aim of maintaining the proportion of car (sole passenger) journeys to school at the 2005 / 2006 level (15%).

Action 12 : Cycling Strategy

Warwickshire's Cycling Strategy contains a number of objectives aimed at improving the safety and quality of the cycling environment, whilst at the same time promoting cycling as an attractive mode of transport. One of the key goals of such a strategy is to increase the number of utility journeys made by cycling, these being journeys to school, work, the shops, the rail station and other locations / facilities. Proposed methods for increasing the number of people opting to use bicycles include the development of town cycle route network maps, prioritising routes, safer routes to school, advisory cycle routes (along less congested roads where dedicated cycle routes do not exist), rural cycle routes, canal towpaths and development of the Sustrans National Cycle Network. In addition, proposed strategic cycle routes for Warwick and Leamington Spa in particular are discussed under Action 2.

Action 13 : Safer Routes to School Strategy

As part of the Safer Routes to Schools initiative, schools are encouraged to write a School Travel Plan. Where a new school is being built, a School Travel Plan is required as part of the submission for planning approval. Funding is also available for schools with approved School Travel Plans to upgrade facilities that will encourage the use of sustainable travel, such as the provision of cycle storage and lockers. Safer Routes to School are normally only developed for schools that have produced a travel plan.

7.2.2 Theme B2 – Reduction of Background Concentrations

Action 14 : Land Use and Transportation Strategy

The principal aim of the Land Use and Transportation Strategy is to encourage new development in Warwickshire to be sustainable. Two key elements of the Strategy relate to the reduction in the need to travel and reducing the reliance on the use of cars by promoting improvements to public transport, walking and cycling. These elements are clearly outlined within a number of other actions contained within this Action Plan. Successful implementation of such strategies would not only have a positive impact on Leamington Spa and Warwick town centres, but also other areas within Warwickshire that would benefit from a reduction in background concentrations.

Action 15 : Sustainable Freight Distribution Strategy

As a way of working towards a sustainable freight distribution network in Warwickshire, a Countywide Freight Quality Partnership (FQP) was established in 2002. Through this Partnership, a number of measures have been proposed that are aimed to progress the LTP strategy in relation to freight distribution whilst achieving a balance between improving the local economy and protecting the environment. These measures include the production of freight route maps, zoning systems in urban areas to direct heavy goods vehicles, defining and enforcing delivery times, reviewing parking and loading restrictions, consolidation areas where goods are transferred to smaller deliver vehicles, and reducing the amount of HGV traffic through environmentally sensitive areas e.g. AQMA's. Such a strategy also includes the encouragement of switching from road to rail for the movement of freight.

<u>Action 16</u> : Local Air Quality Management and Pollution Control

The air quality monitoring network in Warwick District provides more accurate information and understanding of air quality. Continuous monitoring stations are installed at two sites within the District to monitor NO_2 concentrations so that modelled predictions can be verified and the progression of action plan measures can be monitored and assessed (the Leamington Spa AURN site also monitors ozone (O_3), carbon monoxide (CO), sulphur dioxide (SO_2) and particulates (PM_{10})). This is supplemented by NO_2 passive diffusion tubes throughout the District, a large number of which are within the declared AQMA's in Warwick and Leamington Spa.

WDC will continue their commitment to local air quality monitoring within the District to ensure a high standard of data is achieved to assess against air quality objectives.

Table 7.1 : Action Plan of Direct Measures Proposed for the AQMA's

Action	Description	Organisation Responsible	Timescale	Air Quality Improvement in AQMA	Other Potential Impacts	Indicator
1	Improvements to Junctions 13. 14 and 15 of the M40	Highways Agency / WCC	Short (Junction 15), Medium / Long (Junctions 13 and 14)	Potentially high	Potential increase in road traffic fatalities and/or reduced safety due to upward changes in traffic speed. Change in traffic habits due to decrease in congestion	Changes in traffic levels at junctions
2	Completion of the Urban Cycle Network within Warwick and Leamington Spa. Improve National Cycle Network routes between Warwick and Kenilworth, Warwick and Stratford, and Leamington Spa and Rugby	WCC / WDC / Sustrans	Medium / Long	Low	Improvements to health due to increased exercise over the population as a whole Decreases in climate change gas emissions	Changes in numbers of people cycling on routes which have been improved
3	Provision of dedicated secure on and off street PTW parking facilities in Leamington Spa and Warwick	WCC / WDC	Short / Medium	Low	Potential increase in accidents, injuries	Changes in parking levels at dedicated facilities
4	Development of Intelligent Transport Systems (ITS) in Warwick and Leamington Spa	WCC	Short / Medium	Medium	Potential improvements in safety	Changes in journey times/speeds
5	Improving the attractiveness of public transport in Warwick and Leamington Spa (SPARK), including the possible establishment of Park and Ride schemes	WCC / WDC	Short / Medium	Medium / High	Decreases in climate change gas emissions	Delivery of the SPARK major public transport scheme to time and budget
6	Implementation of the LTP Public Transport Interchange Strategy	WCC	Ongoing	Low / Medium		Delivery of the schemes and proposals within the strategy, in line with the proposed timescales

Action	Description	Organisation Responsible	Timescale	Air Quality Improvement in AQMA	Other Potential Impacts	Indicator
7	Improve (and promote) bus services between Leamington Spa, Warwick and Kenilworth	WCC / Stagecoach / Travel Coventry	Ongoing	Low / Medium	Decreases in climate change gas emissions	Delivery of the schemes and proposals within the Bus Strategy and other related LTP strategies
8	Implementation of the LTP Bus Information Strategy	WCC	Ongoing	Low / Medium	Potential decreases in climate change gas emissions	Delivery of the schemes and proposals within the strategy, in line with the proposed timescales
9	Promotion of a passenger rail network which provides an attractive and sustainable alternative to the car, including a new station at Kenilworth and improved services and infrastructure between Leamington Spa, Coventry and Nuneaton	WCC / Train Operators / Network Rail	Medium / Long	Medium	Potential issues for parking associated with a new station at Kenilworth, and capacity parking at existing stations	Delivery of improvements to heavy rail within the North / South Corridor, including a new railway station at Kenilworth, to time and budget
10	Implementation of the LTP Parking Strategy to integrate a number of different mechanisms, such as the use of Intelligent Traffic Systems (ITS)	WCC / WDC	Ongoing	Medium	Potential effectiveness may be reduced with new car parks in central locations	Delivery of the schemes and proposals within the strategy, in line with the proposed timescales

Table 7.2 : Action Plan of Indirect Measures to Improve Air Quality

Proposed Measure	Description	Organisation Responsible	Indicator	Date to be Achieved by
11	Reducing the impact of cars on the environment by promoting and encouraging different modes of transport	WCC / WDC	Mode share of bus, rail, walking and cycling	Ongoing
12	Improving the safety and quality of cycling routes across the county, and decrease the number of “utility” journeys	WCC / WDC / Sustrans	Changes in numbers of people cycling on routes which have been improved	Ongoing
13	Encouragement for Schools to write a School Travel Plan (to be included in planning applications for new schools)	Local schools	Number of schools submitting a Travel Plan	Ongoing
14	Implementation of the LTP Land Use and Transportation Strategy, which encourages new development in Warwickshire to be sustainable and promotes the use of public transport over personal car use.	WCC	Number of planning applications where sustainable transport	Ongoing
15	Implementation of the LTP Sustainable Freight Distribution Strategy, which includes measures to encourage the movement of goods by rail	WCC / Highways Agency / Department for Transport / Network Rail	Delivery of the schemes and proposals within the strategy, in line with the proposed timescales	Ongoing
16	WDC will continue their commitment to local air quality monitoring within the District to ensure a high standard of data is achieved to assess against air quality objectives	WDC	Number of monitoring sites, percentage data capture	Ongoing

8. Implementation and Monitoring

Warwick District Council will work jointly on the action plan measures with the relevant partners including the County Council, transport operators, schools and local businesses. To secure the necessary air quality improvements there must be involvement by all local stakeholders and WDC should actively work to encourage community participation in the process.

The implementation and effectiveness of the Action Plan will be carefully monitored through monitoring of NO_2 at relevant receptor locations within the relevant AQMA's. In addition, traffic flow changes on the key roads will also be assessed through the review and assessment process, and the uptake of local measures such as the Urban Mixed Priority Route will be monitored. Indicators have been provided for the indirect measures to be undertaken by the Council to monitor progress annually.

There will be regular review and assessment of the action plan proposals to evaluate progress and this will be reported annually

Glossary of Terms

Abbreviation	
AADT	Annual Average Daily Traffic
AQAP	Air Quality Action Plan
AQMA	Air Quality Management Area
AQS	Air Quality Strategy
AURN	Automatic Urban and Rural Network
CO	Carbon Monoxide
DEFRA	Department for Environment, Food, and Rural Affairs
DETR	Department for Transport and Regions
DoE	Department of the Environment
DPE	Decriminalised Parking Enforcement
FQP	Freight Quality Partnership
HGV	Heavy Goods Vehicle
ITS	Intelligent Transport Systems
LAQM	Local Air Quality Management
LDV	Local Delivery Vehicle
LGV	Light Goods Vehicle
LTP	Local Transport Plan
NAQS	National Air Quality Strategy
NO_2	Nitrogen Dioxide
NOx	Oxides of Nitrogen
NSCA	National Society for Clean Air
O_3	Oxygen
$\mu g/m^3$	Micrograms per cubic metre
PM_{10}	Fine particle matter less than 10 µm diameter
RSS	Regional Spatial Strategy
RTS	Regional Transport Strategy
RUS	Route Utilisation Strategy
SDF	Sustainable Development Framework
SO_2	Sulphur Dioxide
SPARK	Leamington **SPA** and Wa**R**wic**K**
TDP	Transport Delivery Plan
USA	Updating and Screening Assessment
WASP	Warwickshire Structure Plan
WCC	Warwickshire County Council
WDC	Warwick District Council

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Appendices

Appendix 1

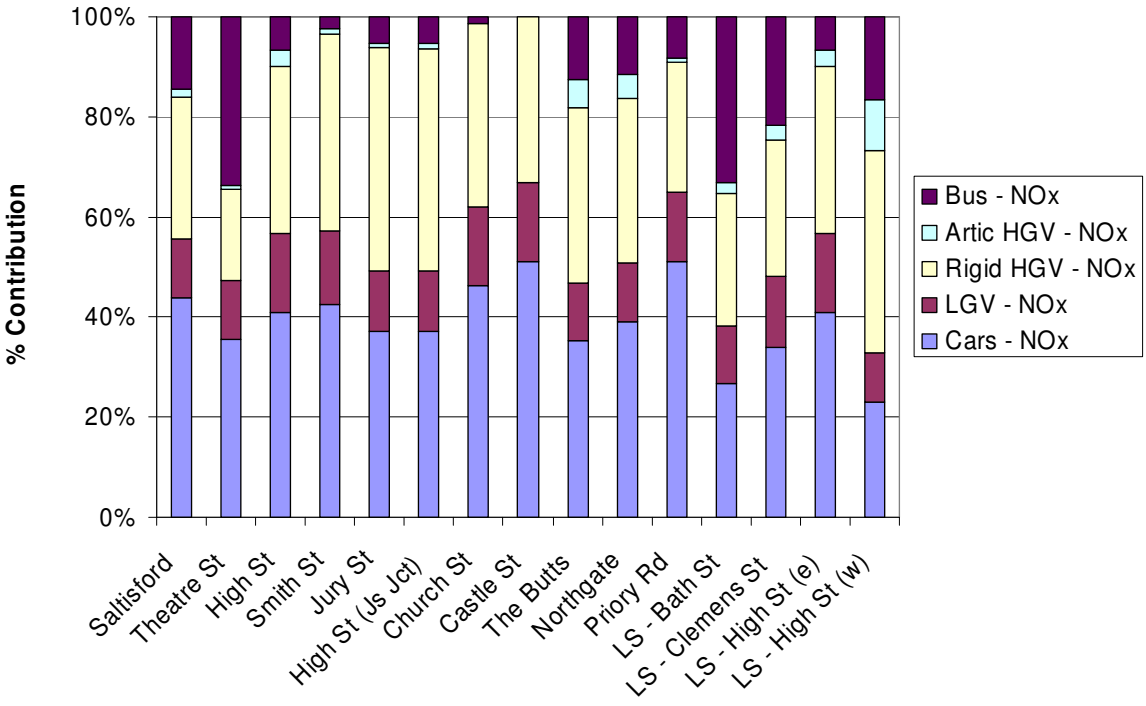
Table A1: Source Apportionment of NOx (Warwick AQMA)

Location	Predicted Total NO_2 2005 ($\mu g/m^3$)	Predicted Total NOx 2005 ($\mu g/m^3$)	Contribution ($\mu g/m^3$)			Contribution (%)		
			Background	LDV	HDV	Background	LDV	HDV
Saltisford (between West Rock roundabout & Parkes Street)	46.0	96.4	38.5	33.4	24.6	40.0%	34.7%	25.5%
Theatre Street (between Cocksparrow Street & Linen Street)	40.1	73.7	38.5	21.0	14.2	52.2%	28.5%	19.3%
Bowling Green Street (Junction with High Street & West Street)	43.4	85.6	38.5	28.0	19.1	45.0%	32.7%	22.3%
West Street	40.4	73.9	38.5	20.5	14.9	52.1%	27.7%	20.2%
High Street	49.2	110.2	38.5	42.8	29.0	34.9%	38.8%	26.3%
Jury Street (near Castle Street, The Butts & Smith Street Junction)	46.0	95.8	38.5	34.3	23.0	40.2%	35.8%	24.1%
The Butts	40.7	75.1	38.5	21.9	14.7	51.3%	29.1%	19.6%
Smith Street	34.4	58.2	38.5	12.0	7.6	66.2%	20.6%	13.1%
St. Nicholas Church Street	47.0	98.5	38.5	36.0	24.1	39.1%	36.6%	24.5%
Castle Lodge Roundabout	37.7	68.9	38.5	20.2	10.3	55.9%	29.3%	14.9%

Table A1.1 : Source Apportionment of NOx (Leamington AQMA)

Location	Predicted Total NO_2 2005 ($\mu g/m^3$)	Predicted Total NOx 2005 ($\mu g/m^3$)	Contribution ($\mu g/m^3$)			Contribution (%)		
			Background	LDV	HDV	Background	LDV	HDV
High Street (Junction with Church Street, Bath Street & Clemens Street)	36.9	64.5	38.5	11.3	14.7	59.7%	17.6%	22.8%
High Street (Junction with George Street & Althorpe Street)	36.6	63.6	38.5	10.2	14.9	60.5%	16.1%	23.4%
High Street (between St. Mary's Road & Farley Street)	30.8	48.7	38.5	4.9	5.4	79.0%	10.1%	11.0%
High Street (Junction with Wise Street)	50.6	114.0	38.5	27.8	48.1	33.8%	24.4%	42.2%
High Street / Old Warwick Road	32.1	52.2	38.5	6.1	7.7	73.8%	11.6%	14.8%
Bath Street (between Regent Place and Gloucester Street)	40.3	73.0	38.5	20.1	14.5	52.7%	27.6%	19.8%
Clemens Street (between Clemens Street & Tower Street)	33.1	53.3	38.5	6.2	8.7	72.2%	11.6%	16.3%
Clemens Street (adjacent to Charlotte Street)	28.2	43.0	38.5	2.3	2.2	89.5%	5.3%	5.2%
Church Street (Junction with Regent Place, Church Street & Chapel Street)	31.1	48.9	38.5	5.6	4.8	78.7%	11.4%	9.9%

Figure A1: Source apportionment of traffic related emissions at 15 locations within the Warwick and Leamington Spa AQMA's



Appendix 2

Table A2 : Continuous Monitoring Results (2007)

		Hamilton Terrace	Pageant House
Nitrogen Dioxide (NO_2)	Annual Mean (µg/m^3) (a)	24.8	53.0
	Hourly mean > 200 µg/m^3 (b)	0	63
	Capture Rate (%)	71	96
Particulates (PM_{10})	Annual Mean (µg/m^3) (c)	21.0	--
	24 hourly mean > 50 µg/m^3 (d)	10	--
	Capture Rate (%)	97	--
Sulphur Dioxide (SO_2)	15-minute mean > 266 µg/m^3 (e)	0	--
	Hourly mean > 350 µg/m^3 (f)	0	--
	Daily mean > 125 µg/m^3 (g)	0	--
	Capture Rate (%)	96	--
Carbon Monoxide (CO)	Maximum Running 8 Hour Mean (mg/m^3) (h)	2.1	--
	Capture Rate (%)	71	--
Ozone (O_3)	Annual mean of daily maximum 8-hour (µg/m^3) (i)	39	--
	Daily maximum 8-hour running mean > 100 µg/m^3 (j)	3	--
	Capture Rate (%)	96	--

(a) Annual mean objective 40 µg/m^3
(b) Not to be exceeded on more than 18 occasions
(c) Annual mean objective 40 µg/m^3
(d) Not to be exceeded on more than 35 occasions
(e) Not to be exceeded on more than 35 occasions
(f) Not to be exceeded on more than 24 occasions
(g) Not to be exceeded on more than 3 occasions
(h) Max running 8 hour mean 10 mg/m^3
(i) 8 hour mean objective 100 µg/m^3
(j) Not to be exceeded on more than 10 occasions

Table A2.1 : Bias Adjustment Factors for Co-Located Diffusion Tubes (2007)

Diffusion Tube	Unadjusted Mean [A]	Automatic Mean [B]	Bias	Bias Adjustment [B/A]
Hamilton Terrace 1	30.6	29.8	2.7% (a)	0.97 (a)
Hamilton Terrace 2				
Hamilton Terrace 3				
Pageant House 1	61.5	53.0	16.0% (b)	0.86 (b)
Pageant House 2				
Pageant House 3				
			Average Factor	0.918

(a) Based on the average of Hamilton Terrace 1, 2, and 3 diffusion tube results (24.1 µg/m^3)

(b) Based on the average of Pageant House 1, 2, and 3 diffusion tube results (56.1 µg/m^3)

The factor derived from Table A2.1 has been used for all 2007 diffusion tube data presented in this report.

For 2006 data, the site at Hamilton Terrace, Leamington Spa had low data capture and therefore for 2006 data a bias adjustment factor based on the collocation study at Pageant House, Warwick has been used as at Table A2.2

Table A2.2 : Bias Adjustment Factors for Co-Located Diffusion Tubes (2006)

Diffusion Tube	Unadjusted Mean [A]	Automatic Mean [B]	Bias	Bias Adjustment [B/A]
Pageant House 1	56.1	57.6	2.6% (b)	1.03 (b)
Pageant House 2				
Pageant House 3				

(b) Based on the average of Pageant House 1, 2, and 3 diffusion tube results (56.1 µg/m^3)

Appendix 3

Scenario Testing

3.1 Traffic Flows – High Street, Warwick

In order to put some of those measures discussed in Section 6 into context, a brief study was undertaken looking at the proposed impact of changes in traffic flows and traffic profiles along High Street, one of the busiest roads in Warwick. Such an assessment will provide some clarity as to the levels of traffic reduction required (along High Street, Warwick, at least) or changes in traffic composition, in order for the annual mean AQS objective for NO_2 to be met at sensitive receptors along this road.

As part of this study, the most recently available traffic count data has been used. This data was based on vehicle count data taken along High Street, Warwick, on 18th June 2008 and on Bath Street, Leamington Spa on 14th May 2008.

Scenario A : Percentage Reduction to Total Traffic

Using the Annual Average Daily Traffic (AADT) flows for High Street, Warwick, the reduction in predicted concentrations of NOx / NO_2 has been determined based on an AADT reduction of 5%, 10%, 20%, and 30% using the Design Manual for Roads and Bridges (DMRB). The DMRB has been adjusted in relation to the monitoring site on High Street. The reduction in AADT is provided in Table A3.1 along with the predicted NOx / NO_2 concentration. It has been assumed for this Scenario that percentage HGV will remain at 5.3%.

Table A3.1 : Predicted NOx / NO_2 based on Reduction AADT (Warwick)

	No Reduction	5%	10%	20%	30%
AADT	16,225	15,414	14,603	12,980	11,358
LDV	15,371	14,602	13,834	12,297	10,760
HGV	854	812	769	684	598
NO_2	**56.4**	**55.8**	**54.6**	**51.4**	**48.0**
NOx	174.0	170.8	165.0	149.1	133.3

Based on 2008 traffic data, not even a 30% reduction in traffic along High Street, Warwick would result in concentrations less than the annual mean NO_2 objective of 40 µg/m^3. However, vehicle emissions are expected to reduce as technologies improve, together with background concentrations of NOx / NO_2 therefore in the future, these reductions should be taken in the context of reducing NO_2 concentrations. In addition, given the high NO_2 concentrations along High Street compared to other areas within Warwick and Leamington Spa, such a reduction may also result in the AQS being met elsewhere.

Scenario B : Percentage Reduction in HGV Traffic

3.2 High Street, Warwick

In Appendix 1, Figure A1, the 'emissions' show a 50 / 50 split HGV to cars. However, based on 2008 traffic data, HGV's comprise 5.3% of the 'traffic' composition along High Street, Warwick. Given that the HGV proportion of the traffic composition is already relatively low, unfortunately, any further reductions are unlikely. However, any reductions in HGV's would have some effect in reducing those predicted concentrations detailed in Table A3.2

In practical terms, therefore, to enable reductions in emissions within High Street, the focus of the Action Plan needs to be skewed towards non-HGV traffic. This is reflected throughout this document and Section 6 in particular, where measures have been proposed that relate specifically to the movement of non-HGV traffic e.g. school runs, journeys to and from work, and efforts to change behavioural patterns in relation to the use of cars for such purposes.

3.3 High Street, Leamington Spa

As indicated in the LAQM Further Assessment (2006) and summarised in Appendix 1 – Table A1.1 of this Action Plan, and graphically shown in Appendix 1, Figure A1, emissions from HGV traffic along the High Street in Leamington Spa represent a slightly higher proportion of the total predicted NOx concentrations than those from LDV traffic. A reduction in the movement of HGV traffic along the High Street, Leamington Spa, should be addressed where possible through proposed measures within this Action Plan (e.g. Action 16 – Sustainable Freight Distribution).

3.4 Bath Street, Leamington Spa

Using the Annual Average Daily Traffic (AADT) flows for Bath Street, Leamington Spa, the reduction in predicted concentrations of NOx / NO_2 has been determined based on an AADT reduction of 5%, 10%, 20%, and 30% using the Design Manual for Roads and Bridges (DMRB). The DMRB has been adjusted in relation to the monitoring site on Bath Street. The reduction in AADT is provided in Table A3.2 along with the predicted NOx / NO_2 concentration. It has been assumed for this Scenario that percentage HGV will remain at 8%.

Table A3.2 : Predicted NOx / NO_2 based on Reduction AADT (Leamington Spa)

	No Reduction	5%	10%	20%	30%
AADT	8681	8247	7813	6945	6077
LDV	7985	7586	7187	6388	5590
HGV	695	661	626	556	487
NO_2	**48.7**	**47.8**	**46.9**	**44.9**	**42.5**
NOx	130.0	126.0	122.1	113.4	103.5

Based on 2008 traffic data, not even a 30% reduction in traffic along Bath Street, Leamington Spa would result in concentrations less than the annual mean NO_2 objective of 40 $\mu g/m^3$. However, vehicle emissions are expected to reduce as technologies improve, together with background concentrations of NOx / NO_2 therefore in the future, these reductions should be taken in the context of reducing NO_2 concentrations.

Appendix 4

The AQAP Public Consultation Process

An informative document pack, including a questionnaire (included in Appendix 4) and comments sheet, was delivered to all properties within the AQMA's areas (Warwick, Leamington Spa, and Barford). These packs were hand delivered.

All identified statutory consultees and other relevant consultees received packs via postal services, email, or hand delivery. There was also a designated 'helpline' setup for comments, queries etc

All information received from the consultation process was reviewed and the results were complied / reported on.

The Public Consultation ran for a period of 8 weeks, coming to an close on the 1st January 2008.

Results of Public Consultation on Draft Action Plan

A majority of respondents (63%) would support actions to improve air quality, even if it results in an inconvenience to them regarding travel times.

A significant proportion of all respondents (53%) gave their primary purpose for travelling through / within the District was as a route to work.

The main concerns / comments arising from the consultation were:

Public Transport:

The majority (65%) of the respondents either never / less than monthly used public transport. However, a total of 87% or respondents would support improved bus routes.

Many respondents referred to their negative perception regarding the cost of bus travel; timing reliability, journey time, bus condition, and frequency and comfort of the service. The perception was of inconvenience of the routes, not going where and when they require, compared to using the car.

One or two referred to lack of information as to route / times etc. A number suggested either Hybrid-fuel buses or those using "cleaner" fuels only be allowed into town. A few people referred to needed improvements in the train services and interlinking of services.

Bicycle Facilities:

76% of respondents either never / less than monthly used the cycle facilities provided in the District. A number of respondents reiterated the need for better and safer joined up cycle routes, with priority given to cyclists over motorized transport at junctions and / or installing cycle routes away from heavy traffic. It was also suggested that the installation of safe secure areas where bikes could be stored e.g. at railway station etc, could encourage their use.

A number of walkers complained of the problem caused by cyclists also using the pavement. The need to separate walkers from cyclists, as well as cars, was commented on.

School Run:

A number of respondents highlighted the need to reduce the impact of the school run, either by arranging for a bus shuttle service from an out of town point, or encouraging walking to school. 90% of respondents would support promotion of a "walk to school" scheme.

Traffic Management:

The need to discourage traffic from using the "through routes" was picked up by a number of respondents, with a number of solutions suggested:-

(i) Ban through traffic by pedestrianising various roads;
(ii) Impose strictly-enforced speed limits;
(iii) Introduce "obstacles" to encourage drivers to use other routes;
(iv) Ban HGV's (NB: businesses still need deliveries); Introduce weight limits;
(v) Introduce one-way systems; and
(vi) A few refer to Congestion Charging.

Conclusion

Within the AQAP, these comments have been considered, and actions incorporated where feasible, which will implement improvements to address the respondents' concerns.

Warwick District Council

PUBLIC CONSULTATION – AIR QUALITY ACTION PLAN

In December 2004 Warwick District Council declared three Air Quality Management Areas (AQMA) due to levels of Nitrogen Dioxide (NO_2), mainly associated with traffic related pollution.

The three areas currently designated are:

1. **Leamington Spa** – centred on High Street, Clemens Street, and Bath Street
2. **Warwick** – High Street, and Jury Street,
3. **Barford** – Bridge Street and Wellesbourne Road

Following the Local Air Quality Management (LAQM) 'Further Assessment Report' published in September 2006 the Warwick AQMA is to be extended. The following streets are to be included into the Warwick AQMA;

Warwick – The Butts, St. Nicholas Church Street, Bowling Green Street, Northgate, Theatre Street, Smith Street & The Saltisford

Warwick District Council, in conjunction with Warwickshire County Council, has now produced a draft Air Quality Action Plan (AQAP) for the District. The Government requires that we formulate the final draft in consultation with local residents, business, other organisations and statutory bodies. We would therefore like to hear your views on our draft plan and the issues that affect you, and would appreciate you taking 5 minutes to complete the questionnaire overleaf.

The Executive Summary of the Draft Action Plan and plans showing the extent of the AQMA's are enclosed in this pack. A full version of the Action Plan can be accessed on our website **www.warwickdc.gov.uk/aqap** Paper versions of the full plan can be viewed at 'Warwickshire Direct' within Kenilworth Library; 'Warwick Connection' within Warwick Library; Leamington Spa Library (opening times for these premises can be found on the website stated above); WDC Offices at Riverside House; or a copy can be obtained from the Environmental Protection Team at the address given below.

Your views are important to us and we will keep them confidential at all times.

I would be grateful if you could complete the questionnaire / comment sheet and return to the Council by **1st January 2008**.

If you have any queries on the plan, or the consultation process, please contact the Council on **(01926) 456701** where you can leave your details and you will be contacted by the Environmental Protection Team; you may also email any queries to; **ehpollution@warwickdc.gov.uk**

Name (Optional)…….. ----------
Postcode (Optional)……... ----------

Thank you for taking time to complete this questionnaire (overleaf). Please hand it to a member of staff at the Riverside House Main Reception or return it to:

Warwick District Council, Environmental Health, Riverside House,
Milverton Hill, Royal Leamington Spa, CV32 5QF.

If you would like to receive a full copy of the Draft Air Quality Action Plan or any other Air Quality information please contact a member of the Environmental Protection Team on the numbers quoted above.

Please indicate by ticking the boxes below the options which reflect your personal circumstances, and whether you would support in principle or would use the measures set out if they were introduced within Warwick District.

Which 'AQMA' do you travel to / through the most?

Leamington Spa…… ☐

Warwick…… ☐

Barford…… ☐

Are you a frequent user of the road networks that run through this AQMA?

Every day…… ☐ *Occasionally…* ☐

At least once a week ☐ *Never……..* ☐

What is your primary purpose for using this route which passes through an AQMA?

Route to work (short journey still within the District).. ☐

Route to work (long journey outside the District)… ☐

School Run…… ☐

Other…….. ☐

(Please specify)

Would improvements to traffic management within the AQMA's affect your daily journeys?

Greatly improve…… ☐

Improve a little…….. ☐

Not improve at all…… ☐

(Please comment)

3 **How frequently do you use public transport within Warwick District?**

Every day…… ☐ *At least once a month….* ☐

At least once a week. ☐ *Less than monthly / Never.* ☐

4 **How frequently do you use the cycle facilities provided within the District?**

Every day…… ☐ *At least once a month…...* ☐

At least once a week. ☐ *Less than monthly / Never..* ☐

5 **Do you take part in any car sharing schemes, whether just sharing driving duties with a friend / colleague, or as part of a formal scheme such as a Car Club?**

Yes…… ☐ *No……* ☐

5a **If *No,* for what reason? (tick all that apply)**

Impractical or inconvenient……... ☐

Nobody to car share with…… ☐

Job requires me to travel alone……..... ☐

Hadn't considered the option……..... ☐

6 **Could you accept delays in your journey, or a slightly longer journey, if it means that air quality is improved within the AQMA areas?**

Yes…… ☐ *No……* ☐

Maybe / Undecided……..…… ☐

7 **What would encourage you to use buses / cycles / walk rather than using your vehicle?**

(Please comment)

How do you feel about the following proposed measures to improve air quality within Warwick District? (Please refer to the Executive Summary enclosed with this letter or the Full Report)

	Strongly Support	Support	Neutral	Oppose	Strongly Oppose
Improved Bus Routes……					
Implementation of a Park & Ride Scheme……					
Development of new cycle routes……					
Promotion of 'Walk to School' schemes……					
Promotion of car-sharing schemes……					
Continuation of a sustainable Parking Strategy…					

Please use the space below (or an additional sheet) to provide any additional comments or suggestions that may be realistically considered to improve air quality within Warwick District