

West Wiltshire District Council

Air Quality Action Plan

September 2005

Environmental Protection



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Executive Summary

Areas in two of West Wiltshire's towns are predicted to fail to meet the Government's health based air quality objectives for 2005.

As a result of extensive monitoring work and computer modelling work two Air Quality Management Areas (AQMAs) were declared in relation to Nitrogen Dioxide. They are in Westbury and Bradford On Avon. The pollution is attributable to road traffic.

West Wiltshire District Council produced a Draft Air Quality Action Plan (AQAP) in March 2005 and following consultation, this final action plan has been produced as part of West Wiltshire District Councils duty under the Environment Act 1995.

The Action Plan follows on from the Stage III assessment which was completed in 2001 and should be read in conjunction with the Stage IV report completed in 2003. (Available at the following address:
http://www.westwiltshire.gov.uk/Environmental_Health/Environmental_Protection/Air_Quality/Stage%204%202003/index.php)

Following the declaration of two Air Quality Management Areas (AQMAs) in Bradford On Avon and Westbury in 2001 further monitoring and modelling work has been undertaken. The Stage IV report concluded that the annual average objective for Nitrogen Dioxide in both areas would not be met without some sort of intervention to reduce the levels (caused by road traffic).

The AQAP sets out a package of measures which aim to improve the air quality in the two towns and meet the Government's air quality objectives for Nitrogen Dioxide (NO₂) and PM₁₀ in Bradford On Avon.

The Action Plan has been produced using government guidance. For the AQAP to be effective it will require support from members of the public,

stakeholders, local businesses and central Government. By implementing some simple measures the public and businesses can help to reduce pollution.

As the pollution problems in the two towns are caused by road traffic the Action Plan is mainly focused on transport measures.

The AQAP identifies a number of measures which are aimed at improving air quality. In addition some will also deliver wider benefits to the communities.

This AQAP aims to meet the objective level for nitrogen dioxide. It has not been possible to achieve the air quality target date of 2005 because of the time required to implement some of the measures. This Action Plan aims to meet the targets as soon as possible and will endeavour to meet the 2010 target for nitrogen dioxide.

As the air pollution emissions are derived from road traffic many of the measures are reliant upon Wiltshire County Council (WCC) as the Highways Authority to deliver them. The AQAP has been developed through close working with WCC colleagues and it is recognised that some of the transport measures will require funding through the Local Transport Plan (LTP).

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1.0 Introduction

The main reasons for tackling poor air quality are the links between air quality and the quality of life and the need to minimise the risk of poor air quality to human health. On a national level air pollution is thought to result in more than 32,000 premature deaths in the UK each year and can worsen existing health conditions. Polluted air threatens peoples health and the quality of the environment.

There are steps that can be taken by West Wiltshire District Council, Wiltshire County Council, businesses and members of the public in West Wiltshire and surrounding areas to help reduce air pollution in Westbury and Bradford On Avon.

The Action Plan sets out a package of measures for improving air quality in the two towns. Some of the proposed measures are dependant on funding so may have to be reviewed if resources are not available.

1.1 The Air Quality Management Process

West Wiltshire District Council (WWDC) has a statutory duty under the Environment Act 1995 and subsequent regulations to review and assess the air quality in its area against 7 pollutants which are set out in the National Air Quality Strategy. These were updated in the Air Quality Regulations 2000. Local air quality management itself forms a major part in the Government's, and the Devolved Administrations', strategies to achieve the UK air quality objectives. Where it is predicted that the air quality targets will not be met an Air Quality Management Area (AQMA) must be declared and an Air Quality Action Plan (AQAP) must then be produced which sets out the measures to reduce air pollution.

1.2 Why we need an Action Plan

An AQAP is required to bring down the air pollution levels (in this case nitrogen dioxide and PM₁₀) to levels that are safe and to prevent air quality worsening in areas where the objectives are currently being met. Air pollution can impact on human health. In relation to nitrogen dioxide at relatively high concentrations it can cause inflammation of the airways. There is evidence to show that long term exposure may affect lung function and it enhances the response to allergens in sensitised individuals. Particulate matter, PM₁₀, is associated with a range of effects on the respiratory and cardiovascular systems, asthma and mortality.

It is not just the odd day of high pollution that can damage health as it is thought that the long term exposure to lower levels of pollution could be more harmful to health. This is reflected in the national objectives which are expressed both as hourly averages and annual means. It is the annual mean target for nitrogen dioxide that is not being met in Westbury and Bradford On Avon.

The health effects of air pollution differ depending upon the pollutant. The effects of pollutants regulated by the National Air Quality Strategy can be seen in Appendix 3.

Pollution affects people in different ways. Health effects can be dependant upon various factors, for example those most at risk are young children, the elderly, pregnant women and those people with existing heart or lung problems, and those who are 'naturally susceptible' to air pollution.

The government's air quality objectives that councils across the country are working towards are based on medical evidence of pollution which also take into account the costs, benefits and feasibility of moving towards the standards. It should be noted that they do not guarantee to protect health and

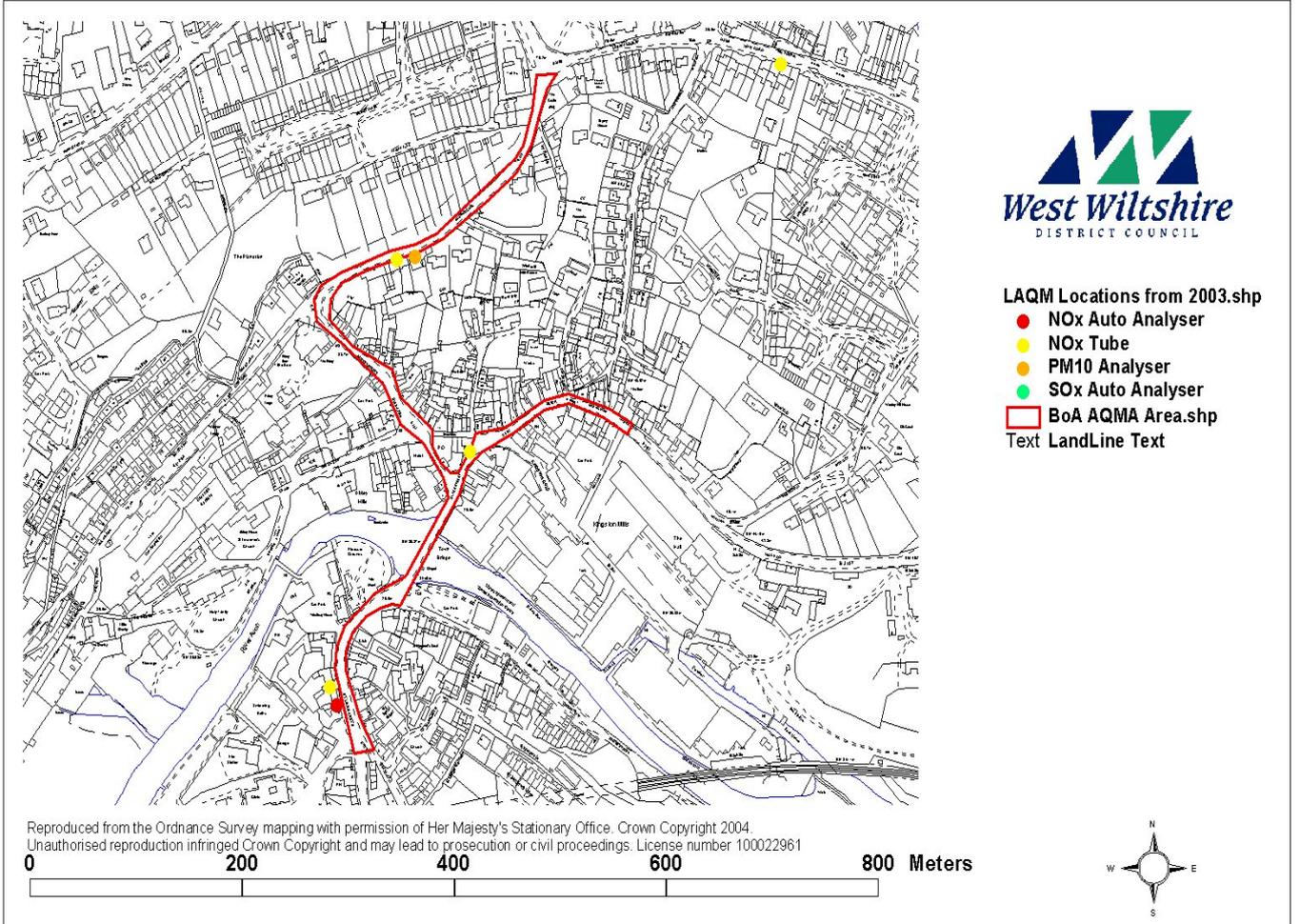
that some people may still experience adverse effects of pollution even if the air quality objectives have been met.

1.3 Air Quality Management Areas

Two Air Quality Management Areas (AQMAs) were declared in November 2001, one in Bradford On Avon and one in Westbury. They were both declared with respect to the Government's annual mean objective for nitrogen dioxide, which is 40 µg/m³ (micrograms per cubic metre) and Bradford On Avon was also declared for particulate matter (PM10). The problems with the air quality in both AQMAs are related to traffic.

Figure 1 Bradford On Avon AQMA

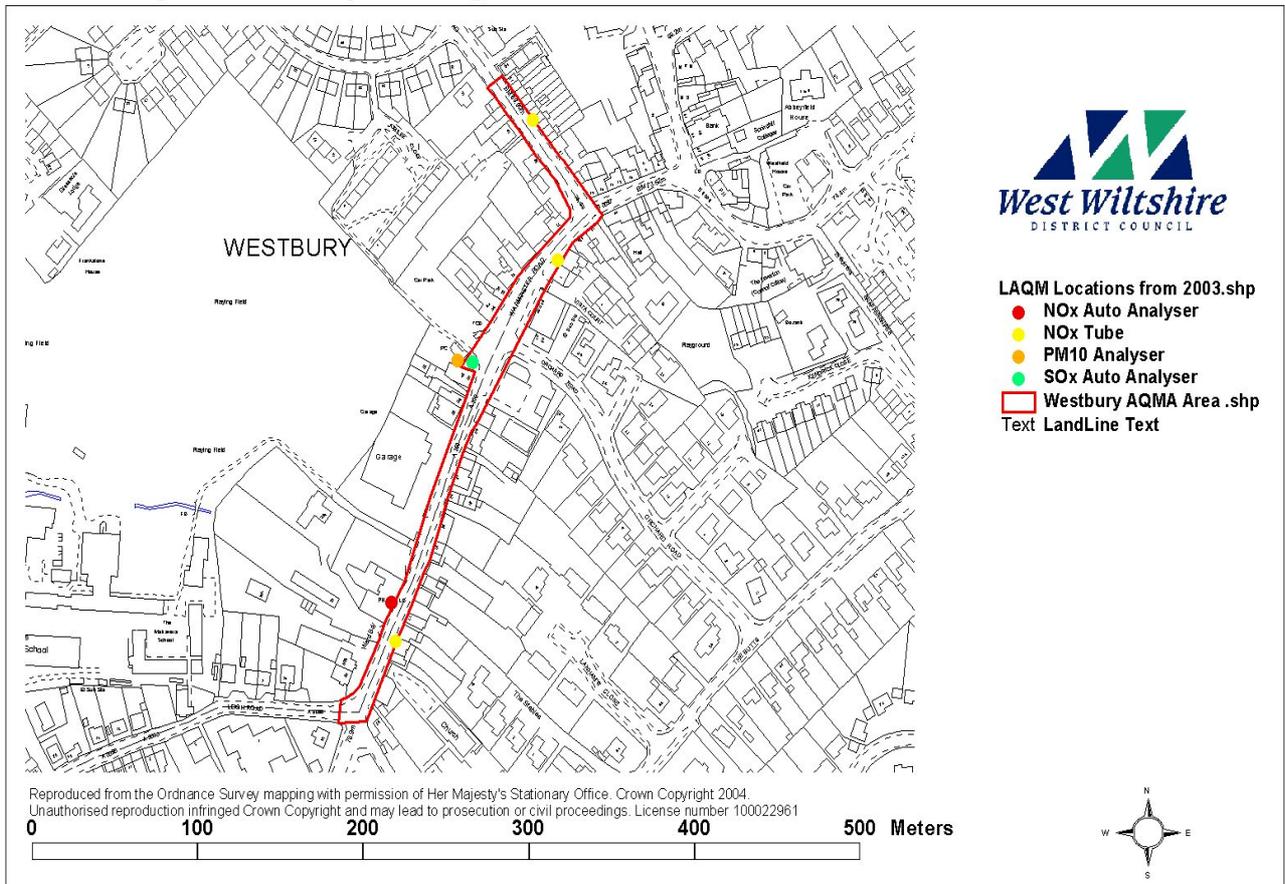
WWDC Reference: Location of NO₂ Diffusion Tubes within Bradford on Avon Air Quality Management Area



- Masons Lane
- St Margarets Street
- Market Street
- Silver Street

Figure 2 Westbury AQMA

WWDC Reference: Location of NO2 Diffusion Tubes within Westbury Air Quality Management Area



- Warminster Road
- Haynes Road

West Wiltshire District Council's Stage IV assessment concluded that the two AQMAs should remain.

1.4 Summary of work leading to the production of the Action Plan

The Action Plan has come about as a result of work undertaken by West Wiltshire District Council which is detailed in four air quality review and assessment reports.

First Stage Report

The First Stage report was a desktop study using existing information. The report highlighted that the Council would need to proceed to a second stage and possibly third stage review and assessment due to potentially significant releases of 1,3-butadiene, carbon monoxide, lead, nitrogen dioxide, particles (PM10) and sulphur dioxide. However benzene was not thought to pose any problem.

Second Stage Report

The Stage 2 report provided the technical input in relation to the pollutants highlighted by the first stage report. Modelling and monitoring for the pollutants of concern was carried out during 1999 in an attempt to provide predictive concentrations of the pollutants by their relevant objective compliance date. The report concluded that WWDC needed to proceed to a Stage 3 review and assessment for 1, 3-butadiene, nitrogen dioxide, sulphur dioxide and PM10. Sources of the emissions were identified as being likely from road or industrial sources.

Third Stage Review and Assessment

The Third Stage review and assessment was based upon further real time monitoring and modelling work. It concluded that 1,3-butadiene and sulphur dioxide would not exceed the Government's objectives. However it concluded that parts of Bradford On Avon and Westbury would not meet the nitrogen dioxide annual mean objective of 40 µg/m³ by the target date of 31 December

2005. In addition Masons Lane in Bradford On Avon may not meet the objectives for fine particulates. (PM10)

Relevant locations

The Air Quality Strategy objectives for nitrogen dioxide are primarily based on health effects. Therefore all work in relation to the assessment of air quality must be focused on those locations where members of the public are likely to be exposed over the averaging period for the pollutant objective. The objective for nitrogen dioxide is an annual objective so a relevant exposure relates to residential dwellings. The Technical Guidance LAQM. TG (03) states that 'long term' objectives apply where members of the public are likely to be exposed over the averaging period of the objective. In the case of an annual objective this might be where people are exposed for a cumulative period of 6 months in a year.

The streets in Westbury AQMA are predominantly residential with a few shops. In the streets of Bradford On Avon AQMA there are more shops and cafes, however there are many flats above the shops. In relation to flats above shops current guidance is that without further specific information, ground level concentrations should apply in these circumstances.

The tables below show the approximate numbers of residents living in the streets of the AQMAs.

Table 1 Bradford On Avon

Location	Approximate number of residents *
Masons Lane	20
Market Street	32
Silver Street	30
St Margarets Street	29
Total	111

*Based upon the register of electors 2004, therefore does not include receptors such as children

Table 2 Westbury

Location	Approximate number of residents *
Haynes Road	13
Warminster Road	46
Total	59

*Based upon the register of electors 2004, therefore does not include receptors such as children.

Before declaring the AQMAs the council carried out local consultation to find out where people felt the boundaries of the AQMAs should be, and to gauge local people's concerns about air quality in the area where they live or work.

A questionnaire was hand delivered to all properties within the AQMAs. They were distributed to properties in each town with the free newspaper and left in local shops, libraries, Tourist Information Centres etc. The questionnaire also gave information about the air quality and need for an AQMA.

Display boards were also located in the council offices, leisure centres and libraries in the towns.

The main consultation event consisted of a road show in each town where people were asked to draw on maps where they felt the boundary of the AQMA should go. This proved to be very useful. Local press also reported on the events. Further information on consultation can be seen in Chapter 5.

Stage 4 Review and Assessment

The Stage 4 review and assessment report summarises the further work undertaken as required under Part IV of the Environment Act 1995. The purpose of the report is to enable the Local Authority to supplement information gathered in earlier review and assessment work. It also confirms the original assessment of air quality against the prescribed objectives.

To help with the Stage 4 and production of an Action Plan WWDC purchased a further automatic nitrogen dioxide analyser which has been located in the cellar of 44 St Margarets Street in Bradford On Avon. A co - location diffusion tube study has also been undertaken against this analyser. This enables the accuracy of the nitrogen dioxide diffusion tubes used in 2004 to be determined. Further nitrogen dioxide diffusion tubes have been located in and around the Bradford On Avon AQMA to provide up to date information and help with updating the AAQuire model (a pollution dispersion modelling package)

The nitrogen dioxide automatic monitor in Westbury was also relocated from the entrance to the public car park on Warminster Road to the old pub building (now belonging to Oval Motors) on Warminster Road in order to gain a more accurate indication of pollution levels at a relevant location.

1.5 Source Apportionment

Chapter 5 of the Stage 4 review and assessment report looks at source apportionment in the two AQMAs. It was not possible to undertake a full source apportionment study as a full local breakdown of vehicle types was not available. In Masons Lane, BOA 86.75% of the nitrogen dioxide was traffic

related and 13.25% was background. In Warminster Road, Westbury, 78.7% of nitrogen dioxide was attributed to traffic and 21.3% was background (based on 2002 data).

The cause of the air quality exceedences in Westbury and Bradford On Avon has been attributed to traffic. No significant contributions from industrial or point sources were identified in the district. It is for this reason that most of the options investigated concentrate on traffic levels and vehicle emissions. Wiltshire County Council, as the Highways Authority for West Wiltshire will therefore be pivotal to the success of this action plan.

The Stage 4 report concluded that:

- The AQMA boundary would remain unchanged in Westbury
- A further 3 months monitoring of PM10 in Bradford On Avon would be required before determining that the annual average objective will be met.
- NO2 monitoring would continue in St Margarets Street

1.6 How can pollution be reduced?

There is no one single measure which is going to improve the air pollution in either Westbury or Bradford On Avon. A package of measures will be required which will also require input from the public, businesses, stakeholders and the Council.

The Government has produced guidance on the types of measures they feel should be included for consideration in the AQAP. These include promoting cleaner fuels, measures to reduce traffic levels, land use planning and regulation of industry.

As the nitrogen dioxide levels in the AQMAs are caused by road traffic, the AQAP looks in the main at transport.

Reducing levels of traffic can be achieved by promoting alternatives to the car and measures to manage the road network. This will be primarily delivered through Wiltshire County Councils' (WCC) Local Transport Plan (LTP).

Reducing emissions from individual vehicles can also be considered. The amount of pollution a vehicle produces is dependant on a variety of factors such as its age, engine capacity, fuel type and how well it is maintained. It is a known fact that older vehicles and harsh driving are the largest causes of additional pollution.

Emissions can be reduced by encouraging the use of smaller and more efficient vehicles, improving vehicle maintenance and measures to encourage the replacement or 'cleaning' up of older vehicles.

1.7 Action Plan Development Group

In the production of this action plan WWDC has tried to ensure that all relevant parties have been consulted throughout the process. An Action Plan Group was set up to allow effective co-ordination of the work. This reflects the different involvement organisations have in this role. The group comprises of officers from the district and county council, councillors and consultants. A full list can be seen in appendix 1. The group has held regular meetings during the review and assessment process in order to get input from each of the interested parties. The group discuss options available to improve air quality and then try to evaluate the impact that these options may have on other council and non council policy areas. Ultimately the outcomes from these meetings have been used to formulate and implement an air quality action plan for Westbury and Bradford On Avon. An important area of the work is to consider how consultation has been achieved. Community Planning Officers have been invaluable in this area.

1.8 Assessment of options

Each of the options that have been considered take into account how they will improve air quality. In addition the other effects on the areas economic stability and the population have been considered. The aim has been to highlight the positive, negative and indirect details of each option. At this stage it is not possible to quantify each of the options but they are being evaluated qualitatively.

The resulting Action Plan is a culmination of various options detailed in this report which are predicted to result in the greatest improvement in air quality while taking into account the financial, economical and social costs and benefits based on government guidelines. It should also be noted that the work undertaken to improve air quality must be proportionate to the benefits achieved.

1.9 Achievement of Timescales

As an Authority it is necessary to work towards meeting the air quality objectives and demonstrate the Councils commitment to doing so. Hence the objectives are unlikely to be met by 2005. The Council will however be actively seeking to meet the EU limit values by 2010. This will coincide with the Local Transport Plan timescales. The Action Plan and options will be reviewed regularly, and progress on meeting the objectives will be reported to defra on an annual basis. It should also be noted that actions will not necessarily focus on the streets within the AQMAs but will actually involve a wider area. The impacts of these wider actions should, however, impact on the AQMAs in question.

All of the air quality reports are available from West Wiltshire District Council
Offices:

Environmental Protection
West Wiltshire District Council
Bradley Road
Trowbridge
Wiltshire
BA14 0RD
Tel 01225 770358

Or you can download copies of the reports from:

http://www.westwiltshire.gov.uk/Environmental_Health/Environmental_Protection/Air_Quality/index.php

2.0 Chapter 2 –Existing policies and plans which will improve air quality in Bradford On Avon and Westbury

2.1 Introduction

We have considered the two towns separately in producing the action plan, but some common policy options apply to both towns. This chapter considers these joint policy options.

2.2 West Wiltshire Economic Partnership

The West Wiltshire Economic Partnership (WWEP) is a Partnership between public and private sector organisations with an interest in promoting the economic well being of the district. It was formally launched in September 1998 and operates legally and financially through West Wiltshire Enterprise Ltd. The Partnership is managed through a service level agreement with the Wessex Association of Chambers of Commerce (WACC), and a part time Partnership manager. The District Council makes a financial contribution to the partnership and has committed to a close working relationship with WWEP through its economic development unit. The Council has also adopted WWEP's Action Plan 2004-05 as the basis of its economic development service plan to avoid duplication and ensure effective and efficient delivery of the activity outlined in WWEP's Action Plan for 2004-05.

A full copy of their action plan can be viewed on the WWDC website at:

http://www.westwiltshire.gov.uk/economic_development/wwep-action-plan-final-04.pdf

The transport and infrastructure part of the WWEP Action Plan is relevant to this Action Plan and states:

Transport & Infrastructure :

- Continue to monitor and lobby for improvements to transport & infrastructure.
- Lobby for improvements for the A350 from the M4 to the Warminster bypass , lobby for completion of Westbury by-pass, support planned improvements to A36 between Codford and Heytesbury

The above actions are to be achieved through attending various meetings as necessary.

Partners of the West Wiltshire Economic Partnership

Business Link Berkshire and Wiltshire (BLBW)
Great Western Enterprise (GWE):
Institute of Directors, West of England
Wiltshire College
Wessex Association of Chambers of Commerce
West Wiltshire District Council (WWDC):
Jobcentre Plus - West Wiltshire
West Wiltshire Learning Partnership
Wiltshire County Council
The Federation of Small Businesses
The Learning and Skills Council
Community First
Country Land and Business Association
Voluntary Action West Wilts

Further details of these partners can be found at:

<http://www.wwep.org.uk/partners.html>

2.3 West Wiltshire District Council Planning and Planning Policy

Local planning decisions have the potential to affect local air quality significantly either through location and design of emission sources or receptors.

The planning system is going through a number of changes and the recently enacted Planning and Compulsory Purchase Act 2004 replaces most of the Town and Country Planning Act 1990 requirements. The new Act has removed the requirement for Structure Plans and Local Plans. The planning authority are now required to prepare Local Development Documents (LDDs) as part of their local development schemes to apply national policies stated by the Government and the policies of the Regional Spatial Strategies (RSSs).

New planning guidance has recently been published in relation to pollution control which is known as Planning Policy Statement 23 (PPS23). Annex 1 of the guidance relates to Pollution Control, Air and Water Quality. PPS23 adopts “sustainable development” and the “precautionary principle”. It also states that all consideration of air quality issues arising from a development is capable of being a material planning consideration.

In terms of air quality the planning authority should consider the impact of a development in terms of potential breaches of the national air quality objectives and EU limit values, the impact on any air quality action plan or strategy implementation, overall degradation in local air quality and the increase or introduction of public exposure.

- WWDC Environmental Health Department will work closely with the Development Control and Planning Policy Departments to produce a Local Development Document.
- Produce information for developers about air quality assessments.

The Local Development Document will set out guidance policies on the development in AQMAs, criteria for the location of potentially polluting

development and compliance with air quality regulations and Air Quality Action Plans.

2.4 West Wiltshire District Council – District Plan 1st Alteration

2.4.1 Scope and Purpose of the 1st Alteration to the District Plan

The main purpose of the Plan is to put forward proposals for the development and use of land, it also fulfils several other important functions which can be summarised as follows: -

- (i) to interpret the strategic planning policies of the Wiltshire Structure Plan 2011 through local plan policies and proposals for West Wiltshire;
- (ii) to examine local issues or problems which warrant consideration but may not have been considered in the Structure Plan;
- (iii) to identify sufficient land to meet the development needs of the Plan area for the period up to 2011;
- (iv) to provide a satisfactory basis for development control decisions; and
- (v) to provide, together with the Structure Plan, a means of co-ordinating the investment and development programmes of private and public organisations.

2.4.2 Community Planning

During the life of the District Plan 1st Alteration, the Council with partners and the wider community in West Wiltshire will be working together to develop a more joined up and sustainable approach to community development. This will reflect the needs and aspirations of our local communities. The outcomes of this work and the Council's proposals for taking them forward will be contained within a Community Strategy.

Within West Wiltshire the District Plan 1st Alteration will play a key role in delivering the Council's Community Strategy. Its implementation will be

consistent with the Council's approach to community planning. The Council will also have regard to its other corporate strategies and policy documents where appropriate, as material considerations in its development control decisions.

A full copy of the District Plan can be viewed at the following website:

http://www.westwiltshire.gov.uk/planning_services/Planning_Policy/index.php#localplan

The plan contains a number of areas which will impact upon air quality. In addition to these measures the extract below relates specifically to the proposed Westbury Bypass. More information relating to the Westbury AQMA specifically can be seen in the Westbury chapter.

2.4.3 Westbury Bypass Package

'Land to the north and east of Westbury, from north of the existing Cement Works Roundabout and to the south of Madbrook Farm, as shown on the Proposals Map, is safeguarded as the County Council's preferred route option for the A350 Westbury Eastern Bypass and the Glenmore Link.

Other development will not be permitted on this safeguarded land if it would be likely to prejudice the implementation of this scheme.

A Westbury Bypass Package is considered to be an important element of the required A350 improvements. The new road package offers the possibility of traffic relief and environmental improvement for Westbury and improved access to the West Wilts Trading Estate, via the Glenmore Link and a general opportunity for economic growth. After extensive public consultation, through the Structure and Local Transport Plan process, the County Council approved an Eastern Bypass as a preferred route option in July 2001. The County Council's preferred route was the subject of a funding bid to central Government in July 2003. The route will be safeguarded pending the results of the multi-modal study and determination of the funding application. The

route will be safeguarded if the funding application is successful. The route and other alternatives will be subject to full examination through the development control and inquiry processes. The proposed alignment is shown on the Proposals Map.'

- West Wiltshires District Plan 1st Alteration will help reduce the length and number of car trips by encouraging self sustaining development where employment and retail opportunities are easily accessible.
- The plan protects and conserves green belt and areas of natural beauty etc. which will control development within these areas.
- Encourages modal shift from private motor cars to sustainable models and road based freight to rail.
- Improve town centres through traffic management and pedestrian priority

2.5 West Wiltshire District Council – Transport

What we do

Transport is a cross cutting area of activity which involves many areas of work in this authority and in partnership with the County Council and voluntary sector. The success of local work with the voluntary sector is dependent on co-working with community planning colleagues while in the built environment the co-operation of development control colleagues is also essential. The Council provides concessions to people who are either over 60 or disabled to assist with travel by public transport.

Community Transport Partnership

The Council is a member of the Wiltshire rural community transport partnership. A community transport database and website are being developed by Community First, the site includes details of:

- community minibuses
- link schemes
- social car schemes

For further information see: www.wiltshirecommunitytransport.org.uk

Wiltshire Hopper

A handy service to and from the Royal United Hospital, Bath.

WWDC Transport Strategy

While the Council cannot act alone to provide services or significant infrastructure it can act in partnership with the County Council and neighbouring authorities, and the commercial and voluntary sectors to provide them through a series of co-ordinated policies. This is the reason for preparing a transport strategy.

A full version of the strategy can be found at:

<http://www.westwiltshire.gov.uk/transport/transportstrategy2001.php>

- Adopt Supplementary Planning Guidance for travel planning and cycle routes
-
- Review car parking charges
-
- Look at decriminalisation of parking enforcement
-
- School travel planning

2.6 West Wilts District Council - Community Planning

Working with Local Partnerships to Develop Community Action Plans

Community Planning is about establishing the needs and priorities for a community and developing an action plan to help tackle some of the problems. Help is available from the District Council to assist local communities develop a plan and implement it. Any plan will bring up issues that can be solved locally, but others will require local people to work with agencies and service providers in broader partnerships to bring about change. The District Council is committed to taking the outcomes of these plans into account when developing its Community Strategy and planning its services, wherever possible. A district-wide local strategic partnership of organisations with influence and/ or interest in the district has been developed to look at how the outcomes of community planning may be addressed strategically

Local Strategic Partnership (Community Strategy)

The local strategic partnership consists of the main partners - including the Police, Primary Care Trust, and Wiltshire County Council. The Local Strategic Partnership is responsible for producing the Local Community Strategy. The purpose of the partnership is to set priorities for development within the district.

Bradford On Avon and Westbury

Both of the towns currently have community area plans. The Community Area Plan for Bradford On Avon runs from 2005 to 2015 and the plan for Westbury runs from 2005 to 2010.

Contained within the Bradford On Avon document are various themes. The areas which are particularly related to the Air Quality Action Plan are 'Health and Social Care' and 'Traffic and its effects on the town and surrounding villages and their inhabitants'.

The plan for Westbury is based around 8 themes with 'Transport' fitting in to this Action Plan.

2.7 West Wiltshire District Council – Sustainability

The Council is committed to reducing its environmental impact – It aims to protect the environment by efficient management of the Council's use of natural resources. WWDC have developed a structured programme to reduce the Council's impact on the environment. Policies have been produced aimed at reducing the Council's use of:

- Energy and Water
- Transport
- Production of Waste
- Encouraging Sustainable Procurement

Over the past five years a range of measures have been implemented to help meet these policies. Progress is being continually reviewed to ensure that the targets set are being improved upon.

- Encourage car sharing
- Encourage remote working
- Encourage compressed hours when practical
- Encourage greater use of public transport
- Encourage staff to walk and cycle more often
- Achieve more than 40% of staff using an alternative for getting to and from work at least once a week.

2.8 Wiltshire County Council – Local Transport Plan

<http://www.wiltshire.gov.uk/transport>

Local Transport Plan 2006/07 - 2010/11

The Government's 1998 White Paper on Transport, 'A New Deal for Transport: Better for Everyone', introduced the concept of Local Transport Plans (LTP's) to steer the development of national transport policies at the local level. The Transport Act 2000 then made it a statutory requirement for local transport authorities to produce LTPs. Wiltshire's first full LTP, published in July 2000, set out the strategy, objectives and targets for transport in the County for the period 2001/02-2005/06. In each of the first four years, the County Council has produced an annual progress report. There is now the need for the County Council to produce its second LTP for the period 2006/07-2010/11 for submission to the Government in July 2005.

Nationally, transport continues to be a major policy and investment issue. In July, the Government published its second transport White Paper, the 'Future of Transport: a network for 2030' which sets out its overall transport strategy to 2030. The Government has also recently issued consultation draft guidance on the second round of LTPs - local transport authorities will be required to have regard to the final version of this guidance when drawing up their next LTP's.

A central aim of the Government's guidance is the Transport shared priority of:

"Meeting local transport needs more effectively through improved access to jobs and services, particularly for those most in need, in ways which are sustainable: improved public transport; reduced problems of congestion, pollution and safety".

In order to provide a workable policy framework, this shared priority has been divided into four themes that encompass the range of transport related outcomes that local authorities are expected to deliver:

- Tackling Congestion
- Better Air Quality
- Delivering Accessibility
- Safer Roads

In addition, a number of other quality of life issues, such as neighbourhood renewal, community safety and noise are related to transport.

As well as putting forward local strategies, policies and targets, the LTP also serves as the means of obtaining the three elements of transport funding:

- major schemes (+£5 million cost)
- integrated transport block
- capital maintenance

- | |
|---|
| <ul style="list-style-type: none">• Wiltshire County Council and West Wiltshire District Council are working together to produce the Action Plan alongside the next Local Transport Plan. |
|---|

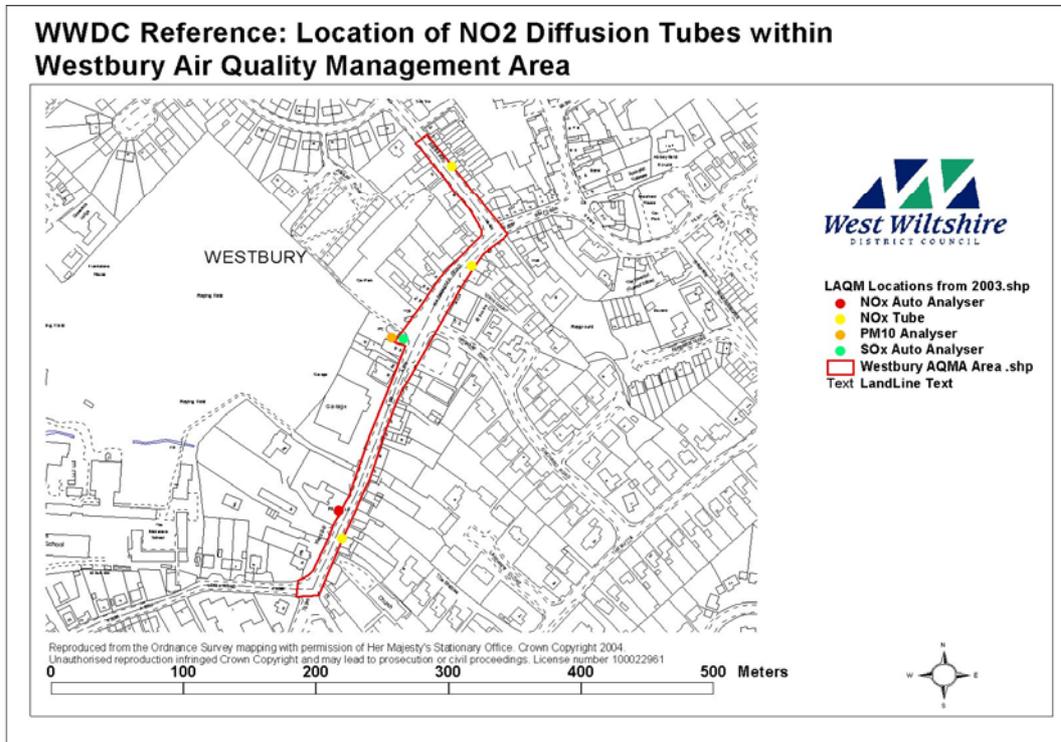
2.9 Regional Policies

The Bristol/Bath South Coast Study (BB2SC) has recently been carried out to examine the case for detrunking the A36/A46 between the M4 junction 18 and the M27 Junction 2. The Government Office for the South West commissioned a study which was completed in 2000. In order to address the concerns of the Regional Assembly and the Highways authority a further study was commissioned, the BB2SC.

Further information on the study and its implications on Westbury can be seen in Chapter 3.

3.0 Chapter 3 Options specific to Westbury

Westbury AQMA



The AQMA covers part of Warminster Road and part of Haynes Road (A350). The plan above shows the extent of the AQMA. The streets predominantly consist of residential properties, a number of which front directly onto the road, with a few interspersed commercial businesses. The A350 serves the Western Wiltshire towns of Warminster, Westbury, Bradford On Avon, Melksham, Corsham and Chippenham. It is also the main route to Poole on the south coast. The A350 passes through the centre of the town, and is not of good enough quality for the volume of traffic and the number of heavy goods vehicles using it

Photographs of Warminster Road and Haynes Road are shown in Photo 1 and photo 2



Photo 1
Warminster Road,
Westbury



Photo 2
Haynes Road,
Westbury

Being a District Authority WWDC does not have responsibility for the road network. This is the responsibility of Wiltshire County Council. The County Council has been developing proposals to address the traffic issue in Westbury for a number of years.

3.1 Existing Problems

The safety and environmental problems caused by traffic in Westbury have been of concern for years. Traffic flows on Haynes Road are currently in the region of 14,500 vehicles/ 24 hour. There are significant lengths with properties fronting directly on to the road, and the route makes sharp turns at a number of places, including at two mini roundabouts. The traffic has an adverse environmental impact in the town, particularly in terms of traffic noise and air pollution. The volume of traffic also creates problems for pedestrians and cyclists, with the A350 route causing severance within the town. The heavy traffic is the sole reason for the poor air quality in the town.

3.2 Options Considered

Wiltshire County Council undertook a significant and detailed study into developing proposals for the Western Wiltshire Sustainable Transport Strategy and the details of the packages considered are contained in the Wiltshire Local Transport Plan 2001/02 and 2005/06

Wiltshire County Council (WCC) considered a broad range of transport proposals across all transport modes. They concluded that a package of measures was required, including improvements for pedestrians and cyclists in the town, improved rail and bus infrastructure, and two major road improvement schemes at Semington and at Westbury on the A350.

In view of the specific problems identified in Westbury, WCC concluded that improvements to public transport, walking and cycling could not realistically be expected to address the problems caused by the high volume traffic and

heavy goods vehicles currently passing through the town. As a result consideration has been given to significant strategic options for the town and in conclusion Wiltshire County Council consider that a bypass for Westbury is necessary.

This chapter considers the work undertaken by Wiltshire County Council in developing a bypass acheme for the town.

3.3 Identification of a suitable scheme for Westbury

The Westbury Bypass is the scheme chosen by WCC to improve the non-trunk road national primary route network in Wiltshire

This was identified through the Structure Plan development process. The scheme is included in the Wiltshire Structure Plan 2011, which was adopted in January 2001. The scheme is also included in the package of measures for the Western Wiltshire Sustainable Transport Strategy as outlined in the Wiltshire Local Transport Plan 2001/02-2005/06.

In order to consider transport problems in Westbury the County Council arranged for a Planning Conference to be held in Westbury in 1997, which was chaired by Mr.M.N.T.Cottell, O.B.E who subsequently prepared a short report on the conference for the County Council. The report on the Planning Conference and the results of a public consultation undertaken by the County Council were reported to the County Council's Economic Development and Environment Committee in May 1998. The Committee agreed that a further report should be presented to the Committee when additional work had been carried out in connection with two route options for the scheme, the Eastern Route and the Far Western Route. In September 1998 the County Council adopted the Eastern Route as the Preferred Route for the Westbury Bypass. Subsequently the County Council asked Parkman consultants to carry out a

review of route options. Wiltshire County Councils preferred route was confirmed in July 2001.

At the Planning Conference and following the Public Consultation a broad range of route options were identified.

It was concluded that improving the existing road on its present alignment would not be feasible because of the large number of properties close to the road, and it would not provide traffic relief for the town.

3.4 Benefits of a bypass for Westbury

Traffic flows on the A350 are currently in the region of 14,500 vehicles per day (7 day average) on Haynes Road (Obtained from the 2003 Annual Progress Report Annex 2a of the LTP). If a Westbury bypass were to be constructed the impact it would have on Westbury AQMA is that vehicles would be reduced to 6,700 vehicles/24 hour on Haynes Road and to 3,500 vehicles/24 hour on Warminster Road.

In addition to a bypass there are proposals to improve conditions for pedestrians, cyclists and users of public transport. For example widening of footways and provision of pedestrianised areas. Traffic calming measures would also be considered on through routes in residential areas in order to discourage traffic from 'rat-running' and using these roads.

Safety

The existing A350 passes through the centre of Westbury with residential properties and businesses fronting directly onto the road. The road alignment is sub-standard for the volume and type of traffic using it, with sharp bends, mini-roundabouts,

narrow footways and proximity to properties. Inadequate crossing provision for pedestrians and a lack of cycleway facilities cause a worsening situation for those vulnerable road users. There are accidents along the route through the town, often associated with turning movements at the many side roads and accesses. The removal of through traffic, particularly heavy goods vehicles, would enable traffic calming and safety measures to be introduced through the town.

Economy

Improved access for heavy goods vehicles to the West Wilts Trading Estate is vital to attract businesses to allocated employment land within the town and to encourage existing businesses to expand. The need to balance job opportunities with population growth is central to the strategy for the A350 corridor. Improved access is also required to service the proposed Intermodal Rail Freight Terminal which could serve the region, and attract rail based businesses to the town. Assessment using the COBA computer program indicates that the scheme would have good economic benefits for both low and high growth, and would be a good investment in economic terms. The removal of through traffic and the town centre measures would help make Westbury a more attractive place for visitors, shoppers and residents.

Accessibility

Removing through traffic from Westbury would allow the implementation of a package of measures to improve conditions for pedestrians and cyclists. The removal of through traffic would also reduce severance in the town, and improve conditions for residents and visitors.

The full package of measures for pedestrians, cyclists and public transport depends on the removal of through traffic which would be provided by the bypass. The proposals would improve access to facilities for those without access to a car. In particular the establishment of safe routes to schools, and better routes to the town centre would be provided.

Integration

A bypass would improve access for heavy goods vehicles to the West Wilts Trading Estate and to the proposed Intermodal Freight Terminal. It would remove through traffic from the town, and would allow the introduction of a broad range of pedestrian and cyclist measures in the urban area. Westbury Bypass is identified as a proposal to improve the non-trunk road National Primary Route Network in the Wiltshire Structure Plan 2011, which was adopted in January 2001. The scheme supports the proposed land use policies in the area and supports the strategy for the corridor as outlined in the Wiltshire Local Transport Plan. The general aim for the corridor is to reduce reliance on surrounding urban areas for employment, education and services, thus reducing out-commuting from the corridor. Attracting employment is central to this approach and improving transport links is a vital element of the strategy. West Wiltshire District Council's Five Towns Initiative complements the general strategy for the corridor.

Environment

The main environmental benefits of a bypass would arise from the reduction in traffic in the town and the improved air quality and overall reduced noise nuisance for residents. The scheme would not adversely affect any Sites of Special Scientific Interest, Ancient Monuments or Areas of Outstanding Natural Beauty. Special measures would be required with regard to the water source protection zone at Wellhead and these are being agreed with Wessex Water and the Environment Agency. The detailed design of the scheme would have to take account of the Special Landscape Area designation of land to the east of the town. Landscaping and mitigation measures would be included as part of the scheme. Any planning application for the scheme will include a full Environmental Assessment.

3.5 Potential air quality effects in the vicinity of a bypass scheme

In August 2003 WWDC commissioned a company to carry out modelling work to assess the impact of the proposed bypass on the ambient air quality in Westbury town centre and the surrounding area due to the predicted changes in traffic flows. The impact of less traffic in the town centre was assessed as well as the impact on the surrounding area due to the bypass. The model concluded that the impact of the Westbury bypass scheme was to increase concentrations along the route of the bypass and to lower levels in Westbury town centre.

Roadside annual mean concentrations of nitrogen dioxide were predicted to drop by up to 16 ug/m³ along the A350 in the vicinity of Warminster Road. This drop was due to reductions in traffic flows by up to 60% and the easing of congestion in the area.

Roadside concentrations along the bypass were predicted to rise up to 36 ug/m³ which is under the air quality objective. It should also be noted that there are no relevant exposures along either of the proposed routes currently.

3.6 Cost Benefit of Bypass Scheme

The current estimate of the scheme is around £16 million with an added £1.3 million for further town improvements upon completion of the bypass.

As a scheme just to improve air quality this would be a very expensive solution to the air quality problem. However the scheme is supported as it will bring about many other improvements needed for the town. It should be therefore viewed positively in light of the larger picture for the town.

3.7 Bristol/Bath South Coast Study

A bid for funding of a bypass and works to the town centre was initially submitted by Wiltshire County Council in July 2001, however the decision by Central Government was deferred pending the outcome of the Bristol/Bath South Coast Study (BB2SC). This study took a strategic view of traffic management through the South West. To view the full report go to <http://www.bb2scstudy.org.uk>

Below are relevant extracts to the A350 in Westbury from the Bristol/Bath South Coast Study:

- **Bristol/Bath South Coast Study Background**

In 1997, the “Roads Review - Consultation Document - What Role for Trunk Roads in England?” identified that some 40% of roads in the trunk road network would be potential candidates for detrunking. This included the A36/A46 between the M4 junction 18 and the M27 junction 2. The detrunking proposals for this particular route were strongly opposed by certain highway authorities as well as the then regional planning body. Government Office for the South West commissioned a short study to examine the case for this route’s detrunking and to facilitate future decisions on the status of the A36/A46. This report was produced in September 2000.

In order to address the concerns of the Regional Assembly and the highway authorities, Government Office for the South West, in consultation with the Highways Agency, commissioned a further study, the Bristol/Bath to South Coast, (BB2SC), Study, in order to supplement the previous study undertaken in 2000. The findings are to be reported to the South West Regional Assembly in order to enable it to consider revisions to the Regional Transport Strategy [RTS], which forms part of the emerging Regional Spatial Strategy [RSS].

Within the study area, there are a number of routes of significance including the A36/A46 between junction 18 of the M4 to Warminster, Salisbury and the

M27 at junction 2. From junction 17 of the M4, the A350 runs due south through the towns of Melksham and Westbury connecting to the A36 at Warminster, before continuing to Poole, via Shaftesbury and Blandford.

Issues identified as being particularly relevant to the study included Wiltshire County Council's aspirations for an A350 bypass for Westbury.

- **Findings of Bristol/Bath South Coast Study in respect of Westbury**

The BB2SC study was specifically required to identify the “strategic need” for a bypass for Westbury rather than any specific alignment. Despite this, the majority of responses to consultation, while generally supporting the need for a bypass, often opposed a particular alignment. Since the study is not looking at a specific route, or to recommend a specific route, the environmental assessment examined the broad impacts expected for Westbury Town Centre as a result of a new bypass. It is recognised that there will be disbenefits in terms of the impact of a particular alignment on the surrounding landscape, but these have not been evaluated through the BB2SC study, since it is not the objective to evaluate a particular route. However, it should be recognised that a full environmental impact appraisal will need to be undertaken by WCC.

For all alignments, the main impacts in the town centre are positive for all options, represented by reductions in noise and improvements in air quality. Other benefits will arise from reductions in severance, and a greater likelihood of people using alternative modes of transport as a result of less traffic presenting a safer environment for travel.

- **Conclusion of study with reference to A350 Westbury**

A bypass for this town has been considered for a number of years and an eastern route option was taken to public consultation in the late 1990s by Wiltshire County Council. The Secretary of State for Transport, in December 2001, determined that the requirement for a bypass at Westbury should be remitted to the BB2SC study. Three different bypass alignments have been examined - to the east, to the west and an inner western route.

The BB2SC transport model permits an analysis of traffic routings with the bypasses in the model network. An evaluation has also been undertaken examining the savings to vehicles from their travel time and operating costs. This allows a comparison to be made independently to the WCC appraisal. The appraisal undertaken by WCC indicates that for the eastern bypass the scheme would reduce accidents over a 30 year evaluation period by 180 PIAs. This is monetarised to a saving of almost £5M. The vehicle travel time and operating cost savings are very significant, being some £62.7M over the 30 year period. When these benefits are compared to the present value of the scheme's cost, estimated at £14.4M, then it is clear that there are strong net present values for an eastern bypass. The analysis undertaken by Wiltshire County Council compares favourably to the BB2SC assessment, undertaken for each of the bypass alignments. as tabulated in Table 4.6 of the Option Development and Appraisal Report.

Environmental impacts for each of the three alignments were not undertaken but the benefits attributed to the town centre arising from the three generic routes examined would imply significant benefits in terms of air quality impacts, reductions in noise, community severance, and vibration.

The analysis also demonstrated that the scheme's impact on the A36 would be limited. It is therefore recommended that a Westbury Bypass be approved as a local improvement measure for the town with complementary traffic calming in order to improve the town centre, improve the local commercial and town centre environment and encourage use of the bypass.

3.9 LTP Settlement 2004

The Ministerial decision for the Westbury bypass has been delayed for various reasons. However following the publication of the BB2SC study WCC included a bypass option in their LTP submission for 2004. WCC received their LTP settlement 2004 letter in December 2004. The following is an extract from the letter:

- **A350 Westbury Bypass**

'This scheme was first submitted in your LTP Annual Progress Report in July 2001 but was deferred to the Bristol/Bath to South Coast Study for further consideration. We note that the Study report recommended that the scheme should proceed and this was endorsed subsequently by the South West Regional Assembly. We also recognise that the scheme is a priority for your authority by reducing traffic congestion and noise and helping to improve air quality and safety within Westbury. Whilst recognising the benefits of this proposal, Ministers have decided that it does not present a sufficiently high priority for approval at this stage. Further consideration of this scheme will therefore be subject to the arrangements set out in annex 1 of this letter. There are also some outstanding issues to be resolved before we can complete the appraisal case for the scheme. We will be in contact with you to discuss what further information needs to be provided to resolve these issues.'

In response to the decision not to fund the Westbury bypass at this time WCC have written to the Government Office of the South West stating that it remains their intention to continue offering the bypass as the only viable solution and asking them to endorse their view that the air quality action plan should continue to be framed around the bypass proposal.

3.10 Further Options to be Implemented

In addition to the main proposal of a bypass for Westbury there are 'softer measures' which are already in place or to be put in place in the near future. They will aid in the work to improve air quality within the town. On their own these are very hard to quantify and measure in terms of effectiveness. The options can be seen in chapter 2 and appendix 2. It should be noted that they do not solely apply to Westbury, but to West Wiltshire as a whole.

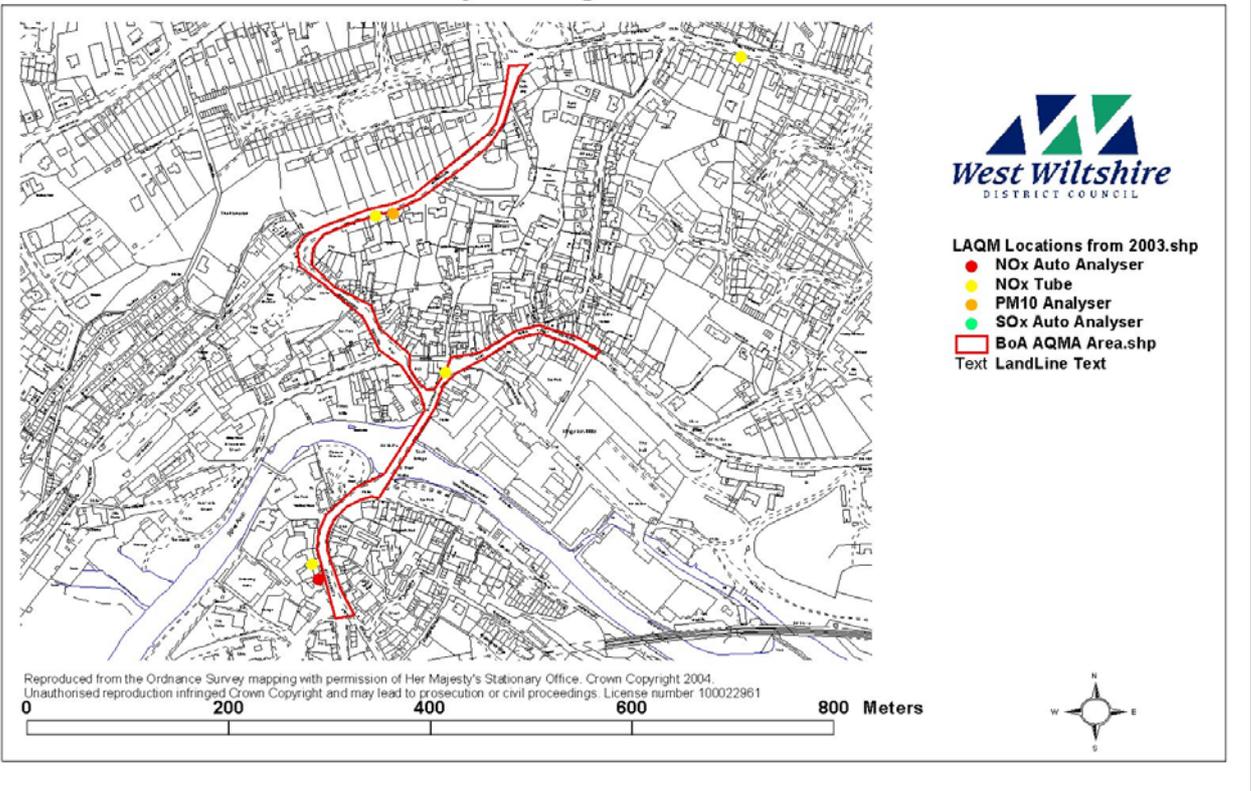
At this stage it is simply not cost effective to consider further 'hard measures' while work is still ongoing to bid for funding for a bypass. WCC are continuing with detailed design for the bypass and a planning application will be submitted in the very near future.

4.0 Chapter 4 Options specific to Bradford On Avon

4.1 Bradford On Avon AQMA

Bradford On Avon is a historic town and its problems in relation to air quality are caused by traffic emissions which are exacerbated due to narrow canyon streets.

WWDC Reference: Location of NO₂ Diffusion Tubes within Bradford on Avon Air Quality Management Area



The AQMA covers Masons Lane, Market Street and parts of Silver Street and St Margarets Street. Although it is a town centre there is a range of residential properties and shops and cafes. Traffic going to Bath and Trowbridge pass through the town . The buildings are old with narrow roads and pavements. The canyon effect in Masons Lane stops the pollutants dispersing. Photographs 3 to 6 show each of the streets in the AQMA:



Photo 3
Looking up Masons
Lane, Bradford On
Avon



Photo 4
St Margarets Street,
Bradford On Avon



Looking up Silver Street, Bradford On Avon



Photo 6
Looking down Market Street, Bradford On Avon

4.2 Existing Problems

The town of Bradford On Avon is medieval and its streets are old and narrow with high buildings fronting the pavements. This produces a canyon effect which is particularly evident in Masons Lane and Market Street. The problems with the air quality are not helped by the topography of the town as it is set in the bottom of a valley with the river Avon running through the centre of the town so traffic has to drive uphill to get out of the town to the north. The river only has one road crossing and traffic counts show that the bridge has reached its capacity for road traffic.

Within the centre of town there is a derelict industrial site called Kingston Mills which is ripe for development. Planning applications have been put in to the District Council for a mixture of residential and commercial properties, however these have all been withdrawn. No current planning application has been submitted by the developer but the developers are currently in discussion with the Development Control Department at WWDC. The Developers proposals were displayed in the town's library during March. The issue of air quality is a material consideration and must be addressed by the application when it is made. The impact the development may have on traffic within the town will be considered.

Monitoring has been undertaken within the town for a number of years with diffusion tubes and real time analysers. In 2003 our monitoring programme was extended to include automatic monitoring at 44 St Margarets Street and nitrogen dioxide diffusion tubes in Silver Street and New Road.

The annual average nitrogen dioxide rose significantly in 2003 which is likely to be attributable to the very hot summer and associated increase in ozone concentration. This is a trend that has been experienced nationally.

There are just over 100 residents who live within the Bradford On Avon AQMA.

Due to the constraints of the town (topography, conservation area, only 1 river crossing etc) it is difficult to provide solutions to the air quality problem in Bradford On Avon.

4.3 Options Considered

In order to look at the problem with air quality in Bradford On Avon and to develop options to improve the air quality, Wiltshire County Council (WCC) employed consultants to work on ideas specific to the town. It was felt that due to the complex nature of the problem and lack of any obvious workable solution, investment in generating options for the town was required outside the normal work of WCC.

Capita Symonds have been employed by WCC to work on developing options for the town.

Initially they reviewed all work undertaken to date. This included monitoring results and modelling work undertaken by West Wiltshire District Council.

4.4 Monitoring Work

Monitoring in the town has been undertaken using diffusion tubes and real time analysers.

In 2003 monitoring was extended to cover St Margarets Street, Silver Street and New Road using nitrogen dioxide diffusion tubes. An automatic nitrogen dioxide monitor was also located in 44 St Margarets Street.

The nitrogen dioxide annual mean concentration rose significantly in 2003 which was a picture mirrored nationwide. This high increase was likely as a result of the hot summer and associated increases in Ozone concentrations.

Data from 2004 still show elevated levels in Masons Lane above the annual mean objective level, less than 2003 data but still an increase on levels monitored between 1999 and 2002. No other annual mean exceedences of

nitrogen dioxide were monitored at the new locations of St Margarets Street, Silver Street and New Road.

4.5 Air quality modelling work

Air quality modelling work had previously been undertaken by Faber Maunsel. One of the main concerns regarding the model was that street gradients and variation in wind flow due to the topography had not been taken into account. This will have affected the accuracy of the model.

Work undertaken on behalf of the Bradford Preservation Trust which looked at street canyon modelling has been considered by Capita Symonds in undertaking further detailed modelling work for Bradford On Avon.

4.6 Work Undertaken by Capita Symonds

Modelling Work

Capita Symonds undertook their own modelling work using a modelling programme called ADMS roads. All of the traffic data was obtained from WCC SATURN model runs and the vehicle class statistics were taken from traffic counts undertaken in 2002 by WCC. The model requires information on vehicle numbers, vehicle mix, speed, topography, meteorological data, street canyons, background concentrations and calculation of nitrogen dioxide concentrations.

The model was run for 2002, 2005 and 2010 with no alterations to the road network to obtain base case levels of nitrogen dioxide. This then enabled the model to be re run including possible options so that comparisons could be made. The model accuracy is in the region of 10%. The results of the modelling exercise has played an important role in assessing realistic and suitable options for the town.

4.7 Concerns raised by interested parties

In developing possible options for the town reports have been considered from the Bradford On Avon Preservation Trust as well as views obtained through various consultation events that have been undertaken by different groups outside of West Wiltshire District Council.

4.8 Air quality modelling assessment and development of options for Bradford On Avon

Following sophisticated air quality modelling work undertaken by Capita Symonds four residential properties on Masons Lane, Bradford On Avon have been identified as likely to be still experiencing exceedences in concentrations of nitrogen dioxide in 2010. A map showing the exceedences can be seen in appendix 5.

Previous air quality modelling work that had been undertaken by consultants Faber Maunsel, for the town of Bradford On Avon had not taken account of the local topography. This was a criticism of the model and, Capita Symonds (Comissioned by Wiltshire County Council) were asked to undertake further modelling work which included looking at the influence that the topography has on emisissions and dispersion.

The work undertaken has addressed the issues associated with gradients and canyons along the affected streets. Published emission factors additional or decreased load on the engine as vehicles pass up or down hill were used.

The study considered:

- A base case in 2002 for comparison with measured data
- A base case in 2005 for comparison with Air Quality Strategy (AQS) objectives
- A base case in 2010 for comparison with European legislative targets

- A 2002 base case + traffic management scenario
- A 2005 base case + traffic management scenario
- A 2010 base case + traffic management scenario
- 99.8th percentile concentrations for comparison with short term AQS objective for the base case 2002, 2005 and 2010; and
- Traffic reductions required for compliance with AQS objectives

The traffic management scheme that has been used for the modelling is shown in appendix 6. It consists of a one way section uphill at the southern end of Market Street from Knees Corner. Another one way section along Silver Street from Whitehill to Knees Corner (with traffic allowed in the direction towards the town bridge) would also be created. This would mean that as traffic crosses the town bridge towards Knees Corner it would then be directed along New Road and Silver Street to reach the town bridge.

A scheme which is the reverse of this has also been contemplated, however traffic conflicts at the roundabout at the bottom of Market Street would be created resulting in additional congestion. Consequently, the air quality implications of this second traffic management scenario have not been considered.

- **Model**

Capita Symonds have used the air dispersion modelling software ADMS-Roads. The model takes into account the effects of topography, surface roughness, 'road canyon height', atmospheric chemistry and meteorological parameters.

In conclusion the modelled concentrations compare well with monitored data from 2002 with an under-estimation of 10.4% compared with monitored concentrations on Masons Lane. Modelled concentrations were therefore adjusted to take into account this underestimation. A comparison of monitored data in 2004 with predicted concentrations, forecast forward using

factors recognised in TG.03(03) showed a variation of 1 μ g/m³ between predicted and monitored concentrations at only one location. This gave great confidence in the model for all future years.

Model results showed that the Air Quality Objectives will be exceeded in the base case in all modelled years (2002, 2005 and 2010). These exceedences are predicted to occur within the street canyons of Market Street and Masons Lane in 2002 and 2005, and along Masons Lane only in 2010.

The traffic management scenario (shown in appendix 6) was also modelled to look at the predicted improvements to air quality. The tested scenario created a one-way street within the canyon at the bottom end of Market Street and along Silver Street from Whitehill to Knees Corner. This would mean that as traffic crosses the town bridge towards Knees Corner it would then be forced to turn left up Market Street. Traffic coming into town would be forced to go down New Road and along Silver Street to reach the town bridge.

The results indicate that the traffic management scenario would significantly reduce nitrogen dioxide concentrations along Masons Lane to within 2 μ g/m³ of the AQO level for the annual average of NO₂ and the concentration would be below the air quality objective by 2010. The scheme would however cause a rise in ambient pollutant concentrations along New Road and within the street canyon on Silver Street although concentrations would remain below the AQS objectives in all years.

If a traffic management scenario were implemented then it would cause compliance with the AQS objective of 40 μ g/m³ to be achieved at all relevant and non relevant locations by 2010.

The full technical report on the modelling work undertaken is held as a public document at Wiltshire County Council offices.

- **Consultation undertaken by Capita Symonds**

A copy of the consultation report produced by Capita Symonds is held as a public document at Wiltshire County Councils.

The consultation process

Following the air quality modelling work undertaken by Capita Symonds, a public consultation exercise was undertaken with residents of Bradford On Avon.

A leaflet and questionnaire was produced by Capita Symonds. The leaflet contained information about the exhibition in the library, information on the Air Quality Management Area, the poor air quality in BOA and basic information on the modelling work carried out. It also gave information on possible options available to improve air quality such as low emission zones, road user charging, 'soft options' , road space management and the situation if nothing was done. A copy of the leaflet can be seen in appendix 7.

The leaflets were hand delivered to selected streets in the town. The addresses that were targeted were those most affected by air pollution at the present time and those potentially affected by a traffic management option. They were also delivered to addresses of people who had previously completed a questionnaire about the designation of the Air Quality Management Areas. Leaflets were also left in West Wiltshire District Council reception and at the County Council.

A questionnaire was developed which was inserted inside the leaflet. The intention was to seek the views of the public of Bradford On Avon on such topics as their mode of transport for various trips, local concerns relating to air quality and traffic, measures that should be included on the Action Plan, and whether or not voluntary limitations on personal car travel would be acceptable. There was also space for respondents to add further comments or suggestions. To encourage the return of the questionnaires a prepaid address was included.

On the 20 June 2005 the Bradford On Avon Community Area Partnership meeting took place. Capita Symonds gave a presentation of the work undertaken and the results of the modelling work. Officers from West Wiltshire District Council were also available to answer questions. Following comments made during the meeting, further addresses were identified for leaflet deliveries.

An exhibition was installed in Bradford On Avon library from Monday 27 June to Saturday 9 July. The exhibition was manned all day Saturday 2nd July 05 and Monday 4th July 05 by officers from Capita Symonds and the District Council. The display contained much of the information found within the leaflet and gave background information about the air quality in the town, diagrams of air quality modelling work, and details of various options.

In order to advertise the event a joint press release was produced by the County and District Council, posters advertising the exhibition were positioned in shops and buildings around the town and in the District Council Offices. An article about the consultation and exhibition was also placed in the June edition of West Wilts Matters which is a free publication produced by West Wiltshire District Council and is distributed by Royal Mail to all households in West Wiltshire.

During the manned days at the exhibition it is estimated that 125 visitors came to look at the stand and discuss their concerns with officers. Most attendees

were concerned about the one way traffic management scheme that had been put forward as a possible option for comment. Many people took the opportunity to fill in the questionnaires at the exhibition and deposit them in the box provided.

- **Public consultation feedback**

The item in the exhibition referring to a one way traffic management scheme attracted some concerns by residents. The New Road Action Group published a leaflet in relation to this matter and commenced a small campaign. This may have influenced some of the feedback and the campaign has been noted in developing this action plan.

Capita Symonds received back a total of 274 questionnaires. Table 4.0 gives a breakdown of where the respondents lived in the town.

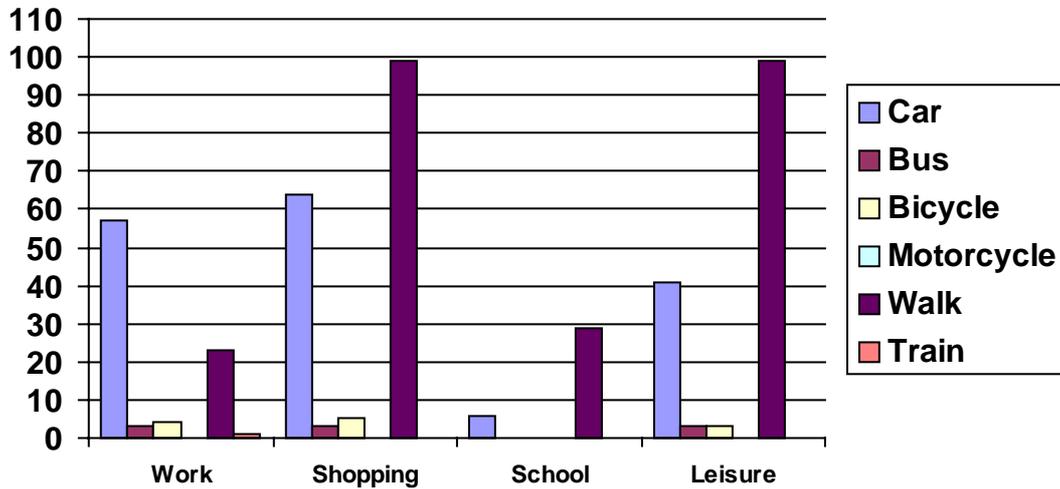
Table 4.0

Road/street/general area from where questionnaires received	Number received (% of total)
New Road*	20 (7%)
Springfield*	18 (6%)
Mason's Lane*	15 (5.5%)
White Hill*	13 (5%)
Silver Street*	11 (4%)
St.Margaret's Street*	10 (3.5%)
Market Street*	8 (3%)
Woolley Street*	8 (3%)
Winsley Street	8 (3%)
Newtown	8 (3%)
Coppice Hill*	6 (2%)
Woolley Terrace*	6 (2%)
Trowbridge Road	6 (2%)
Church Street	6 (2%)
Woolley Drive*	5 (2%)
Berryfield Road	5 (2%)
Wine Street	5 (2%)
Other streets or addresses (within Bradford on Avon or outside)	112 (41%)
No address given	4 (2%)
Total	274 (100%)

Addresses marked * received leaflets and questionnaires as part of the door-to-door delivery on 20 and 29 June. All other addresses would have received them by other means or would have known about the exhibition through the publication West Wilts Matters.

The first question asked about peoples main mode of travel around the town for various types of trips. Graph 4.0 shows the results.

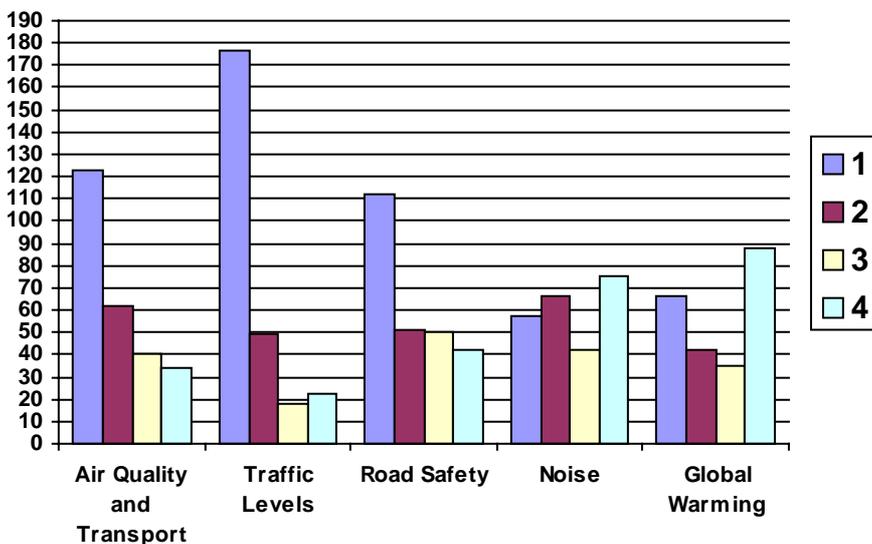
Graph 4.0



The graph shows that although cars are the preferred mode of transport for commuting to and from work (65%), a good proportion of people walk (26%). However, this is likely to be by people who live and work in Bradford On Avon.

The second question asked people to rank how concerned they were about various issues. Graph 4.1 shows these results. (1=most concerned, 4 = least concerned)

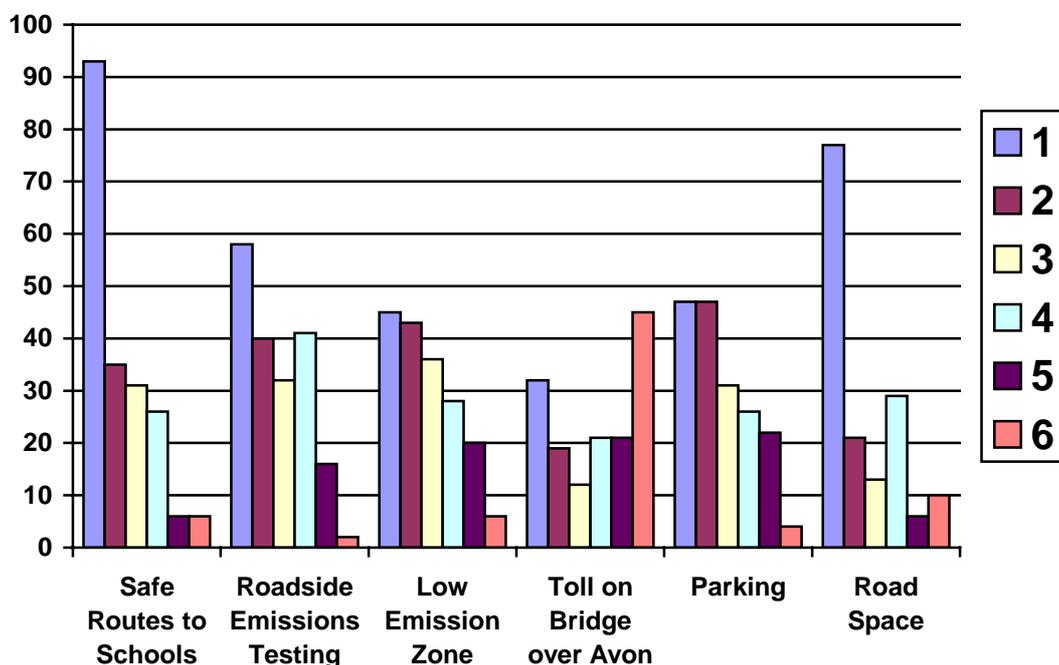
Graph 4.1



This question was answered by 84% of respondents. The issue of traffic levels was answered by most people, followed by air quality and transport.

The third question asked people to rank in order of preference (1= preferred) measures which they would like to be included in the Air Quality Action Plan. Graph 4.2 shows the results.

Graph 4.2



This question was answered by 55% of the respondents. Some of the suggested measures attracted a higher response than others such as safe routes to schools, roadside emission testing and low emission zones.

Safe routes to school were ranked as the most preferred closely followed by traffic management/ reallocating road space.

Question 4 asked to what extent people would be prepared to accept voluntary limitations on their ability to drive around the town.

Half of the respondents said they would accept either little or no limitations. The other half would accept either moderate or considerable limitations.

The majority of the questionnaires received contained further comments. The majority (79) were opposed to a one way system. A large number (50) called for a bypass, 44 said that softer type options should be pursued and 28 were against a toll on the town bridge. A number of other comments were made which have all been taken into consideration.

In addition to the questionnaires a total of 54 letters were received. Many of them sent directly to West Wiltshire District Council Environmental Health Department, however copies of these and other letters were sent to Wiltshire County Council, Councillors, the local Member of Parliament and Capita Symonds

Approximately half of the letters received were from residents living either on the route of the proposed one way system that would be subject to additional traffic, or in locations close to it. Approximately 75% of the respondents who wrote in opposed the system. It should however be noted that a leaflet drop from a local residents group was carried out in the area requesting people write to various parties and express there opposition to the proposal of a partial one way system in the town.

- **Work following the public consultation**

The public consultation highlighted a number of issues and these have been considered as part of the development of this action plan.

The public queried the predicted nitrogen dioxide levels for 2010. The model was revisited and the vehicle mix was checked, in particular the effect of removing buses from Masons Lane was calculated. In conclusion the predictions and traffic mix used for the model will continue on Masons Lane for 2010.

The model was validated against real time monitoring at relevant properties. The forecasts were then adjusted accordingly.

4.9 Conclusion

The annual average objective of 40 ug/m³ for nitrogen dioxide will be exceeded in 2010 in Masons Lane even if only one property is affected.

A do nothing approach is not an option and a solution which reduces the amount of traffic along Masons Lane is required.

4.10 Options Considered

Ten possible options have been identified as having the potential to improve air quality in Bradford On Avon. Some of these were mentioned as possible options in the public consultation. Others have come about as suggested options from the public as a result of the consultation. The options are as follows:

1. Do nothing (business as usual)
2. Soft options/green solutions such as Wiltshire cycle way promotion, Carshare Wiltshire.com, safer routes to schools, travel plans etc
3. Congestion charging
4. Low Emission Zone
5. Sign alternative routes/change route designations
6. BOA relief road
7. Support A46/A36 link construction
8. Traffic management
9. Improve enforcement of parking
10. Demand management

4.11 Discussion of Options

Option 1 – To do nothing would mean leaving the road network exactly as it is. Modelling work however shows that the air quality objectives would not be met in this way.

Option 2 – Soft options are those such as encouraging car sharing, cycling and walking. Monitoring the effectiveness of these types of measures is quite hard, however studies have shown that they do improve air quality.

Option 3 – Congestion charging would involve charging all vehicles going through the town. Charging to cross the bridge has been considered, however this is likely to generate more queues in the town. Can only realistically be considered if a national scheme is introduced and cars are microchipped.

Option 4 – A low emission zone only allows heavy goods vehicles of a certain Euro Class to use the roads. As there is a weight restriction on the town bridge large vehicles are excluded from the town so implementation of this would have little impact on the air quality in the town.

Option 5 – The signing of alternative routes will be investigated further by WCC consultants.

Option 6 – A relief road is not a possible solution for the town as it is undeliverable in the timescale. (2010 objective year)

Option 7 – support of the A36/A46 link will remove some of the traffic away from Bradford On Avon. However its delivery (before 2010) is extremely doubtful and cannot be relied upon. Secondly it is not expected to take away a sufficient number of vehicles in order to meet the air quality objective.

Option 8 – A traffic management scheme involving 2 one way sections was modelled for the town. The modelling work indicated that the scheme would enable the air quality objectives to be met.

Option 9 – Improve enforcement of parking. This will help with the free flow of traffic in the town.

Option 10 – Demand management did not originally feature in the Draft Air Quality Action Plan, however as a result of the consultation that has taken place and much detailed consideration of the issues that exist in Bradford On Avon it is now included as an option. Bradford On Avon not only has an air quality problem there is an issue of too much traffic close to pedestrians and property giving the town a poor environment. To address both of these issues the volume of traffic coming into the town must be reduced and the space for pedestrians needs to be increased.

In order to reduce the demand for travel through the centre of Bradford On Avon it needs to be made less attractive to the driver. This may include measures such as reducing journey speeds, increasing delays and overall journey times. These will require the introduction of traffic signals supported by intelligent traffic monitoring to ensure that there is no unacceptable queuing taking place in the susceptible air quality areas.

Current ideas include:

- The introduction of signal controls on Masons Lane above the relevant properties, with queue detectors on Market Street to indicate the existence of a queue and to prevent the queue extending to areas adjacent to the relevant properties;
- The introduction of signal control at the Mount Pleasant/Masons Lane junction with queue detectors on Market Street, thereby holding traffic at the outside of the town and again avoiding queues adjacent to the relevant properties.

The demand management approach does run the risk of drivers diverting to alternative routes either away from the town altogether or other routes within the town, particularly New Road. Such a system will therefore need to be

carefully considered and sensitively designed following detailed analysis and further consultation.

Another concern is that spare capacity created within such a managed area could be filled by new local traffic. There is the potential to mitigate this by introducing enhancements for pedestrians at areas such as Knees Corner. This could involve a pedestrian crossing and widening pavements.

The determination of the appropriate demand management arrangements is very much a delicate balance and would require further detailed modelling to identify a solution which maximises the benefits without creating unacceptable secondary effects.

Too heavy a control would produce unacceptable queues and adversely effect the day to day operation and economic success of the town. Whereas too little control would fail to achieve the objectives of reducing the nitrogen dioxide levels to below the annual average of $40 \mu\text{g}/\text{m}^3$.

4.12 Appraisal of the proposed options

Not all of the options considered are appropriate or can be implemented for reasons such as they will not meet the air quality objective or they may not be deliverable by 2010.

In order to initially appraise the ten options, four key questions have been asked. The results are summarised in table 4.1.

Table 4.1

Option	Description	Would it fully meet objectives?	Would it partially meet * objectives?	Could it be delivered by 2010?	Is it a realistic technical solution?
1	Do Nothing	No	No	Not applicable	Not Acceptable
2	Soft Option	No	Yes	Yes	Partial
3	Congestion Charging	Yes		No	N/A
4	Low Emission Zone	No	Yes	Yes	Insufficient benefit
5	Sign Alternative Routes	No	Yes	Yes	Partial
6	BOA Relief Road	Yes		No	N/A
7	A46/A36 Link	No	Yes	No	N/A
8	Traffic Management	Yes		Yes	Yes
9	Enforce On Street Parking	No	Yes	Yes	Insufficient benefit
10	Demand Management/ Town Centre Enhancement	No	Yes	Yes	Partial

* The above estimates of impact to meet air quality objectives are based on currently available data

The table above indicates that there are potentially three scenarios/package of measures which can be delivered by 2010 and which will significantly reduce the levels of nitrogen dioxide:

1. The traffic management option (number 8 in table 4.1) has been modelled to show that the air quality objectives would be met. This proposal was put forward as part of the public consultation and it was included in the consultation leaflet.
2. A combination of soft measures (option 2 in table 4.1), parking enforcement (option 9 in table 4.1) and signing of alternative routes (option 5 in table 4.1) would go nearly half way towards meeting the air quality objectives.
3. A combination of scenario 2 above with the demand management/town centre enhancement option (option 10 in table 4.1). This scenario would fully meet the air quality objectives.

We have considered these three scenarios in the development of the action plan. Table 4.2 below considers the pros and cons of each scenario.

Table 4.2

'Solutions'	Will it meet the target?	Can its delivery and success be guaranteed?
Traffic management	Yes	<ul style="list-style-type: none"> • Significant community opposition • Preliminary appraisal of issues, including road safety, noise, vibration accessibility etc., concludes that doing nothing is the better option • Promoting a less than optimum option goes contrary to the authorities' 'duty of care' • May prove impossible to deliver
Combination of Soft Measures, parking enforcement & signing of alternative routes	Say 50%	<ul style="list-style-type: none"> • Concrete evidence of significant success of soft measures at a town wide level is difficult to find. • More analysis needed of possible effects of signing and parking enforcement • Success uncertain
Demand Management + Town Centre Enhancement	Probably subject to detailed analysis	<ul style="list-style-type: none"> • Should present a credible way forward with real community benefits and support • May cause adverse reactions from those adversely affected

The initial multi criteria which Capita Symonds undertook indicated that the traffic management option would have more negatives than positives. A significant disadvantage is the conclusion that it would divert much of the traffic onto New Road route. This option would therefore have merit only in that it meets the air quality objective by 2010. Delivering this 'solution' through the statutory procedures would be extremely difficult if not impossible.

Having identified three possible solutions these have been appraised in more detail including the wider impact of each scheme on the town. This is shown in table 4.3.

Table 4.3 Appraisal of Options

Criteria	Option/Description			
	<i>Do Nothing</i>	Option 1: Traffic management (as displayed at public exhibition)	Option 2: Combination of soft measures, and signing of alternative routes	Option 3: Combination of Option 2 and with demand management/ town centre enhancement
Objectives met?	No (but will be by 2013)	Yes	Yes (partially - 40%)	Yes
Deliverable by 2010?	Not applicable	Yes	Yes	Yes
Realistic technical solution?	No (not acceptable)	Yes	Partially	Yes but further work required
Level of public support (based on public consultation exercise)	Very little	<ul style="list-style-type: none"> 17% of respondents returning questionnaires and 4% writing letters. No support from residents of roads where traffic flows would increase. 	At least 28% of respondents returning questionnaires and 30% writing letters.	At least 28% of respondents returning questionnaires and 30% writing letters
Effect on Traffic Flows	Traffic flows in the town will continue to increase through natural growth and as a result of new residential and other developments.	Reduced traffic flows in parts of the town centre (A363) will be offset by increases on residential roads in other parts of the town.	There will be a reduction in traffic flows on some roads within the town.	There will be a reduction in traffic flows on some roads within the town. Signing of other routes will increase flows elsewhere.
Effect on Air Quality	Although air quality will gradually improve in all areas as a result of improvements in vehicle technology and fuels the 2010 Air Quality Objectives will still not be met on Mason's Lane	Will meet 2010 Air Quality Objectives on Mason's Lane. Improved air quality on Market Street and Silver Street. Even though there will be a slight reduction in air quality on roads that traffic is diverted onto this will still be below thresholds.	There will be fewer vehicles in the town and a commensurate improvement in air quality. This will not be enough to fully meet the 2010 Air Quality Objectives on Mason's Lane.	Demand will be managed to ensure that air quality objectives are met in 2010 on Mason's Lane. However, there may be a slight reduction in air quality in other areas of the town although this will still be well below thresholds.
Effect on Traffic Noise	Increased traffic through the town on all roads will result in increased traffic noise although this is unlikely to be significant.	There will be a slight reduction in traffic noise on roads with reduced traffic flows and a slight increase in noise on roads that will experience increased traffic flows.	With fewer vehicles in the town this will result in a reduction in traffic noise on some roads although this is unlikely to be significant.	Fewer vehicles in parts of the town compared with Option 2 will result in a reduction in traffic noise on some roads. This is unlikely to be significant.
Effect on Severance	Increased traffic flows, particularly on the A363 in the town centre will increase the already significant severance.	Reduced traffic flows on the A363 through the town will lessen severance. There will be an increase on residential roads in other parts of the town.	Reduced traffic flows in the town will slightly reduce severance.	Reduced traffic flows in parts of the town will slightly reduce severance, particularly on Market Street. Demand management will further improve the situation. Rerouted traffic may cause additional severance elsewhere.
Effect on Pedestrians and Other Vulnerable Road Users	Increased traffic flows, particularly on the A363 in the town centre will continue to reduce the quality of the pedestrian shopping environment and will have increased impact on other vulnerable road users. Little opportunity for enhancement of pedestrian facilities.	A slight improvement in the Market Street but only where improved town centre facilities could be provided. Slight benefits for vulnerable road users due to reduced traffic flows. A very slight worsening of the situation on Silver Street in the town centre and on other residential roads.	Reduced traffic flows in areas that are used by pedestrians will improve their environment. This will also benefit other vulnerable road users.	Reduced traffic flows on town centre roads with highest pedestrian movements will improve their environment. This will also benefit other vulnerable road users. There will be opportunities to enhance pedestrian facilities.
Effect on Accidents and Road Safety	Increased traffic flows may result in more accidents and reductions in road	Over the past five years there have been almost three times as many	A reduction in traffic flows throughout the town may reduce accidents and	A reduction in traffic flows throughout the town compared to Option 2 may

Criteria	Option/Description			
	<i>Do Nothing</i>	Option 1: Traffic management (as displayed at public exhibition)	Option 2: Combination of soft measures, and signing of alternative routes	Option 3: Combination of Option 2 and with demand management/ town centre enhancement
	safety. The narrow footways in the town centre may result in increases of pedestrians being hit e.g. by car or lorry mirrors.	accidents on roads, which will experience increased traffic than on Mason's Lane and Market Street. As a result there will be a likely increase in accidents overall although in designing the project every attempt would be made to minimise accidents.	improve road safety on all roads.	reduce accidents and improve road safety on all roads. However, changes in flow patterns may actually result in localised additional accidents. Further work will identify risks and seek to design them out.
Effect on Townscape (visual)	The A363 through the town was never intended to carry the volume of traffic that it does now. Therefore the town will continue to be blighted by the visual impact of traffic.	There will be reduced traffic flows on parts of the A363 through the town, which will improve the attractiveness of the townscape.	Reduced traffic flows on parts of the A363 through the town will slightly improve the attractiveness of the townscape.	Reduced traffic flows on parts of the A363 through the town compared to Option 2 will slightly improve the attractiveness of the townscape. There will be opportunities to enhance the town centre in the light of reduced flows.
Effect on Heritage	The town's historic buildings will continue to be affected by the pollution (air, noise and visual) of increasing levels of traffic.	Less traffic will mean less impact on the town's historic buildings. Visitors will be able to appreciate them better. Limited effect elsewhere.	Less traffic will mean less impact on the town's historic buildings. Visitors will be able to appreciate them better. Little or no benefit elsewhere.	Less traffic compared to Option 2 will mean significantly less impact on the town's historic buildings. Visitors will be able to appreciate them better. Little or no effect elsewhere.
Effect on Tourism and Economy	The town will become less attractive to visitors as traffic continues to increase through its centre. This will have a negative impact on the local economy.	A reduction in traffic flows in the town centre and where visitor attractions are located will benefit tourism and hence the local economy.	Generally, reduced traffic in the town will be attractive to visitors. More cycle facilities and improvements to Real Time Passenger Information will appeal to some visitors. However, increased parking charges may reduce attractiveness to others.	Generally, further reductions in traffic in the town over Option 2 will be attractive to visitors. More cycle facilities and improvements to RTPPI will appeal to some visitors. However, queues resulting from demand management, and increased parking charges may lessen attractiveness to others.
Effect on Journey Times and Vehicle Miles	An increase in traffic flows over time will lengthen journey times. Vehicle miles may increase if some drivers divert onto other roads.	Northbound journey times may reduce due to reduced congestion. However, the necessity for some southbound trips to divert onto residential roads will increase their distances.	Less traffic in the town should equate to slightly reduced journey times. There will be no change to trip lengths.	A further reduction in traffic in the town over Option 2 should equate to reduced journey times. However, demand management will restrict traffic moving through the town at certain times, effectively increasing journey times. If some traffic reroutes to avoid the demand management some trip lengths will be increased.
Effect on Public Transport	Timings and reliability will be reduced as traffic flows increase.	Services that use the A363 may experience better timings and reliability. Little change to those that use residential roads onto which some traffic is diverted.	Services that use the A363 may experience slightly better timings and reliability. Little change to services that use residential roads.	Although services that use the A363 may experience better timings and reliability, demand management may (subject to detailed design) hold up buses as well as other vehicles. Little change to services that use residential roads.

Criteria	Option/Description			
	<i>Do Nothing</i>	Option 1: Traffic management (as displayed at public exhibition)	Option 2: Combination of soft measures, and signing of alternative routes	Option 3: Combination of Option 2 and with demand management/ town centre enhancement
Effect on health	Even though air quality will slowly improve along the route of the A363 through the town it is likely that breathing illnesses will continue to be prevalent amongst residents that live there.	Reduced traffic flows on the A363 through the town may reduce the incidences of breathing illnesses. There is unlikely to be an offsetting increase along roads that experience increased traffic since they are generally of more open nature.	A general reduction in traffic on all roads will benefit the community health wise. Walking and cycling will improve the health of those partaking in these activities.	A further reduction in traffic on all roads over Option 2 will benefit the community health wise.

* In the context of Options 2 and 3 soft measures refer to the following:

- Consider increased parking charges to discourage use of cars in Bradford on Avon;
- Provide better parking enforcement, freeing up road space and reducing congestion;
- Develop school travel plans, walking buses, and safe routes to school projects;
- Encourage car sharing schemes;
- Construct more cycle paths and cycle parks;
- Undertake improvements to the existing Real-Time Passenger Information system for buses (RTPI) to improve reliability of service.

It should be noted that the above appraisal is very preliminary having not been based on any detailed studies or designs. It is a subjective view of the options. It is acknowledged that any option chosen will require a fully detailed and worked up proposal and appraisal.

Feedback from the questionnaire suggested that there was considerable support for traffic management/relocating road space scheme although no particular proposal was put forward.

4.13 Conclusion

A considerable amount of work has been undertaken to develop realistic solutions to deal with the air quality problems for the town of Bradford On Avon. We have three options for the town which are in priority order:

- Priority 1 – Demand Management and town centre enhancement combined with softer measures and signing of alternative routes
- Priority 2 – Soft measures combined with signing of alternative routes
- Priority 3 – Traffic Management such as partial one way system

The action plan shown in appendix 2 of this report provides the actions to meet these options. The priority 1 proposed for demand management and soft measures is dependant on the delivery of a number of factors such as public consultation and funding. If these are not successful we will undertake option priority 2, if this is unsuccessful then delivery of option 3 will be developed.

5.0 Chapter 5 - Consultation

5.1 Bradford On Avon

A number of different consultation exercises have been carried out over the last few years by various groups and organisations with regard to the road network in Bradford On Avon. Although they have not been carried out specifically relating to air quality they are transport related.

- Consultation was carried out with the residents of Bradford On Avon, particularly those living in the streets affected on where the boundary of the AQMA should be. Questionnaires were produced which provided information about AQMAs and about the air quality review system. The questionnaire sought the views on what people thought could be done to improve air quality in the town and their thoughts on the area they thought the AQMA should cover.

The questionnaire was followed up with a roadshow in September 2001 where officers were on hand to answer any queries and enable people to draw on maps where they felt the AQMA should cover. The road show was very well attended and was a very useful exercise to carry out.

- In 2001 a public meeting was held in Trowbridge Road (leads into St Margarets Street) lead by Malcolm Hewson, County Councillor and Town Councillor Robert Locke, Chair Highways Committee. The purpose of the meeting was to look at road safety requirements that local people felt they wanted funding for from the Local Transport Plan. In summary there was a lot of support for a reduction in traffic speed to 20mph, measures to be put into place to prevent vehicles encroaching on the pavements, more pedestrian crossing points to be installed and measures to assist cyclists.

- The same exercise was carried out for residents of the Frome Road and Winsley Road areas of Bradford On Avon. The exercise produced very similar outcomes to those mentioned above.
- A petition of around 1000 signatures was sent to Wiltshire County Council highlighting the above issues by requesting safer streets in the town particularly in the following areas: Trowbridge Road and St Margarets Street, Bradford On Avon, particularly recognising the Fitzmaurice School, 3 local nursery schools and the sheltered accommodation in the area.
- The Liberal Democrats conducted a door to door survey recently and one of the questions asked was whether people would support 20 mph outside schools. Between 70 and 80% said that they would support this and said that it should apply at appropriate times of the day.
- The A2B car club sent out a questionnaire in November 2002 and had 236 responses. Over 75% of the respondents were in the age bracket of 41 years or older (96 people were between the ages of 41 and 60). 87% of respondents owned one or more cars with only 13% having no car at all. A number of questions were asked in relation to peoples usage of buses, trains, coaches and taxis.
- An open day in November 2003 facilitated by WCC Community Planning was held in BOA where people placed their concerns on a map of the town. Twenty two different issues were raised ranging from inadequate pavements, traffic noise and pollution to areas being poorly lit. The concerns which had the most 'votes' were traffic noise and pollution in the town centre and traffic going too fast on Trowbridge Road.
- In addition WCC Community Planning sent a survey to all properties in New Road and Springfield area regarding traffic issues in the town (2003). Eighty six responses were received from residents. The questionnaire also asked for suggestions of possible solutions. Many respondents

commented on the amount of cars parked on the road in New Road and Woolley Street which reduces visibility and makes crossing the road hard. A large proportion of the suggested solutions included more pedestrian crossings in New Road, more double yellow lines and reducing the speed limit to 20mph and/or physical speed barriers.

- To assist the County Council in producing its second Local Transport Plan (LTP), a series of public consultation events were held. The Bradford On Avon Community Area consultation event took place at the Wiltshire Music Centre, Bradford On Avon on Tuesday 21 September 2004. Representatives from West Wiltshire District Council and Mouchel Parkman (WCC Consultants at the time) also attended to assist in the development of the Air Quality Action Plan. The purpose of the event was to provide the opportunity for communities and other key organisations to give their views on local transport issues likely to face them in the period to 2011 and to explore and identify local priorities and areas of concern. A wide range of issues were identified by those attending the meeting, The top four being as follows: Congestion, Road Safety, Air Quality and Parking. A summary report can be found at:

http://www.wiltshire.gov.uk/boa_ltp2_summary.pdf .

In line with the development of a draft second Wiltshire LTP, it is proposed that a further round of community consultation events will be held during Spring 2005 of which WWDC will also be in attendance.

- On 13 November 2004 an Imagination Day was held at St Laurence School, Bradford On Avon in relation to the Bradford On Avon Community Area Plan. One of the areas consulted on was Transport: Traffic and its effects on the town, villages and inhabitants. A sticky spot poll was carried out to find out the community concerns and priorities. Out of 9 priorities the main concern was discomfort and intimidation to pedestrians and residents from size, amount, noise and excessive speed of traffic, next was the need

for a study into causes of traffic congestion in the town, to include relief road options and thirdly there was concern about the danger and discomfort to pedestrians and residents from excessive air pollution. Comment cards were also used to enable people to write about any transport related issues. These were segregated into queries, complaints with a suggestion and information and appreciation. The comments and results from the day have been used by the BOA Community Area Transport Group to provide input to the BOA Community Area Plan.

- A meeting was held with Professor Bryan Harris, Chairman of the Traffic and Air Quality Committee, BOA Preservation Trust to discuss the modelling work undertaken and agree some common ground regarding modelling techniques used and data input.
- In June 2005 Capita Symonds and West Wiltshire District Council attended the Bradford On Avon Community Area Partnership meeting. Capita Symonds gave a presentation of the work undertaken and the results of the modelling work.
- An exhibition was mounted in BOA library from 2 July through to 9th July showing various options for the town. On Saturday 2 July and Monday 4 July the stand was manned by officers from Capita Symonds and the District Council to answer any questions members of the public had about the work being undertaken.

5.2 Westbury

- Consultation was carried out with the residents of Westbury, particularly those living in the streets affected on where the boundary of the AQMA should be. Questionnaires were produced which provided information about what an AQMA is and about the air quality review system. The questionnaire sought the views on what people thought could be done to

improve air quality in the town and their thoughts on the area they thought the AQMA should cover.

The questionnaire was followed up with a roadshow in September 2001 where officers were on hand to answer any queries and enable people to draw on maps where they felt the AQMA should cover. This was a very useful exercise.

- To assist the County Council in producing its second Local Transport Plan (LTP), a series of public consultation events were held. The Westbury Community Area consultation took place at the Laverton Hall, Westbury on Thursday 7 October 2004. The purpose of the event was to provide the opportunity for communities and other key organisations to give their views on local transport issues likely to face them in the period to 2011 and to explore and identify local priorities and areas of concern. A wide range of issues were identified by those attending the meeting, The top priorities were: road safety, accessibility and public transport. A summary report can be found at:

http://www.wiltshire.gov.uk/westbury_ltp2_summary.pdf

In line with the development of a draft second Wiltshire LTP, it is proposed that a further round of community consultation events will be held during Spring 2005.

- On July 1 2004 the Westbury Area Action Group met to discuss and prioritise what can be done in Westbury in terms of air quality. A workshop was held where we as the District Council gave a presentation on the current situation in Westbury. We then asked the group to prioritise actions. A number of different possible solutions to help improve air quality in Westbury were suggested.

- In August 2005 West Wiltshire District Council and Wiltshire County Council attended the Westbury Town Council meeting. The District Council gave a presentation about the draft action plan. The town council formally replied accepting the contents in respect of Westbury. A copy of the response can be seen in appendix 8.

5.3 Feedback from DEFRA on draft action plan

A letter was received from DEFRA dated 1 July 2005 in response to the Draft Action Plan submitted at the end of March 2005. The response can be seen in appendix 9.

They said that it was generally well structured and provided a reasonable level of detail regarding the need to formulate an action plan. We were commended on the extent and transparency of our approach to consultation.

6.0 Chapter 6 Implementation of the Action Plan

6.1 Proportionality and cost effectiveness

From the consultation undertaken to date through the council and various other groups, it is evident that in both towns there is a great amount of support to improve air quality.

The Air Quality Action Plan has had to look at options and consider the cost against the health benefits it will bring to the communities.

It has not been possible to quantify in any accurate form the impact that poor air quality in the two towns or the impact the Air Quality Action Plan will have in terms of lives or life-years lost or gained. This has already been factored in to the National Air Quality Objectives, and the guidance for producing Action Plans states that 'local authorities should not attempt to redo these calculations'.

The Action Plan as well as aiming to improve air quality on health, sets out to generally improve the quality of life and deliver wider environmental, social and economic benefits. The Action Plan is also closely linked to the Local Transport Plan.

6.2 Implementation and timescales

The measures identified in the Action Plan shown in appendix 2 aim to meet the air quality objective for nitrogen dioxide. However due to the time required to implement some of the measures the target date of 2005 will not be met in either town. The Action Plan does aim to achieve the targets as soon as possible.

Some of the measures identified will be simple and low cost which means that they can be implemented fairly rapidly.

6.3 Powers and responsibilities

The Council has the powers to implement or take the lead on some of the measures, but Wiltshire County Council, being the Highway Authority have the powers to implement the larger schemes identified. However for any of the measures to be implemented effectively will require the support of the general public, businesses and other stakeholders.

Many partnerships and working groups already exist within the area which will be the mechanisms necessary for the delivery of some of the Action Plan measures for example Carshare Wiltshire.

The District Council is itself encouraging staff to reduce emissions through encouraging car sharing, remote working, walking and cycling etc.

6.4 Limitations

The main limitation which is likely to affect the delivery of some of the Action Plan measures is funding.

There are a number of measures where delivery is dependant on other organisations. The main one being Wiltshire County Council as the Highways Authority. Again funding is the largest issue for major schemes. Relying on other agencies to deliver also means that they have their own objectives which may be different to the Councils'.

6.5 Monitoring

Some measures will be easier to measure the output of than others. For example the number of School Travel Plans developed or the numbers of people joining the car share scheme. However to monitor the actual outcomes of these schemes on emission reduction and improvements in air quality will be much more difficult.

There are a lot of factors which can influence levels of air pollution which are out of our control such as weather patterns. The weather and seasonal variation effects ambient levels of pollution (as was seen in 2003 with the very

hot summer which caused elevated annual means for pollutants that year)
This means that monitoring will have to continue over a period of several years so that any changes in air quality can be assessed accurately.

In some cases emission reductions will have to be estimated such as looking at reduced vehicle miles from employers travel surveys if they have implemented a Travel Plan. It will be difficult to measure the effectiveness of other steps such as promotional activities.

The Council has automatic monitoring equipment which measure nitrogen dioxide. These will be used to monitor the annual mean of nitrogen dioxide in the two towns. The council also has an extensive network of nitrogen dioxide diffusion tubes which will also be used to monitor levels within the AQMAs.

6.6 Table of measures (actions) to improve air quality

A table of measures that are available to improve air quality in the two AQMAs and surrounding areas of the district has been produced. The table is in appendix 2 The District Council does not have the responsibility for implementing each of the options, however it can influence the various bodies. Some of the options listed are new and others are already in place.

The main aim is to improve air quality, however some options will have impacts in areas other than air quality impacts such as reducing noise or improving access and crossings around the towns etc.

Members of the Air Quality Action Plan Group

The following people have contributed towards producing West Wiltshire District Councils Action Plan and have sat on the Air Quality Action Plan Group:

- Rachel Kent, Area Environmental Health Officer, West Wiltshire District Council
- Kate Bishop, Principal Environmental Health Officer, West Wiltshire District Council
- John Carter, Environmental Health Manager, West Wiltshire District Council
- Geoff Pell, Transport Officer, West Wiltshire District Council
- Sue Bellamy, Community Development Officer (Southern), West Wiltshire District Council
- Jacky Nicholas, Community Development Officer (Northern), West Wiltshire District Council
- Allan Creedy, Transport Planner Manager, Wiltshire County Council
- Chris Sperring, Transport Planner, Wiltshire County Council
- Lynne Williams, Community Development Officer, Wiltshire County Council
- Cllr Richard Wiltshire, West Wiltshire District Council
- Bob Brierley, Director of Business Development, Capita Symonds
- Iain Cowan, Capita Symonds

Consultants have also sat on the group from time to time. They are:

- Claire Beattie, University of the West of England
- James Richer, Faber Maunsell
- Nick Dixon, Mouchel Parkman
- Annette Link, Mouchel Parkman
- Paul Brown, Mouchel Parkman

Key and definitions:

WWDC – West Wiltshire District Council

WWDC EP – West Wiltshire District Council Environmental Protection Section
 WWDC PP – West Wiltshire District Council Planning Policy and Planning Applications
 WWDC CTG – West Wiltshire District Council Corporate Transport Group
 WWDC HR – West Wiltshire District Council Human Resources Department
 WCC – Wiltshire County Council

Short Term – immediate start (2005/06)
 Medium Term – Within lifetime of LTP2 (2006 – 2011)
 Long Term – Projections ahead of 2011

Low cost – £0 - £100,000
 Medium cost - £101,000 - £500,000
 High cost - £501,000 +
 Major scheme £5000,000 plus

MEASURES SPECIFIC TO BRADFORD ON AVON IN ORDER OF PRIORITY

NO.	MEASURES	LEAD ROLE	POSITIVE IMPACTS	NEGATIVE IMPACTS	COST	TIME
B1	<p>Demand Management/Town Centre enhancement combined with soft options contained in G1 – G29</p> <p>Demand Management/Town Centre enhanced combined with soft options contained in G1-G29</p> <ul style="list-style-type: none"> • Develop a brief with consultants • Traffic modelling Assignment and data collection • Optioning <ul style="list-style-type: none"> - demand management - public transport improvements - route redesign 	WCC	<ul style="list-style-type: none"> • Improvements to air quality • Will improve the environment for pedestrians • Will encourage tourism • Will lead to a reduction in traffic flows on some of the roads in the town • Reduction in noise from traffic on some roads • May reduce road 	<ul style="list-style-type: none"> • May cause adverse reactions from those adversely affected • May lead to a slight increase in air pollution levels on other roads in the town but would still remain well below 	High	<p>Dec 2005 Dec 2005 June 2006</p> <p>June 2006</p>

	<ul style="list-style-type: none"> • Approvals of options <ul style="list-style-type: none"> - air quality - NATA - cost - cost benefit • Report to WCC • Public consultation on options • Decisions • Traffic orders • Procurement implementation • Monitoring, evaluation and refinement • Soft Options G1-G29 <p>To be achieved by:</p> <ul style="list-style-type: none"> • Draw up relevant and realistic options for the town • Develop a policy on how the softer options will be promoted, supported and initiated for the town of BOA. • Develop successful monitoring criteria for policy implementation and measure it • Ensure both WCC and WWDC agree the priority for these options in BOA 		accidents and road safety	the threshold		<p>Dec 2006</p> <p>March 2007 Sept 2007 Dec 2007 Dec 2008 March 2009 Dec 2010 See measures G1-G29</p>
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NO.	MEASURES	LEAD ROLE	POSITIVE IMPACTS	NEGATIVE IMPACTS	COST	TIME
B2	<p>Combination of softer measures (G1 – G32) and signing of alternative routes</p> <p>Soft options G1 – G32 To be achieved by:</p> <ul style="list-style-type: none"> • Draw up relevant and realistic options for the town • Develop a policy on how the softer options will be promoted, supported and initiated for the town of BOA. • Develop successful monitoring criteria for policy implementation and measure it • Ensure both WCC and WWDC agree the priority for these options in BOA <p>Signing of alternative routes</p> <ul style="list-style-type: none"> • Agree alternative routes • Install new signage 	WCC	<ul style="list-style-type: none"> • Will go some way to meeting air quality objectives • Public support for softer measures • Fewer vehicles in the town leading to improvements for pedestrians 	<ul style="list-style-type: none"> • Hard to measure the improvements attributable to implementation of softer options 	Low	

Key and definitions:

WWDC – West Wiltshire District Council

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Short Term – immediate start (2005/06)
 Medium Term – Within lifetime of LTP2 (2006 – 2011)
 Long Term – Projections ahead of 2011

Low cost – £0 - £100,000
 Medium cost - £101,000 - £500,000
 High cost - £501,000 +
 Major scheme - £5,000,000 plus

MEASURES SPECIFIC TO WESTBURY

NO.	MEASURES	LEAD ROLE	POSITIVE IMPACTS	NEGATIVE IMPACTS	COST	TIME
W1	Build a bypass <ul style="list-style-type: none"> • Submit planning application • Obtain approval • Apply for funding • Obtain funding • Construct and implement scheme 	WCC	<ul style="list-style-type: none"> • Will improve air quality in the town and meet air quality objectives • Improve pedestrian safety in the town centre 	<ul style="list-style-type: none"> • Will take a long time to complete and see benefits • May have a negative impact upon economy 	Major scheme	Long Term

NO.	MEASURES	LEAD ROLE	POSITIVE IMPACTS	NEGATIVE IMPACTS	COST	TIME
W2	Leave the town road network as it is currently and continue with implementation of soft measures	WCC WWDC	<ul style="list-style-type: none"> • Will meet the 2010 nitrogen dioxide levels through improvements in vehicle fleets • Low cost 	<ul style="list-style-type: none"> • Does not address pedestrian safety or town centre regeneration 	Low	Long Term
W3	<p><u>Soft measures specific to Westbury</u></p> <p>Lobby for improvements for the A350 from the M4 to the Warminster bypass, lobby for completion of Westbury bypass, support improvements to A36 between Codford and Heytesbury</p>	WWDC West Wiltshire Economic Partnership	<ul style="list-style-type: none"> • Bypass will enable the air quality objectives for nitrogen dioxide to be met 		Low	Medium Term - Ongoing through attending meetings as necessary

NO.	MEASURES	LEAD ROLE	POSITIVE IMPACTS	NEGATIVE IMPACTS	COST	TIME
W4	Support the West Wilts Industrial Estate Town Bus Link	WWDC / WCC	<ul style="list-style-type: none"> • Links key areas of Westbury, including rail station • Gives people the option not to rely on their cars 		Low	Medium Term Currently under negotiation

NO.	MEASURES	LEAD ROLE	POSITIVE IMPACTS	NEGATIVE IMPACTS	COST	TIME
W5	Support the Westbury Cycle Liaison Panel	WCC	<ul style="list-style-type: none"> • Promotes cycling in the town • Encourages debate about existing facilities, and what's needed • Creates awareness of the cycle network • Creates awareness of the role of cycling in moving around the town instead of by car 		Low	Short to Medium Term Due to start in Early 2005, then held 2 or 3 times a year
W6	Implement the softer options G1 – G29	WCC and WWDC	<ul style="list-style-type: none"> • Will go some way to meeting air quality objectives • Public support for softer measures • Fewer vehicles in the town leading to improvements for pedestrians 	<ul style="list-style-type: none"> • Hard to measure the improvements attributable to implementation of softer options 	Low	

Appendix 2 Table of Measures to address the poor air quality in Bradford on Avon and Westbury

<p>Key and definitions:</p> <p>WWDC – West Wiltshire District Council WWDC EP – West Wiltshire District Council Environmental Protection Section WWDC PP – West Wiltshire District Council Planning Policy and Planning Applications WWDC CTG – West Wiltshire District Council Corporate Transport Group WWDC HR– West Wiltshire District Council Human Resources Department WCC – Wiltshire County Council</p>	<p>Short Term – immediate start (2005/06) Medium Term – Within lifetime of LTP2 (2006 – 2011) Long Term – Projections ahead of 2011</p> <p>Low cost – £0 - £100,000 Medium cost - £101,000 - £500,000 High cost - £501,000 + Major scheme £5,000,000 plus</p>
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MEASURES THAT APPLY TO BOTH AQMAS					
NO.	POLICIES/STRATEGIES	LEAD ROLE	IMPACTS	COSTS	TIMESCALE
G1	Continue to monitor and lobby improvements to transport and infrastructure	WWDC West Wiltshire Economic Partnership	<ul style="list-style-type: none"> Bring about improvements to transport 	Low Low revenue cost	Short Term - Ongoing through attending meetings as necessary
G2	Environmental Health Department will work with Development Control to produce a Local Development Document to set out guiding policies on air quality.	WWDC Environmental Health and Development Control	<ul style="list-style-type: none"> Will ensure new developments don't have a detrimental effect on air quality Will try and ensure new developments don't create new AQMAS 	Low Low revenue cost	Short Term - To be produced by end March 2006

NO.	POLICIES/STRATEGIES	LEAD ROLE	IMPACTS	COSTS	TIMESCALE
G3	West Wiltshire District Plan 1 st Alteration Strategy; Housing and employment allocations, Recreation and open space policies, Retail policy and Improvements to the A350	WWC/ WWDC	Encourages self-sustaining settlements, where employment and retail opportunities are easily accessible. Thereby reducing the length and number of private car trips generated. Hence, air quality will be maintained or enhanced because of a reduction in emissions. This mirrors the strategy set out in the Wiltshire Local Transport Plan.	Low	Medium term: LTP2 –2006 - 2011 West Wiltshire District Plan 1 st Alteration covers the period until 2011.

NO.	POLICIES/STRATEGIES	LEAD ROLE	IMPACTS	COSTS	TIMESCALE
G4	West Wiltshire District Plan 1 st Alteration Environmental Aims; Countryside and Nature Conservation Policies, Conservation Area and Listed Building Policies, and environmental enhancements	WWDC	<ul style="list-style-type: none"> • To protect and conserve the Green Belt, AONBs, areas of nature conservation/ scientific importance, historic conservation areas, listed buildings, SAMs and areas of open space in and around towns. This can positively influence air quality by controlling developments within these areas. Development proposals that have a negative impact will not be permitted. For example, developments that may reduce air quality through traffic generation will not be permitted. • To identify specific locations for environmental improvements and tree planting schemes. Both of which could maintain and enhance air quality. 	Low	<ul style="list-style-type: none"> • Short term: application of development control policies • Medium term: tree planting and environmental enhancements – West Wiltshire District Plan covers the period until 2011.

NO.	POLICIES/STRATEGIES	LEAD ROLE	IMPACTS	COSTS	TIMESCALE
G5	<p>West Wiltshire District Plan 1st Alteration Transport aims; Rail, Public Transport, Cycling and Pedestrian Policies</p> <p>Transport aims specific air quality objectives including size.</p>	<p>WWDC</p> <p>WWDC</p>	<ul style="list-style-type: none"> Encourages modal-shift from private motor cars to sustainable modes, and road-based freight to rail. In terms of air quality, the immediate impact would be a reduction of motorised traffic on roads. The aims seek the specific aim of maintaining air quality. This was included to identify the District Council's responsibilities towards air quality. 	Low	Short term: application of development control policies

NO.	POLICIES/STRATEGIES	LEAD ROLE	IMPACTS	COSTS	TIMESCALE
G6	Town centre shopping: Traffic Management and Pedestrian Priority Policy	WWDC/ WCC	<ul style="list-style-type: none"> Seeks site specific improvements to the town centres, which have objective of improving air quality through traffic management, pedestrian priority or environmental enhancement schemes. 	Low	Medium term: West Wiltshire District Plan covers the period until 2011.
G7	Review of Car Parking Charges	WWDC	<ul style="list-style-type: none"> Reduction in car based commuting by increasing long term charges 	Low	Medium Term

NO.	POLICIES/STRATEGIES	LEAD ROLE	IMPACTS	COSTS	TIMESCALE
G8	Review and implementation of decriminalisation of parking enforcement	WCC and WWDC	<ul style="list-style-type: none"> • Reduction of car based commuting by prevention of abuse of parking restrictions and promotion of free flowing traffic 	Low	Medium Term
G9	Promotion of School Travel Planning	WCC	<ul style="list-style-type: none"> • Reduction in peak flow traffic through Bradford Town Centre • Reduce the need to travel by car by promoting alternatives • Place onus on school to tackle local congestion • Reduce local pollution from vehicle emissions • Promote awareness of environmental and health issues 	Low	Medium Term- All schools anticipated having a STP by 2010, Have STP: Matravers (Westbury), Holt STP needs updating: Christ Church Primary (BOA).

NO.	POLICIES/STRATEGIES	LEAD ROLE	IMPACTS	COSTS	TIMESCALE
G10	Encouraging car sharing and promote car share wiltshire.com	WWDC CTG (Corporate Transport group) WCC	<ul style="list-style-type: none"> • WWDC to reduce the number of miles travelled by staff currently travelling to work by car on their own by 10% by 2007. • Promote efficient use of private cars. • Encourage schools and private organisations to set up their own car share groups. • Ease parking problems. • Reduces mileage travelled, hence vehicle emissions. 	<ul style="list-style-type: none"> • Low 	<ul style="list-style-type: none"> • Short Term – County Wide Scheme • Medium Term - WWDC

NO	POLICIES/STRATEGIES	LEAD ROLE	IMPACTS	COSTS	TIMESCALE
G11	<p>Encouraging remote working</p> <p>Encouraging compressed hours when practical</p> <p>Encourage greater use of public transport</p> <p>Encourage greater use of public transport</p> <p>Encourage staff to walk and cycle more often</p> <p>Achieve more than 40% of staff using an alternative to car travel for getting to and from work at least once a week.</p>	<p>WWDC Personnel supported by CTG</p> <p>WWDC Personnel supported by CTG</p> <p>CTG</p> <p>Health Group</p>	<ul style="list-style-type: none"> • Decrease the Council's business mileage for cars by 5% per FTE by 2007 • Help work towards the targets contained within LTP2. • Reduce the amount of carbon dioxide produced through staff travel by 20% per FTE by 2007. 	<ul style="list-style-type: none"> • Low • Low 	<ul style="list-style-type: none"> • Short Term • Medium Term

NO.	POLICIES/STRATEGIES	LEAD ROLE	IMPACTS	COSTS	TIMESCALE
G12	Encourage and promote Walk to School Schemes	WCC	As above	Low	Medium Term – Ongoing. Current participants: Atworth, Bitham Brook(Trowbridge), Christ Church (BOA), Fitzmaurice, Holt, Westbury Infants, Westbury Leigh, Westwood, Winsley

NO.	POLICIES/STRATEGIES	LEAD ROLE	IMPACTS	COSTS	TIMESCALE
G13	Taking Action on School Journeys Challenge (= safer routes to school funding mechanism)	WCC	As above	Low	Medium Term – Ongoing. Successful applicants in 2000/01 were Christchurch & Westbury Infants. This year Matravers school have received funding for new cycle storage and a cycle route.

NO.	POLICIES/STRATEGIES	LEAD ROLE	IMPACTS	COSTS	TIMESCALE
G14	Encourage Walking Bus Schemes	WCC	<ul style="list-style-type: none"> • Enable parents lacking the time to walk pupils to school to give responsibility for their wellbeing to trained volunteers • Reduces cars to school • Improves health and environment 	Low	<p>New packs launched to 48 schools.</p> <p>12 new walking buses have been set up by September 2005</p>

NO.	POLICIES/STRATEGIES	LEAD ROLE	IMPACTS	COSTS	TIMESCALE
G15	Undertake the Great Wilts Travel Tally	WCC	<ul style="list-style-type: none"> • Promotes the need to think about sustainable travel to school • Enables annual comparison of what changes in travel to school are occurring • Enables resources to be targeted accordingly 	Low	Short Term Tally I - March 2003. Tally II - March 2004 Tally III – Jan 2005 Tally IV – Sep 2005 2 annually after that

NO.	POLICIES/STRATEGIES	LEAD ROLE	IMPACTS	COSTS	TIMESCALE
G16	<p>Wiltshire Cycleway Promotion and develop cycle networks</p> <p>- Adoption of supplementary guidance for travel planning and cycle routes.</p>	<p>WCC</p> <p>WWDC in co-operation with WCC</p>	<ul style="list-style-type: none"> • Provides alternatives to the car • Links places of need • Promotes sustainable travel • Addresses safety issues <p>Reduction of travel by car to new or expanded businesses.</p> <p>Reduction of traffic by provision of cycle facilities by developers.</p>	<p>Low revenue</p> <p>High capital</p>	<p>Already Achieved June 2004 High profile ride around the route.</p> <p>September 2005 development of new leaflet and guide</p> <p>Launch of new guide – date to be arranged</p>

	Provide Healthy Cycle Packs	WWDC / WCC	<ul style="list-style-type: none"> • Promotes cycling in all WW Market Towns • Provides clear short, medium and long routes with maps • Encourages people trying to get fit, including GP referrals, and residents, to use their cycles for local trips • Reduces in town vehicle mileage and emissions 	Medium	<p>Short Term -</p> <p>Feb 2003 – Feb 2005 Development of routes and guide packs (still being developed 03/05)</p> <p>March 2005 launch of the packs</p>
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NO.	POLICIES/STRATEGIES	LEAD ROLE	IMPACTS	COSTS	TIMESCALE
G17	Encourage Walking for Health	WWDC / WCC	<ul style="list-style-type: none"> • Promotes walking in and around all WW Market Towns • Provides clear short, medium and long routes with maps • Provides trained walk leaders • Encourages people trying to get fit, including GP referrals, and residents, to start walking, and hence continue for all local trips • Reduces in town vehicle mileage and emissions 	Low	Medium Term

NO.	POLICIES/STRATEGIES	LEAD ROLE	IMPACTS	COSTS	TIMESCALE
G18	Travelwise Promotions	WCC	<ul style="list-style-type: none"> • Promotes sustainable travel for business, school, retail, and leisure trips • Raises awareness of alternatives to the car 	Low	Short – Medium term Ongoing
G19	Business Travel Plans	WCC	<ul style="list-style-type: none"> • Promotes sustainable travel to work • Promotes efficient use of company vehicle fleets • Manages car parking efficiently • Discourages single occupancy private car trips 	Low	Short to medium Term Ongoing

NO.	POLICIES/STRATEGIES	LEAD ROLE	IMPACTS	COSTS	TIMESCALE
G20	Set up Travel Plan Network Groups	WCC	<ul style="list-style-type: none"> • Bring like minded employers together to share ideas and network regarding sustainable travel • Facilitate joined up thinking • Promote greater efficiency savings and environmental benefits through combined efforts 	Low	Short Term West Wilts Industrial Estate Group to be established by Dec 2005
G21	Support local sustainable travel groups e.g. Pedal for Pleasure at BoA, Sustrans Rangers	WCC	<ul style="list-style-type: none"> • Promote local participation in sustainable travel, and its development • Facilitate local action 	Low	Medium Term Ongoing

NO.	ACTIONS	LEAD ROLE	IMPACTS	COSTS	TIMESCALE
G22	Support Royal United Hospital Hopper	WCC	<ul style="list-style-type: none"> • Enables people to access the RUH at Bath without using their cars • Efficient use of flexible and innovative public transport 	High	Medium Term Ongoing
G23	Provide Real time Intelligent Public Transport Information System	WCC	<ul style="list-style-type: none"> • Gives public transport users quality information about bus times • Helps promote bus patronage 	High	Medium Term Ongoing

NO.	ACTIONS	LEAD ROLE	IMPACTS	COSTS	TIMESCALE
G24	Provide Public Transport Subsidy E.g. X4, X5, X6 routes	WCC	<ul style="list-style-type: none"> • Gives public transport users quality bus infrastructure and journeys • Raises profile of bus travel • Helps promote bus patronage 	High	Medium Term Ongoing
G25	Provide Cycle Improvements	WCC	<ul style="list-style-type: none"> • Provides cycle parking at locations where needed, including rail stations, town centres, schools, workplaces etc • Delivering cycle networks 	High	Medium Term Ongoing

NO.	ACTIONS	LEAD ROLE	IMPACTS	COSTS	TIMESCALE
G26	Rural Transport Partnership	WCC	<ul style="list-style-type: none"> • Provide support to rural transport partnership • Promotes the needs of residents of rural areas for sustainable access to facilities and goods • Provides funding for innovative systems • Encourages local groups to find local solutions 	Medium	Medium Term Ongoing
G27	Implement decriminalised or parking	WCC WWDC	<ul style="list-style-type: none"> • Help maintain a free flow of traffic • Prevent abuse of car parking restrictions 	High start up costs	Medium term

NO.	ACTIONS	LEAD ROLE	IMPACTS	COSTS	TIMESCALE
G28	Develop Footpath / pedestrian facility Improvements	WCC	<ul style="list-style-type: none"> • Provides alternatives to the car • Links places of need • Promotes sustainable travel • Addresses safety issues 	High	Medium Term Ongoing
G29	To consider bidding to the transport innovation fund	WCC	<ul style="list-style-type: none"> • Encourage generation of innovative ideas for the towns. 	Low	Medium term

Appendix 3

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

<u>Pollutant</u>	Air Quality Objective		Date to be achieved by
	Concentration	Measured as	
Benzene All Authorities	16.25 ug/m ³	Running annual mean	31.12.2003
	5.00 ug/m ³	Annual mean	31.12.2010
1,3 Butadiene	2.55 ug/m ³	Running annual mean	31.12.2003
Carbon monoxide	10.0 mg/m ³	Maximum daily 8-hour mean	31.12.2003
Lead	0.5 ug/m ³	Annual mean	31.12.2004
	0.25 ug/m ³	Annual mean	31.12.2008
Nitrogen dioxide	200 ug/m ³ not to be exceeded more than 35 times a year	1 hour mean	31.12.2005
	40 ug/m ³	Annual mean	31.12.2004
Particles (PM10) (gravimetric) All Authorities	50 ug/m ³ not to be exceeded more than 35 times a year	24 hour mean	31.12.2004
	40 ug/m ³	annual mean	31.12.2004
Sulphur Dioxide	350 ug/m ³ not to be exceeded more than 24 times a year	1 hour mean	31.12.2004
	125 ug/m ³ not to be exceeded more than 3 times a year	24 hour mean	31.12.2004
	266 ug/m ³ not to be exceeded more than 35 times a year	15 minute mean	31.12.2005

Appendix 4 Health Effects of Pollutants Regulated by the National Air Quality Strategy

Benzene - is a recognised genotoxic human carcinogen. Studies of industrial workers exposed in the past to high levels of benzene have demonstrated an excess risk of leukaemia which increased in relation to their working lifetime exposure. The risk of developing leukaemia from outside air is small and the risk decreases as levels of benzene fall.

1,3-butadiene - the health effect which is of most concern in relation to 1,3-butadiene exposure is the induction of cancers of the lymphoid system and blood-forming tissues, lymphomas and leukaemias. Like benzene, 1,3-butadiene is a genotoxic carcinogen, and so no absolutely safe level can be defined.

Carbon Monoxide - the main threats to human health from exposure to carbon monoxide are the formation of carboxyhaemoglobin, which substantially reduces the capacity of the blood to carry oxygen and deliver it to the tissues, and blockage of important biochemical reactions in cells. People who have an existing disease which affects the delivery of oxygen to the heart or brain (eg coronary artery disease (angina)) are likely to be at particular risk if these delivery systems are further impaired by carbon monoxide

Lead - exposure to high levels of lead may result in toxic biochemical effects in humans which in turn cause problems in the synthesis of haemoglobin, effects on the kidneys, gastrointestinal tract, joints and reproductive system, and acute or chronic damage to the nervous system. The possible effect of lead on brain development in children, and hence their intellectual development, is the greatest cause for concern.

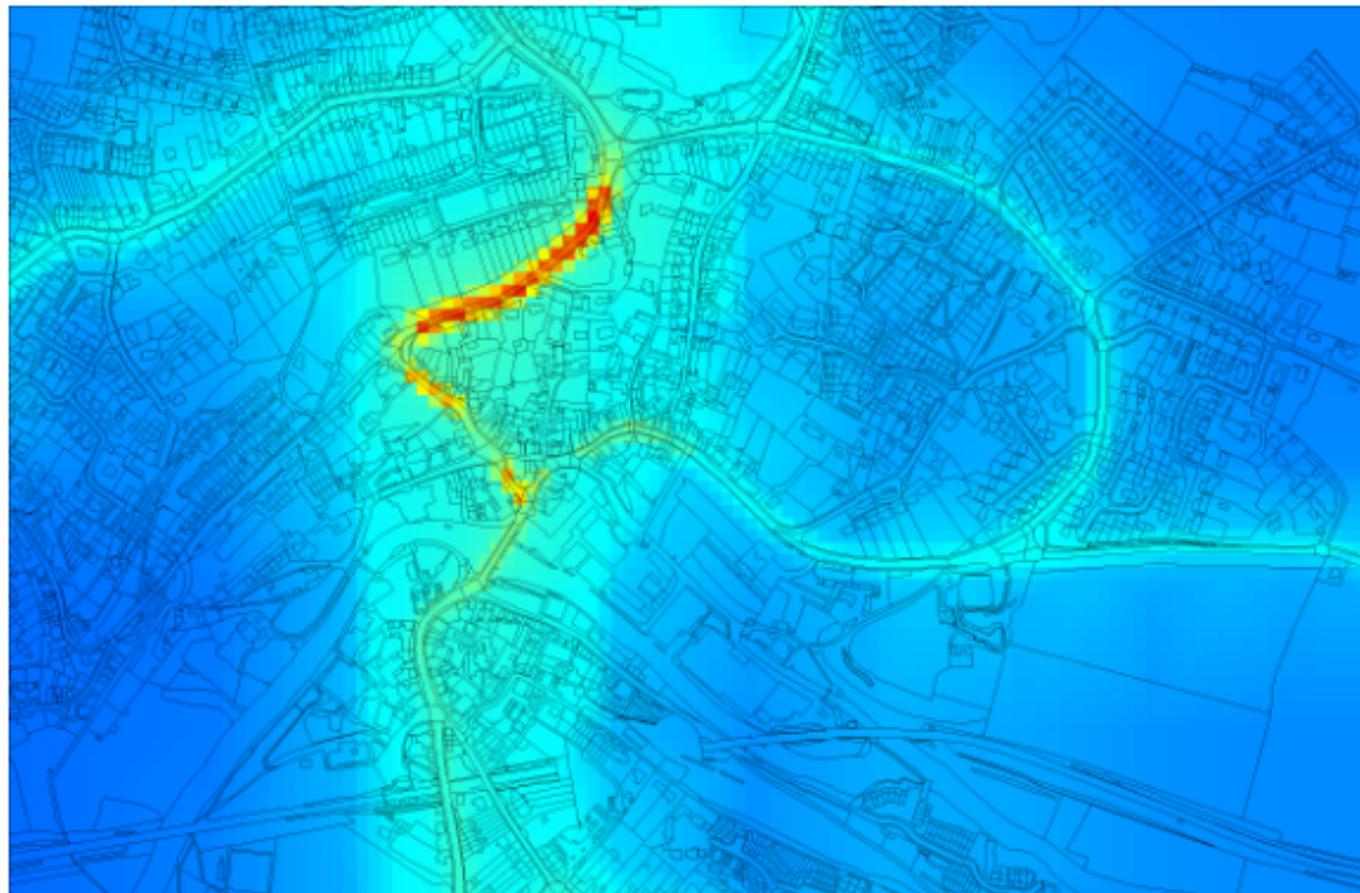
Nitrogen Dioxide At relatively high concentrations, nitrogen dioxide causes inflammation of the airways. There is evidence to show that long-term exposure to nitrogen dioxide may effect lung function and that exposure to nitrogen dioxide enhances the response to allergens in sensitised individuals.

Ozone - Exposure to high concentrations of ozone may cause slight irritation to the eyes and nose. If very high levels of exposure (1,000-2,000 $\mu\text{g}/\text{m}^3$) (500-1,000ppb) are experienced over several hours, damage to the airway lining followed by inflammatory reactions may occur. There is also evidence that minor changes in the airways may occur at lower concentrations, down to about 80ppb (160 $\mu\text{g}/\text{m}^3$).

Particulate Matter (PM₁₀) - Particulate air pollution is associated with a range of effects on health including effects on the respiratory and cardiovascular systems, asthma and mortality. Particulate air pollution episodes are responsible for causing excess deaths among those with pre-existing lung and heart disease, and that there is a relationship between concentrations of PM₁₀ and health effects, such that the higher the concentration of particles, the greater the effect on health

Sulphur Dioxide - causes constriction of the airways by stimulating nerves in the lining of the nose, throat and airways of the lung. The latter effect is particularly likely to occur in those suffering from asthma and chronic lung disease. The effects of sulphur dioxide on sensitive subjects appear almost immediately at the start of exposure.

NO₂ Annual
Average ($\mu\text{g}\text{m}^{-3}$)



Bradford On Avon

2005 Base

Town Centre

CAPITA SYMONDS

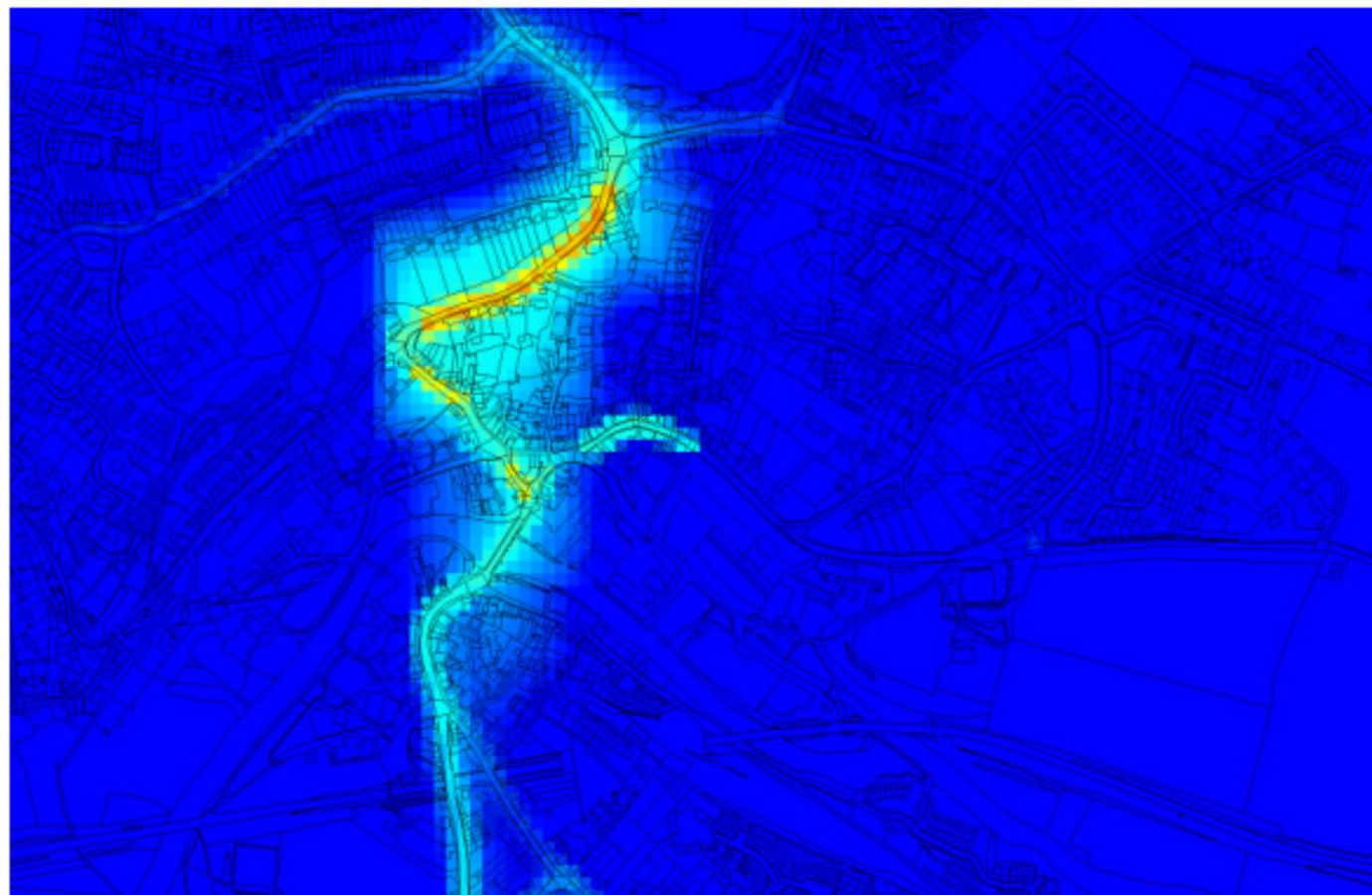
Capita Symonds
City Square, Bristol
Tel: +44 (0)117 321 2100 Fax: +44 (0)117 321 2200

IC	DL	DL	NTS	9	1

10m 0 10m

NO₂ Annual Average ($\mu\text{g}\text{m}^{-3}$)

NO₂ Annual
Average ($\mu\text{g m}^{-3}$)



Bradford On Avon

2010 Base

Town Centre

CAPITA SYMONDS

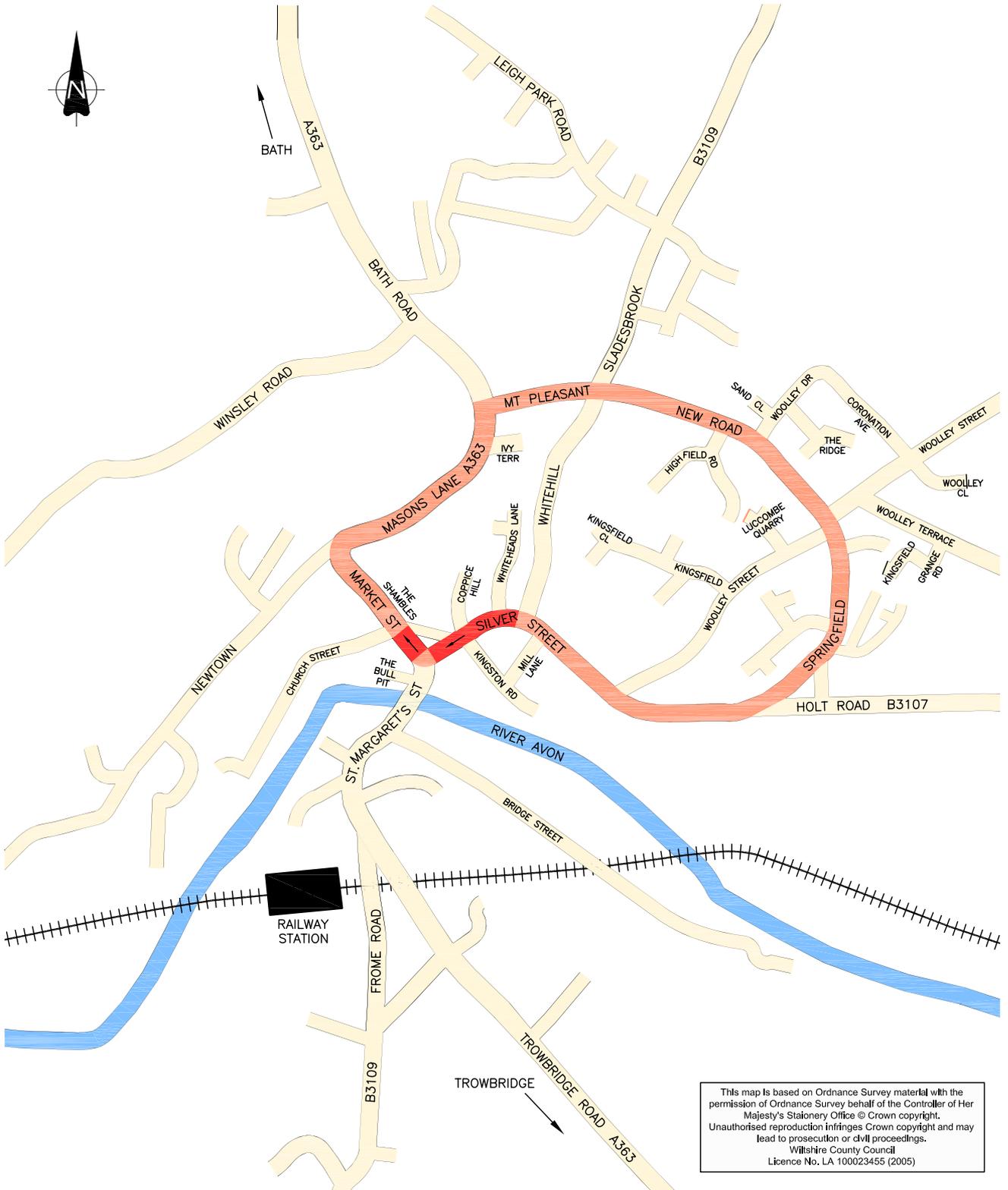
Capita Services Team, West Gate,
First Floor, Watkinson Building,
Telford, Shropshire, TF11 1UJ
Tel: +44 (0)1927 2161 Fax: +44 (0)1927 21627

NOISE	DATE	NOISE	DATE	NOISE	DATE	NOISE	DATE
IC	DL	DL	NTS			11	1

KEY:

- SECTIONS OF ROAD THAT WOULD BECOME ONE-WAY IN THE DIRECTION OF THE ARROWS
- ROADS THAT WOULD CARRY REDIRECTED TRAFFIC

DRG. No. APPENDIX 6				
ISSUE	AMENDMENT	DRAWN	CHK'D	DATE



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**BRADFORD ON AVON
AIR QUALITY ACTION PLAN**

DRAWN	Y.K.W.	08/05	CHECKED	D.E.B.	08/05
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SCALE NTS

DRG. No. APPENDIX 6

POSSIBLE PARTIAL ONE-WAY SYSTEM

CAPITA SYMONDS

Capita Gwent Consultancy Ltd.
Tŷ Gwent, Lake View, Llantarnam Park, Cwmbran, South Wales. NP44 3HR
Tel: 01633 463333 Fax: 01633 463399

Road Space Management

The road layout within Bradford-on-Avon could lend itself to traffic management options.

For example, a short section of one-way street at the bottom of Market Street and Silver Street by Knee's Corner would force traffic onto New Road and along Silver Street, thus reducing the level of traffic on Masons Lane.

If the option were one way uphill, the increase in emissions as the extra vehicles go uphill is outweighed by reduced number of vehicles going the other way. Investigations have shown that such an option would meet the Air Quality targets within Bradford-on-Avon.

Despite slightly higher emissions levels, New Road would continue to remain significantly below the air quality objectives.

Such a scheme would need detailed consideration, take 5 years to implement and would need to find a place in the County Council's Capital Programme.



Exhibition Details

The staffed exhibition will be held at the library, Bridge Street on:

Saturday 2nd July, 2005 between 10am and 4pm
Monday 4th July, 2005 between 11am and 8pm

and will be unstaffed during normal library opening hours until 9th July, 2005.

If you have any questions regarding air quality please contact:

Rachel Kent at West Wiltshire District Council
Tel: (01225) 776655

Introduction

Under the 1995 Environment Act, local authorities are required to review and assess air quality and, where poor, designate an Air Quality Management Area (AQMA). Following this, an Action Plan needs to be produced detailing the steps to be taken to improve air quality to meet statutory limits.

Public consultation is an essential part of this process.

Bradford-on-Avon has several specific factors that elevate pollutant concentrations beyond those usually expected for a town of its size and traffic levels, including:

- 'street canyons' where Georgian buildings are taller than the narrow roads
- steep gradients on roads leading to the town centre
- congestion caused by the road layout

An air quality model has been developed which indicates that the government's target annual mean Air Quality Objective for nitrogen dioxide will be exceeded along the 'street canyons' in Market Street and Masons Lane in 2005. Consequently, action is needed to reduce emissions and improve air quality for residents in these locations.

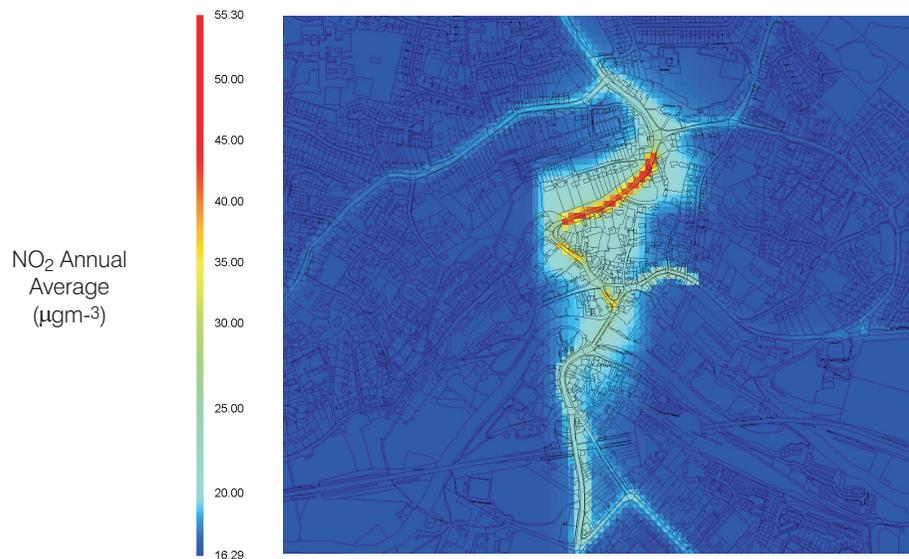
Please read this brochure and, if you want, attend the exhibition in the town library where council officers and representatives of Capita Symonds will be in attendance to answer your questions. If you wish to comment on the options please complete the enclosed prepaid questionnaire and return to Capita Symonds to arrive no later than 15th July 2005.

Business as usual

Although many people would like to see a bypass for Bradford on Avon, this is not an option for consideration at this consultation. It does not feature in current Government or Local Authority Plans and could not therefore be realised by 2010 to influence the Air Quality at that date.

Traffic will continue to grow year on year within the town. With this growth, it is expected that the maximum capacity at the town bridge will be reached by 2010.

Cleaner engines are continually making their way into the vehicle fleet as people purchase new cars. This means that although traffic levels will increase, overall emissions are expected to decrease. In spite of this, our model for 2010 forecasts that four houses at the bottom end of Masons Lane continue to be in an area that exceeds the Government target for nitrogen dioxide.



A traffic reduction of some 20% would be required to ensure total compliance with Government targets.

Low Emission Zones

Low Emission Zones (LEZs) aim to reduce emissions by banning the most polluting vehicles. The cost of policing this for all vehicles could be prohibitive. It is therefore suggested that an LEZ would only apply to lorries and other Heavy Goods Vehicles (HGV).

However, although HGVs produce approximately 8 times the pollution of the average car, they only make up 3% of the vehicles in Bradford-on-Avon. Banning HGVs with certain engine types from the town would only be effective until firms update their fleet with cleaner engines. The air quality benefits of this option are likely to be small



Road user charging

There have been suggestions that vehicles could be charged to cross the town bridge.

Possible charging mechanisms include:

- Number plate recognition cameras (as used in central London) - likely to be prohibitively expensive to implement and hence a high charge will be necessary.
- 'Smart card' and Beacons - could not be implemented until road user charging is put in place nationally since every car would have to have an appropriate 'smart card'.
- Toll booths at one end of the bridge - likely to result in large queues of traffic as people find the right change with consequent high emissions as cars idle.



Road User Charging would require national legislation, be expensive and take many years to implement.

'Soft Options'

'Soft Options' refer to initiatives to reduce local traffic in the town, such as:

- Increased parking charges to discourage use of cars in the town;
- Better parking enforcement, freeing up road space and reducing congestion;
- School travel plans, walking buses and safe routes to school projects
- Car sharing schemes;
- More cycle paths and cycle parks, and
- Real-time information system for buses, to improve reliability of service



Traffic surveys and roadside interviews have indicated that approximately 60% of traffic within Bradford-on-Avon is local. Consequently air quality could be improved if local people left their cars at home and walked, cycled or used public transport.

Based on experience elsewhere, it is thought that a combination of several of these options could reduce the 2010 traffic levels by up to 10%. Therefore 'soft' options would not be sufficient by themselves to fully achieve the required air quality improvement, although they would be relatively cheap, quick to implement and have a number of health benefits.

WESTBURY TOWN COUNCIL



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**Town Clerk and
Responsible Financial Officer:**
Leslie J. Fry

8th August 2005

Mrs R Kent
Area Environmental Health Officer
West Wiltshire District Council
Bradley Road
BA14 0RD



Dear Rachel

Re: Environment Act

Firstly thank you to yourself and Kate for presenting the Draft Action Plan. I am able to confirm the Town Councils acceptance of the Plan (in its entirety) and I am asked to compliment the clarity and professionalism which went into producing the document.

Yours sincerely

Les Fry
Town Clerk

Zone 4/E13
Ashdown House
123 Victoria Street
London SW1E 6DE

Telephone 020 7082 8871
Website www.defra.gov.uk
Email tutu.aluko@defra.gsi.gov.uk



Ms Rachel Kent
Area Environmental Health Officer
West Wiltshire District Council
Council Offices
Bradley Road
Trowbridge
Wiltshire BA14 0RD

Date 01 July 2005

Dear Ms Kent

SCHEDULE 11 (2) OF THE ENVIRONMENT ACT 1995: CONSULTATION ON WEST WILTSHIRE'S DISTRICT COUNCIL'S AIR QUALITY ACTION PLAN

Thank you for consulting the Secretary of State for Environment, Food and Rural Affairs on West Wiltshire DC's draft Air Quality Action Plan.

Please find attached our comments on the action plan. We ask that you reply to the appraisal as soon as possible with additional information on the issues raised in the assessment report, and how they will be incorporated into the final plan.

If you should have any queries on the attached, you may wish to contact the AQAP helpdesk on telephone: (020) 7902 6130 or email: actionplanhelp@stanger.co.uk.

Yours sincerely

A handwritten signature in black ink, appearing to read "Tutu Aluko".

Tutu Aluko
AIR AND ENVIRONMENT QUALITY DIVISION

WEST WILTSHIRE DISTRICT COUNCIL	
5 JUL 2005	
Ack.	
Action by	
Comment	

SCHEDULE 11 (2) ENVIRONMENT ACT 1995: CONSULTATION ON WEST WILTSHIRE DISTRICT COUNCIL'S DRAFT AIR QUALITY ACTION PLAN

West Wiltshire District Council has declared two AQMAs, one in Westbury and one in Bradford On Avon, following the outcome of the Stage 3 Review and Assessment. The Westbury AQMA has been declared on the basis of predicted exceedence of the annual mean NO₂ Objective and the Bradford On Avon AQMA has been declared on the basis of predicted exceedence of both NO₂ and PM₁₀ Objectives. Inclusion of the Stage 4 assessment usefully confirms the extent of the exposure, but would additionally benefit from the maximum predicted concentrations at receptors. The main source of emissions is identified as road transport, contributing 87% of NO_x emissions in Bradford On Avon and 79% in Westbury.

The draft Action Plan is generally well structured and provides a reasonable level of detail regarding the need to formulate an action plan and the background to the UK Air Quality Strategy and existing policies and strategies.

West Wiltshire Council has, to date, involved consultants and key stakeholders from within the local authority, and the County Council in drawing up action plan measures. Additional consultation has been undertaken with local residents in Westbury and Bradford On Avon through questionnaires seeking views on potential measures to improve air quality and through public consultation events which have been held. The extent and transparency of the approach to consultation taken by the Council is commended.

Measures have been put forward for consultation in a summary table under three sections, containing the various measures and initiatives. These include general District-wide measures (35 measures), direct measures for the Bradford on Avon AQMA (6 measures) and direct measures for the Westbury AQMA. The main focus of the draft Plan for the Westbury AQMA is the Westbury Bypass which has been considered in great detail and is expected to deliver significant air quality benefits in the long term (post LTP2) should agreement and funding be secured by DfT to progress the scheme. The measures proposed for the Bradford On Avon AQMA have not been considered in much detail and modelling is to be undertaken for options to reroute traffic and implementing a LEZ. Without such detail at this stage or commentary on whether these are considered feasible schemes for implementation it is difficult to assess their relative merit at this stage. The lead role has been assigned to the County Council but there is no indication as to whether the schemes proposed are within the 2nd LTP and are therefore likely to be progressed within its timeframe. Where the County Council are the lead organisation greater linkage should be provided to the LTP where related to the LTP proposals.

In the summary tables of measures not all information has been provided on all of the measures and these should be completed to enable effective consultation. A number of the general measures are provided as vague headings, such as 'Local Transport Plan Improvements' or 'Cycle Network' and measures should include greater detail as to what they are specifically proposing and where.

The proposals for major infrastructure through bypasses are long-term aspirations, beyond the scope of the 2nd LTP. As such, reliance should not solely be placed on these in terms of

direct measures to achieve improvements in air quality. It is noted that rerouting traffic is provided for Bradbury On Avon as a medium term option, but the Plan would benefit from further consideration to additional direct measures to provide short-medium term improvements, such as through traffic management measures, parking strategies and improvements to public transport which directly influence the AQMAs. Such measures have been listed under the general measures, but it has not been made clear where improvements will be made and this perhaps need greater clarification.

We also note that little consideration has been given to financing of proposed measures within the draft plan at this stage, but lack of funding has been identified as the major risk to delivery of the action plan measures. **It should be clear in the final Plan what measures will be taken forward, whether or not funding has been secured for the proposed measures and where additional funding will be required.**

Impact Assessment

The proposed measures have been assessed in a qualitative way, and have included wider impacts in addition to consideration of air quality benefits. There is no cost-effectiveness assessment or prioritisation of measures. **Following consultation, detailed consideration should be made to the cumulative air quality impacts of the measures to be taken forward on the AQMAs and whether these measures will achieve the required reductions in NO₂ and PM₁₀. The final Plan should include an assessment of the cost-effectiveness and a ranking of measures based on their priority for implementation. Once the impact of the proposed measures has been assessed, the Council should provide an indication of when the Objective is likely to occur (i.e. 2007, 2008, 2009, 2010, or later).**

Timescales

Timescales have been provided in term of short term (2005/6), medium term (within the 2nd LTP) or long term (Post 2nd LTP). **In the final Plan specific dates should be provided in the summary action plan table e.g. 'Dec 2005' rather than generic short/medium/long timescales, so that progress with measures can be monitored and it is clear when the air quality improvements are expected to be delivered.**

In summary, in order to make the final plan acceptable the Council should provide:

- Further consideration to short term/medium term direct measures for the AQMA with clearer linkage with LTP proposals;
- Further consideration to the wording of general measures to aid clarification as to what they will involve and where;
- A clear statement as to the measures which will be taken forward following consultation;
- Details on the outcome of the consultation and what this has achieved;
- Details of whether or not funding has been secured for proposed measures and where additional funding will be required;

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- Further consideration to the impacts of measures within the AQMAs and a clear statement as to when the Objective is likely to be achieved;
- Assessment of cost-effectiveness and prioritisation of measures based on this assessment;
- Closer consideration to implementation time-scales.

The Council should provide the Department for Environment, Food and Rural Affairs with a written response to the above commentary explaining how these additions will be appropriately incorporated into the final Plan, prior to adoption of the final Plan by the Council.

This commentary is not designed to deal with every aspect of the report. It highlights a number of issues that should help the local authority in formulating its Action Plan.

Issues can be followed up through the Air Quality Action Plan helpdesk as follows:

Helpdesk telephone: 020 7902 6130
Helpdesk email: actionplanhelp@stanger.co.uk
Web-site: www.stanger.co.uk/actionplan