



2010 Air Quality Progress Report for Wiltshire Council

In fulfillment of Part IV of the Environment Act 1995
Local Air Quality Management

May 2010

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Executive Summary

This document summarises the current situation relating to the quality of the air in Wiltshire. The report has been completed by the Specialist Environmental Protection Team, part of the Environmental Health Service of the new Unitary Wiltshire Council which came into existence on the 1st April 2009, bringing together the four district councils of West Wiltshire, North Wiltshire, Kennet and Salisbury District Councils with Wiltshire County Council.

The document summarises all the air quality monitoring carried out by the council across the county, but the purpose of the report is not to offer the detail of the Updating and Screening Assessment Reports, or to require as much effort. However, if the Progress Report identifies the risk of exceedence of an Air Quality Objective, the Local Authority (LA) should undertake a Detailed Assessment immediately, and not wait until the next round of Review and Assessment.

The report concludes that no additional air quality management problems have been identified outside of the known problem areas in Marlborough and Wilton where detailed assessments have been undertaken and Devizes, Salisbury, Bradford and Avon and Westbury where Air Quality Management Areas have already been declared.

Monitoring locations across the whole of Wiltshire were reviewed at the end of 2009 and as a result a number of new monitoring sites were identified. These will be reported on in the next Progress Report.

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1 Introduction

1.1 Description of Local Authority Area

Wiltshire Council is one of the new unitary authorities that came into existence on the 1st April 2009, bringing together the four district councils of West Wiltshire, North Wiltshire, Kennet and Salisbury District Councils with Wiltshire County Council.

There has been an established history of co-operation between the district councils on air quality review and assessment through a joint working group which included colleagues from Transport Planning at the County Council and this work has been bought together at Wiltshire Council in the new Specialist Environmental Protection Team in Public Protection Services.

Wiltshire Council's administrative area takes in the whole of the county of Wiltshire with the exception of Swindon, a unitary authority in its own right. The county is roughly rectangular and approximately 45 miles north/ south and 33 miles east/ west

The majority of the county is rural in nature, taking in the World heritage sites, Stonehenge and Avebury. Salisbury plain dominates the southern portion of the county and large tracts are utilised by the military for their manoeuvres. Much of the area enjoys the protection of special designations such as SSIs, scheduled ancient monuments and National Park.

The administrative headquarters of Wiltshire are situated in Trowbridge. There are many small settlements and towns across Wiltshire, the largest urban concentrations are in Salisbury, Devizes, Chippenham, Malmesbury, Melksham, Warminster and Westbury.

The main sources of pollutants of concern are road vehicles. Wiltshire has a number of market towns with narrow streets and comparatively tall buildings (3-4 stories) which in many cases are direct onto the street, giving rise to canyon effects that inhibit pollutant dispersal. Added to this we are a popular tourist destination which contributes to summer congestion and Wiltshire's topography is not flat. This is a factor in some locations that fail to meet an objective as goods vehicles must stop/start as they progress up hill.

1.2 Purpose of Progress Report

Progress Reports are required in the intervening years between the three-yearly Updating and Screening Assessment reports. Their purpose is to maintain continuity in the Local Air Quality Management process.

They are not intended to be as detailed as Updating and Screening Assessment Reports, or to require as much effort. However, if the Progress Report identifies the risk of exceedence of an Air Quality Objective, the Local Authority (LA) should undertake a Detailed Assessment immediately, and not wait until the next round of Review and Assessment.

1.3 Air Quality Objectives

The air quality objectives applicable to Local Air Quality Management (LAQM) in England are set out in the Air Quality (England) Regulations 2000 (SI 928), and the Air Quality (England) (Amendment) Regulations 2002 (SI 3043). They are shown in Table 1.1. This table shows the objectives in units of microgrammes per cubic metre $\mu\text{g}/\text{m}^3$ (for carbon monoxide the units used are milligrammes per cubic metre, mg/m^3). Table 1.1. includes the number of permitted exceedences in any given year (where applicable).

Table 1.1 Air Quality Objectives included in Regulations for the purpose of Local Air Quality Management in England.

Pollutant	Concentration	Measured as	Date to be achieved by
Benzene	16.25 $\mu\text{g}/\text{m}^3$	Running annual mean	31.12.2003
	5.00 $\mu\text{g}/\text{m}^3$	Annual mean	31.12.2010
1,3-Butadiene	2.25 $\mu\text{g}/\text{m}^3$	Running annual mean	31.12.2003
Carbon monoxide	10.0 mg/m^3	Running 8-hour mean	31.12.2003
Lead	0.5 $\mu\text{g}/\text{m}^3$	Annual mean	31.12.2004
	0.25 $\mu\text{g}/\text{m}^3$	Annual mean	31.12.2008
Nitrogen dioxide	200 $\mu\text{g}/\text{m}^3$ not to be exceeded more than 18 times a year	1-hour mean	31.12.2005
	40 $\mu\text{g}/\text{m}^3$	Annual mean	31.12.2005
Particles (PM ₁₀) (gravimetric)	50 $\mu\text{g}/\text{m}^3$, not to be exceeded more than 35 times a year	24-hour mean	31.12.2004
	40 $\mu\text{g}/\text{m}^3$	Annual mean	31.12.2004
Sulphur dioxide	350 $\mu\text{g}/\text{m}^3$, not to be exceeded more than 24 times a year	1-hour mean	31.12.2004
	125 $\mu\text{g}/\text{m}^3$, not to be exceeded more than 3 times a year	24-hour mean	31.12.2004
	266 $\mu\text{g}/\text{m}^3$, not to be exceeded more than 35 times a year	15-minute mean	31.12.2005

1.4 Summary of Previous Review and Assessments

Each of the 4 local authorities formerly operating within the new Wiltshire Council area had completed all Updating and Screening Assessments and Progress Reports as part of the Review and Assessment of Air Quality as required by the legislation. Reports from each of the 4 former district Councils can be viewed at:

<http://www.wiltshire.gov.uk/environmentandplanning/publicprotection/pollutionandnoise/airandwaterpollution/airquality/airqualityreportsandsummaries.htm>

The findings of these reports are summarised below.

1.4.1 The former Salisbury District Council Area

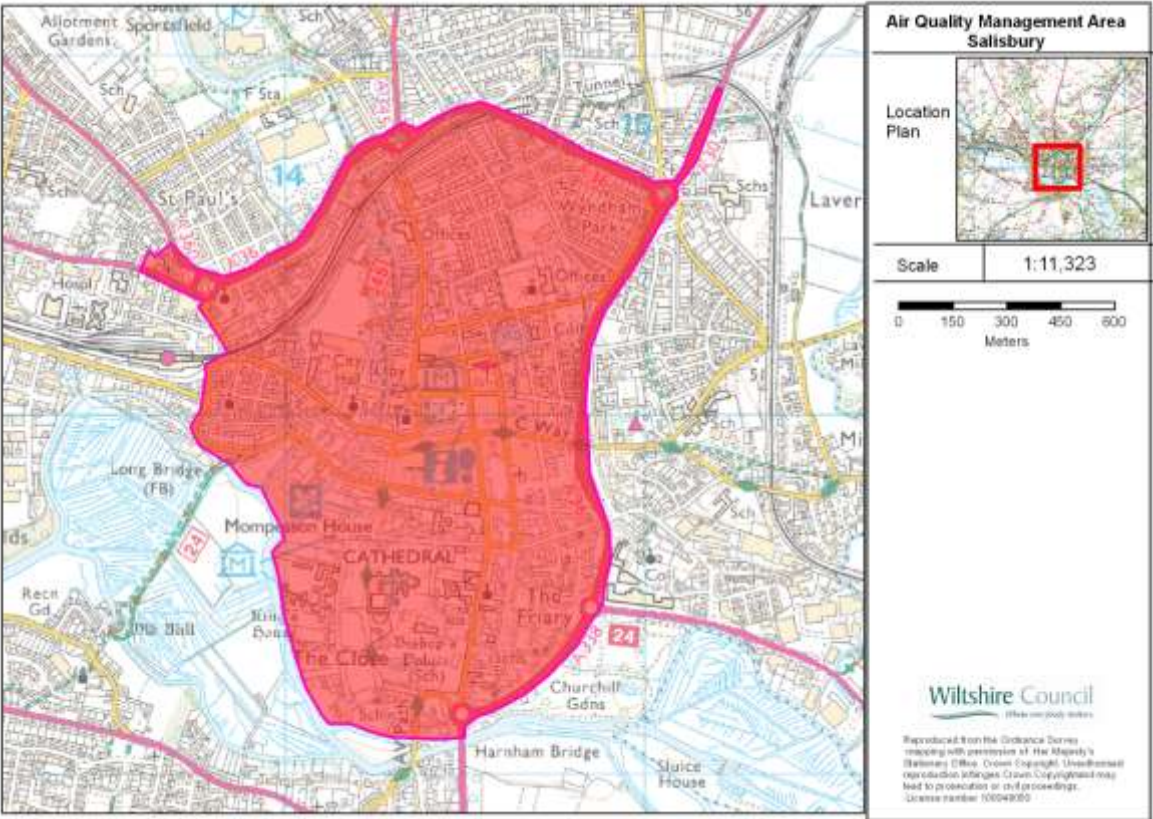
In 2006 for Round 3 of Review and Assessment, Salisbury District Council submitted an Updating and Screening Assessment and subsequently carried out Detailed & Further Assessments in 2007 & 2008 in respect of the nitrogen dioxide annual mean objective.

The Detailed Assessment and resultant Further Assessment, concluded that three Air Quality Management Areas were required. These were declared in October 2007:

- Whole city centre AQMA, merging the five AQMAs discrete declared in previous rounds of Review and Assessment in respect of specific streets;
- London Road (A30) between St Mark's roundabout and the London Road railway Bridge Allotments.
- Wilton Road (A36T) between St Paul's roundabout and The Old Manor Hospital Site.

Monitoring has continued across the city utilising a network of diffusion tubes and two Horiba real time monitoring stations, both of which measure PM10 and oxides of nitrogen. The diffusion tube network extends to nearby towns of Wilton and Amesbury. Queen Street in Wilton has been identified for further consideration in a Detailed Assessment which will be published in 2011. A map of the Salisbury AQMA is set out in Fig 1.4.1 below.

Fig 1.4.1 – Salisbury City Centre AQMA

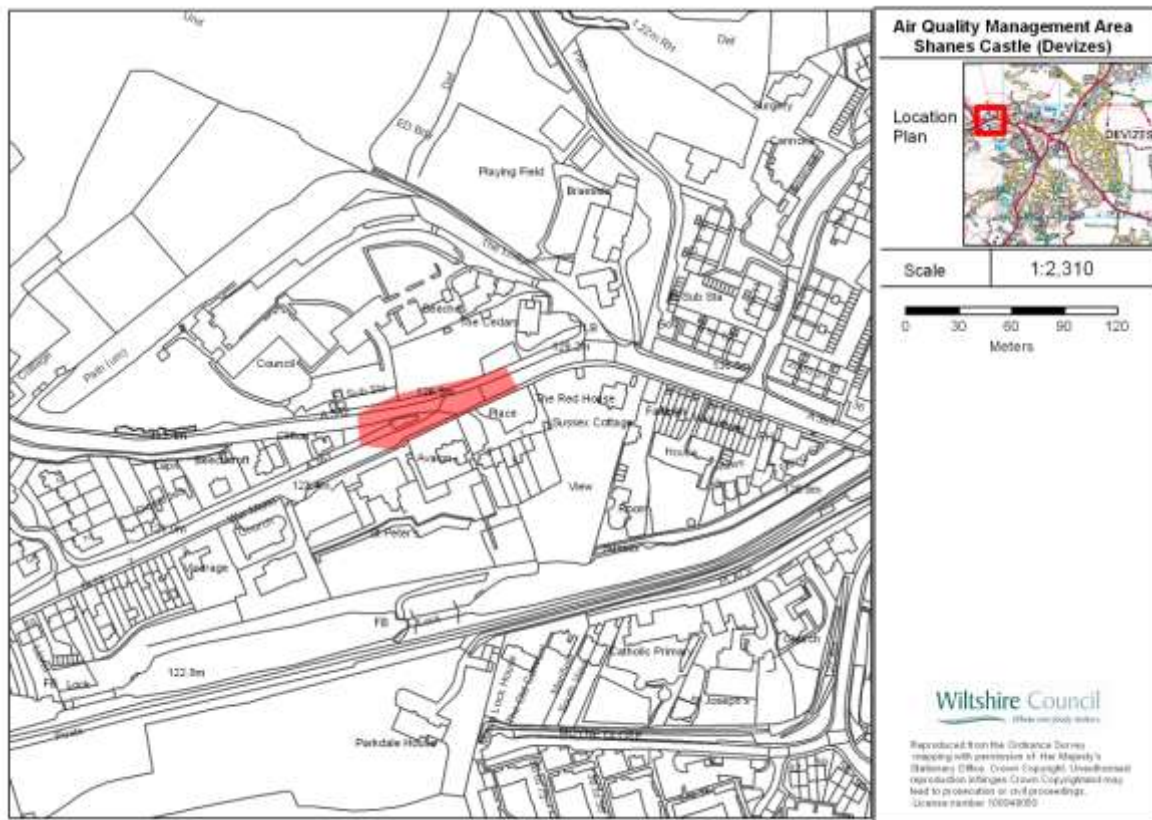


1.4.2 The former Kennet District Council Area

Rounds 1 and 2 of the Review and Assessment process concluded that it was unlikely that any of the air quality objectives would be exceeded in Kennet. However, in Round 3, the Progress Report submitted in 2007 identified a potential exceedence of the annual mean nitrogen dioxide objective at a site in Devizes (Shanes Castle), and concluded that a Detailed Assessment was required.

The detailed assessment was duly completed by the Wiltshire Council in November 2009 and the Shanes Castle Air Quality Management Area was formally declared in March 2010. A map is set out below.

Fig 1.4.2 – Shanes Castle (Devizes) AQMA



1.4.3 The former West Wiltshire District Council Area

Following the first round of Review and Assessment, two AQMAs were declared in November 2001. The Bradford on Avon AQMA was declared for exceedences of the annual mean nitrogen dioxide objective and the 24-hour PM₁₀ objective primarily due to local transport sources. The Westbury AQMA was declared for exceedences of the annual mean nitrogen dioxide objective also due to transport sources. The Council submitted a Further Assessment (Stage 4) to Defra in November 2003 which concluded that the AQMAs were justified as declared.

In 2005, West Wiltshire District Council produced an Air Quality Action Plan for both the Bradford on Avon and Westbury Air Quality Management Areas. The AQAP outlines the preferred strategy to improve air quality in the AQMAs. This was the culmination of an extensive study undertaken by consultants working on behalf of the then Wiltshire County Council to develop a range of deliverable options.

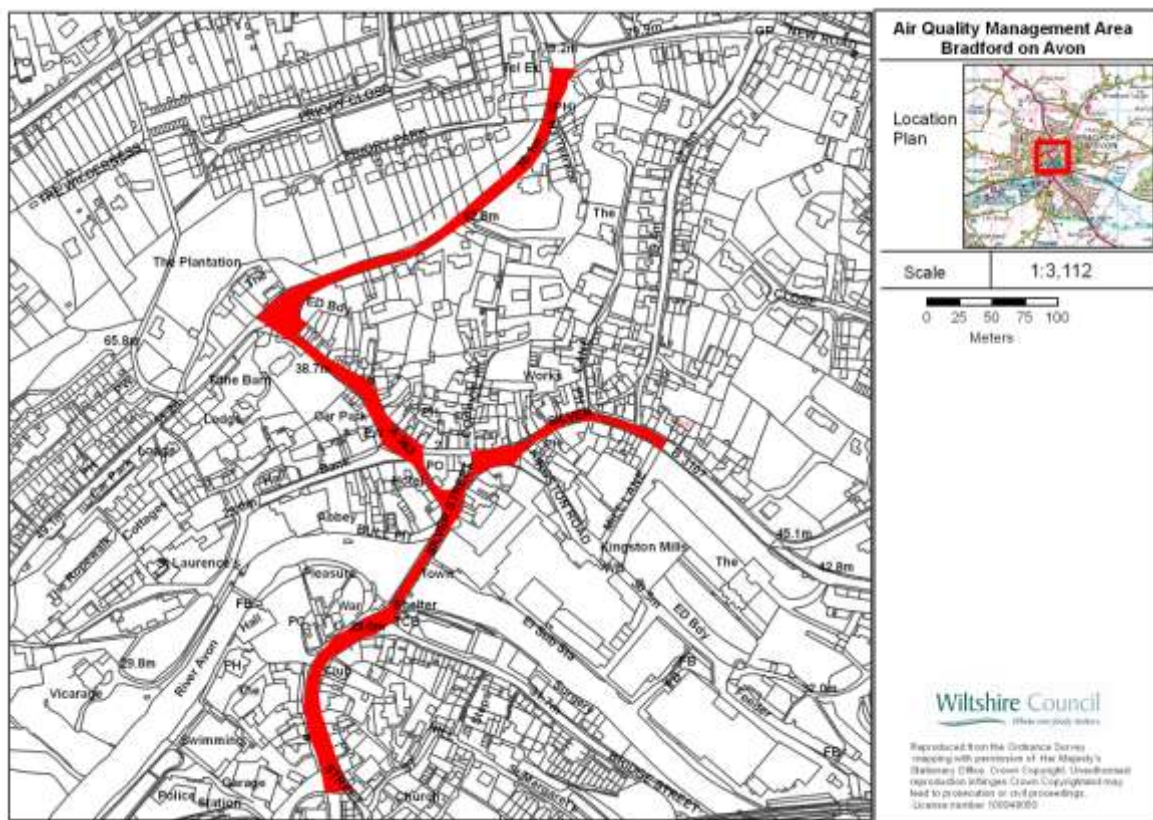
In Bradford on Avon, the preferred strategy involves introducing measures to manage the flow of traffic in and out of the town centre, as well as improvements to signage around the Bradford on Avon area, and 'soft' measures to promote a greater choice of travel in the town for non-car modes. However, there have been problems in progressing realistic and viable traffic management measures.

In Westbury, whilst it is recognised that the proposed Westbury Bypass is the preferred solution to the town centre air quality issue, a number of other 'smarter choice' measures have been proposed and are being implemented in the shorter term.

An Updating and Screening Assessment 2006 and Progress Reports in 2007 and 2008 concluded that a Detailed Assessment would not be required for any pollutant.

Maps of the two AQMA's are set out below in Figs 1.4.3 and 1.4.4.

Fig 1.4.3 – Bradford on Avon AQMA



2 New Monitoring Data

2.1 Summary of Monitoring Undertaken

2.1.1 Automatic Monitoring Sites

Set out below are a series of maps detailing the location of all Wiltshire Council Air Quality continuous monitoring stations:

Figure 2.1.1 – Location of Bradford on Avon Continuous Monitor (NOx)



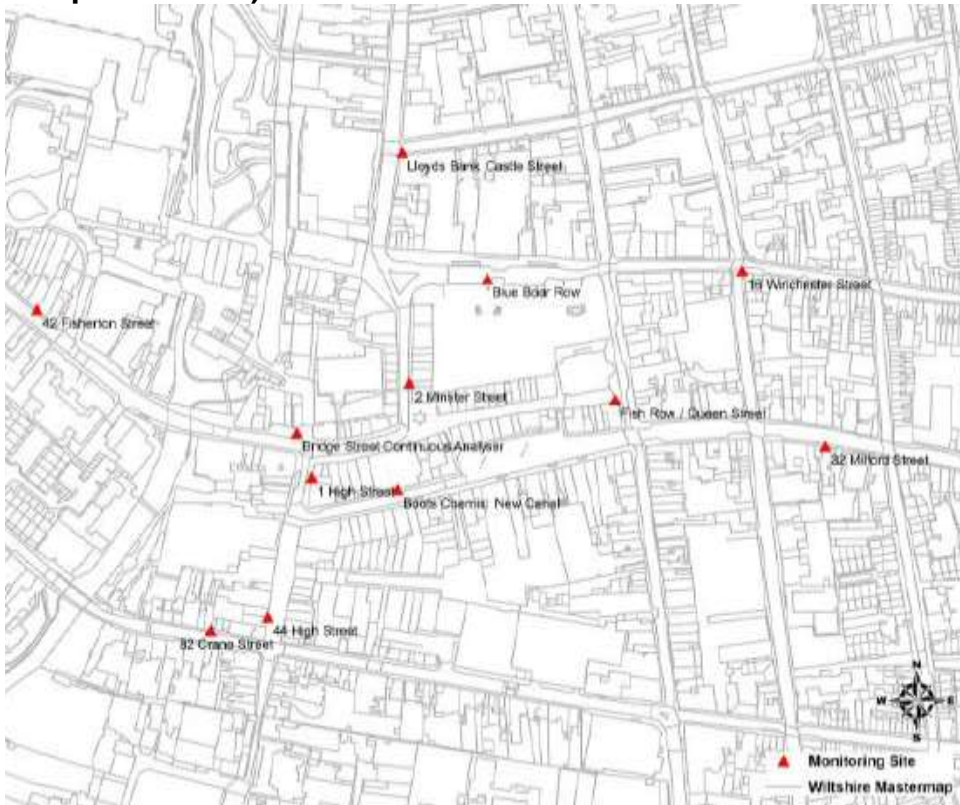
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Figure 2.1.2 – Location of Salisbury, Exeter Street Continuous Analyser (NOx and particulates)



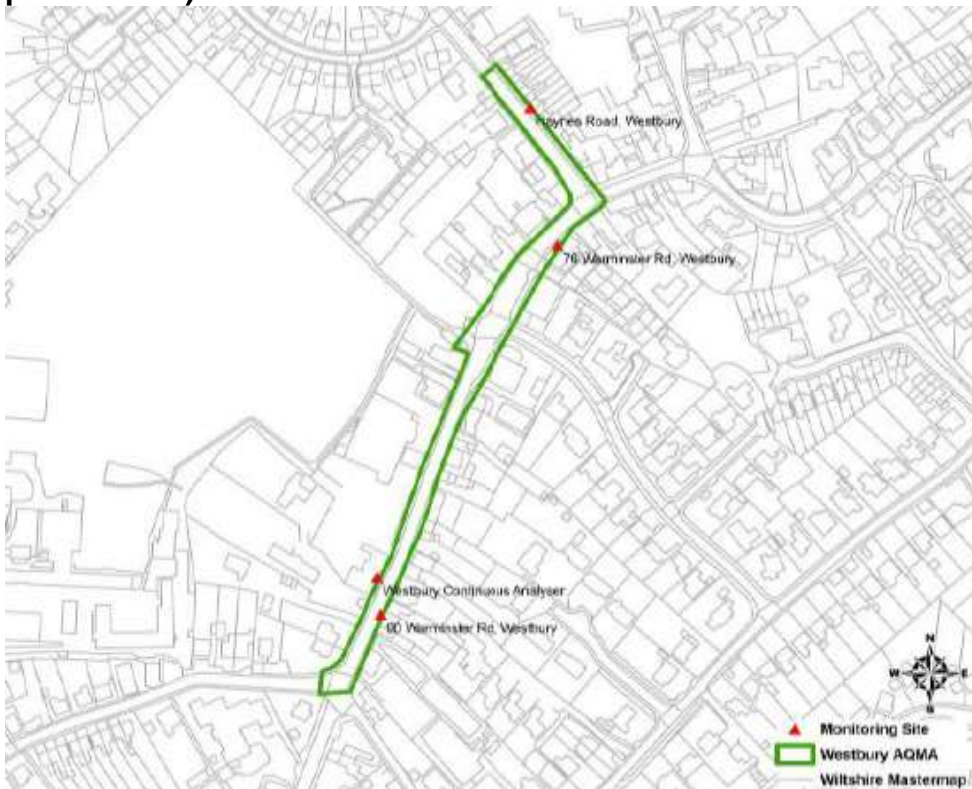
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Figure 2.1.3 – Location of Salisbury, Castle Street Continuous Analyser (NOx and particulates)



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Figure 2.1.4 – Location of Westbury Continuous Analyser (NOx and particulates)



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Table 2.1 Details of Automatic Monitoring Sites

Site Name	Site Type	OS Grid Ref		Pollutants Monitored	Monitoring Technique	In AQMA?	Relevant Exposure? distance (m) to relevant exposure	Distance to kerb of nearest road (m)	Does this location represent worst-case exposure?
Exeter Street, Salisbury	Roadside	414547	129575	NOx, PM ₁₀	Chemiluminescence. Beta Attenuation.	Yes	Yes	2.5	Yes
Bridge Street, Salisbury	Roadside	414295	129944	NOx, PM ₁₀	Chemiluminescence. Beta Attenuation	Yes	Yes	2.5	Yes
Oval Motors, Warminster Rd, Westbury	Roadside	387154	150901	NOx	Chemiluminescence	Yes	Yes 1m	3	Yes
Public Toilets, Warminster Rd, Westbury	Roadside	387216	151073	PM ₁₀	Beta Attenuation	Yes but not for PM ₁₀	Yes	2	No *
St Margaret's Street, Bradford On Avon	Roadside	382528	160798	NOx	Chemiluminescence	Yes	Yes 0.5m	2	No **

* Planned to relocate this to Bradford On Avon, however, we are struggling to find a suitable location

** Ideally this would be located in Masons Lane, however no suitable location can be found

2.1.2 Non-Automatic Monitoring

Nitrogen dioxide diffusion tube monitoring

Details of the Quality Assurance / Quality Control (QA/QC) for the diffusion tube results reported in this section are set out in Appendix A, QA/QC for diffusion tube data.

Passive diffusion tubes are not as accurate as real time monitoring, however they do give a good indication of what is happening with air quality. Wiltshire currently has 83 sites within the district to monitor for nitrogen dioxide.

A nitrogen dioxide passive diffusion tube is a clear plastic tube open at one end and at the closed end a mesh is impregnated with a pollutant absorbing chemical. The diffusion tube collects the pollutant during the exposure period and then is resealed and returned to a laboratory for analysis. Each tube is exposed for a month period. The laboratory then assesses the quantity of the pollutant absorbed by calculating the average ambient NO₂ concentration over the exposure period.

Each tube is mounted on a lamp-post or similar structure ensuring that the open end is at the bottom to prevent rainwater collection.

Co Location and Bias Correction

Wiltshire has co-location studies at their Exeter Street and Bridge Street continuous monitoring sites in Salisbury, and St Margaret's Street in Bradford On Avon. (Due to poor data collection at the Bradford On Avon site we have only been able to use the two Salisbury sites)

A local bias correction factor of 0.75 was calculated from the two Salisbury sites.

The Review and Assessment helpdesk calculated the National bias adjustment factor for us by adding the results from the Salisbury sites to the other studies on the Review and Assessment Website (v05/09):

<http://www.uwe.ac.uk/agm/review/R&Asupport/diffusiantube310310.xls>

A National bias adjustment factor of 0.79 was obtained.

Wiltshire Council have decided to use the national bias adjustment factor as it takes into account four studies rather than just two, and is also a more cautious value to use.

Table 2.2a Details of Non- Automatic Monitoring Sites-South: Salisbury

Site Name	Site Type	OS Grid Ref		Pollutants Monitored	In AQMA	Relevant Exposure?	Distance to kerb of nearest road (m)	Worst-case Location?
74 London Rd	Roadside	415105	130641	NO ₂	Y	Y 0	8.4	Y
Estcourt Rd	Roadside	415011	130545	NO ₂	Y	Y 0	6	Y
44 High St	Urban Central	414276	129823	NO ₂	Y	N	15	N
1 High St	Roadside	414306	129916	NO ₂	Y	N	3	Y
St Francis Rd	Background	414369	131700	NO ₂	N	Y 3.5	2.5	N
Canadian Ave	Background	412882	130639	NO ₂	N	Y4.5	1.8	N
37 Castle Rd -	Roadside	414300	130900	NO ₂	Y	Y 0	8	Y
95 Crane St -	Roadside	414203	129809	NO ₂	Y	Y 0	2.3	Y
82 Crane St	Roadside	414237	129814	NO ₂	Y	Y 0	1	Y
2 Minster St	Kerbside	414373	129979	NO ₂	Y	Y 0	1	Y
Winchester St	Kerbside	414602	130054	NO ₂	Y	Y 1	1	Y
100 Brown St	Roadside	414635	129692	NO ₂	Y	Y 0	2	Y
Fish Row	Urban Central	414515	129968	NO ₂	Y	Y 1	20	Y
New Canal	Roadside	414365	129908	NO ₂	Y	N	2	Y
93 Castle St	Roadside	414400	130400	NO ₂	Y	Y 0	1.8	Y
123 South Western Rd	Kerbside	413828	130142	NO ₂	Y	Y 0	0.6	Y
17 Fisherton St	Roadside	414101	130025	NO ₂	Y	Y 0	2	Y
42 Fisherton St	Roadside	414118	130028	NO ₂	Y	Y 0	2	N
88 Park St	Background	414760	130567	NO ₂	Y	Y 2	0.3	Y
Blue Boar Row	Roadside	414427	130049	NO ₂	Y	N	1	Y
Salisbury College [A36]	Roadside	414978	129440	NO ₂	Y	Y 25	2	N
6 Wilton Road [A36]	Roadside	413682	130380	NO ₂	Y	Y 1.5	2	Y
12 Devizes Rd	Roadside	413709	130431	NO ₂	N	Y .10	2.7	Y
75 Exeter St.	Roadside	414564	129593	NO ₂	Y	Y 0	1.5	Y
St Marks Ave	Roadside	415040	130640	NO ₂	Y	Y 0	4.1	Y
15 St Martins Church	Background	414944	129671	NO ₂	N	Y 0	1.7	N
Milford Street	Roadside	414659	129937	NO ₂	Y	Y 0	1.8	Y

0= tube mounted at property façade on rainwater down pipe or similar

Table 2.2b Details of Non- Automatic Monitoring Sites-South: Co-location studies

Site Name	Site Type	OS Grid Ref		Pollutants Monitored	In AQMA ?	Relevant Exposure?	Distance to kerb of nearest road (m)	Worst-case Location?
Exeter Street	Roadside	414547	129575	NO ₂	Y	Y 0.5	2.5	Y
Bridge Street	Roadside	414295	129944	NO ₂	Y	Y 6	2.5	Y

Table 2.2c Details of Non- Automatic Monitoring Sites-South: Wilton, Stoford, Amesbury

Site Name	Site Type	OS Grid Ref		Pollutants Monitored	In AQMA ?	Relevant Exposure? distance (m)	Distance to kerb of nearest road (m)	Worst-case Location?
Wilton								
1 Queen St	Roadside	409931	131553	NO ₂	N	Y 0	1.2	Y
12 West St	Roadside	409600	131236	NO ₂	N	Y 0	1.9	Y
Stoford								
Dairy Cottage Charity Farm [A36]	Roadside	408340	135488	NO ₂	N	Y 0	1.5	Y
Amesbury								
1 Chambers Ave	Roadside	416574	140786	NO ₂	N	Y 5	1.9	N
20 London Rd	Roadside	415594	141737	NO ₂	N	Y 20	3	N
10 Oak Place, London Rd	Roadside	416100	142000	NO ₂	N	Y 15	1.5	N

0= tube mounted at property façade on rainwater down pipe or similar

Table 2.2d Details of Non- Automatic Monitoring Sites-West: Westbury

Site Name	Site Type	OS Grid Ref		Pollutants Monitored	In AQMA ?	Relevant Exposure? distance (m)	Distance to kerb of nearest road (m)	Worst-case Location?
76 Warminster Rd	Kerbside	387255	151087	NO ₂	Y	Y- 1	1.5	Y
90 Warminster Rd	Kerbside	387156	150880	NO ₂	Y	Y- 1	1.5	Y
Haynes Rd	Kerbside	387240	151164	NO ₂	Y	Y- 1	1.5	Y
17 Danvers Way	Background	387876	151696	NO ₂	N	N	15	N

Table 2.2e Details of Non- Automatic Monitoring Sites-West: Co location study

Site Name	Site Type	OS Grid Ref		Pollutants Monitored	In AQMA?	Relevant Exposure? distance (m)	Distance to kerb of nearest road (m)	Worst-case Location?
St Margaret's Street, Bradford On Avon	Kerbside	382528	160798	NO ₂	Y	Y - 0.5	3.4	N

Table 2.2f Details of Non- Automatic Monitoring Sites-West: Bradford on Avon

Site Name	Site Type	OS Grid Ref		Pollutants Monitored	In AQMA?	Relevant Exposure? distance (m)	Distance to kerb of nearest road (m)	Worst-case Location?
Masons Lane	Kerbside	382590	161146	NO ₂	Y	Y - 1	2.2	Y
Silver St	Kerbside	382660	160990	NO ₂	Y	Y - 1	0.6	Y
New Road	Kerbside	382953	161306	NO ₂	N	Y - 12	3.1	N
Market St	Kerbside	382586	161054	NO ₂	Y	Y - 1	5	Y

Table 2.2g Details of Non- Automatic Monitoring Sites-West: Trowbridge

Site Name	Site Type	OS Grid Ref		Pollutants Monitored	In AQMA?	Relevant Exposure? distance (m)	Distance to kerb of nearest road (m)	Worst-case Location?
County Way	Kerbside	385586	157519	NO ₂	N	N	4	N
Hill Street	Kerbside	385379	158097	NO ₂	N	N	1.8	N

Table 2.2h Details of Non- Automatic Monitoring Sites-East: Devizes

Site Name	Site Type	OS Grid Ref		Pollutants Monitored	In AQMA?	Relevant Exposure? distance (m)	Distance to kerb of nearest road (m)	Worst-case Location?
Hillsborough	Roadside	399715	161702	NO ₂	N	Y - 1	3	Y
St. Peters School	Roadside	399736	161687	NO ₂	N	Y - 1	3	Y
Cyprus Terrace	Kerbside	400071	161689	NO ₂	N	N	1	N
Melbourne Place	Kerbside	399924	161729	NO ₂	N	Y - 2	1	Y
Police Station	Roadside	400377	161689	NO ₂	N	N	3	Y
Windsor Drive	Roadside	401778	162412	NO ₂	N	N	3	Y
Trafalgar Place South	Roadside	399791	161718	NO ₂	Y	N	3	Y
Bath Rd	Kerbside	399621	161641	NO ₂	N	Y - 2	1	Y
Market Place	Roadside	400419	161520	NO ₂	N	N	25	N
Wadsworth	Kerbside	400210	161635	NO ₂	N	N	1	Y
Shanes Castle 2	Kerbside	400762	161458	NO ₂	Y	Y - 1	1	Y
Shanes Castle	Kerbside	400762	161458	NO ₂	Y	Y - 1	1	Y
Roses	Roadside	400762	161458	NO ₂	N	N	3	Y
Townsend's	Roadside	399425	161566	NO ₂	N	Y - 2	2	N
St James Terrace	Kerbside	400807	161388	NO ₂	N	Y - 1	1	Y

Table 2.2i Details of Non- Automatic Monitoring Sites-East: Marlborough

Site Name	Site Type	OS Grid Ref		Pollutants Monitored	In AQMA?	Relevant Exposure? distance (m)	Distance to kerb of nearest road (m)	Worst-case Location?
6 Herd St (*1)	Kerbside	418942	169383	NO ₂	N	Y - 1	1	Y
Old School House, Herd St (*2)	Kerbside	418918	169386	NO ₂	N	Y - 2	1	Y
Corner House, Herd St (*4)	Kerbside	418994	169337	NO ₂	N	Y - 2	1	Y
27 Herd St (*5)	Kerbside	418910	169448	NO ₂	N	Y - 1	1	Y
The Green, Barn St	Kerbside	419031	169260	NO ₂	N	Y - 1	1	Y
6 Barn St (*2)	Kerbside	419047	169226	NO ₂	N	Y - 1	1	Y
High Street	Kerbside	418725	169048	NO ₂	N	Y - 5	1	Y
St Peters Church	Kerbside	418593	168799	NO ₂	N	Y - 5	1	Y

Table 2.2j Details of Non- Automatic Monitoring Sites-North: Chippenham

Site Name	Site Type	OS Grid Ref		Pollutants Monitored	In AQMA?	Relevant Exposure? distance (m)	Distance to kerb of nearest road (m)	Worst-case Location?
8 Thurston Court	Kerbside	391816	173837	NO ₂	N	Y - 1	10	Y
90 Queens Crescent	Background	390189	172714	NO ₂	N	Y - 10	2	N
1 Elizabeth Place	Background	393196	171676	NO ₂	N	Y - 8	2	N
9 Marshfield Rd	Kerbside	391675	173725	NO ₂	N	Y - 5.5	1	Y
Bath Road	Roadside	391740	173330	NO ₂	N	Y - 5	8	N
Marshfield Rd	Roadside	391702	173718	NO ₂	N	Y - 1	7	Y

Table 2.2k Details of Non- Automatic Monitoring Sites-North: Calne

Site Name	Site Type	OS Grid Ref		Pollutants Monitored	In AQMA?	Relevant Exposure? distance (m)	Distance to kerb of nearest road (m)	Worst-case Location?
The Strand	Kerbside	399765	170960	NO ₂	N	N	5	Y
Curzon Street	Kerbside			NO ₂	N	N		
Northern Distributer	Background	398857	171301	NO ₂	N	N	10	Y
Compton Bassett: Atcherley Rd	Background	402088	170192	NO ₂	N	N	2	N
Cherhill: Main Rd	Background	403473	169994	NO ₂	N	N	7	N

Table 2.2l Details of Non- Automatic Monitoring Sites-North: Corsham, Lyneham, Wootton Bassett & Colerne

Site Name	Site Type	OS Grid Ref		Pollutants Monitored	In AQMA?	Relevant Exposure? distance (m)	Distance to kerb of nearest road (m)	Worst-case Location?
Wootton Bassett High St, Barclays Bank	Roadside	406794	182616	NO ₂	N	Y - 2	1	Y
Lyneham, Chippenham Rd	Roadside	401744	179441	NO ₂	N	Y - 8	5	Y
Colerne, Cleavers Ave	Background	381444	170981	NO ₂	N	N	2	N
Corsham, 32 Bath Rd	Roadside	386200	170585	NO ₂	N	Y - 2	2	Y
Corsham, Pickwick Rdbt	Roadside	386314	170597	NO ₂	N	Y - 5	2	Y

2.2 Comparison of Monitoring Results with Air Quality Objectives

2.2.1 Nitrogen Dioxide

Nitrogen dioxide automatic analyser data for BOA and Westbury

Although automatic nitrogen dioxide analysers are located in Westbury and Bradford On Avon, the data capture was extremely poor for 2009. As diffusion tubes are located at these sites it was decided not to try and annualise the data for this period.

The two locations are both located within existing AQMAs, therefore the loss of automatic data will not impact significantly upon future actions.

The problems with the data collection have now been rectified.

Table 2.3a Results of Automatic Monitoring for Nitrogen Dioxide: Comparison with Annual Mean Objective

Site ID	Location	Within AQMA?	Data Capture for monitoring period ^a %	Data Capture for full calendar year 2009 ^b %	Annual mean concentrations ($\mu\text{g}/\text{m}^3$)		
					2007 ^{c, d}	2008 ^{c, d}	2009 ^c
Salisbury: Nitrogen Dioxide							
	Exeter Street	Y	96.58	96.58	39.9	43.2	38.89
	Bridge Street	Y	90.73	90.73	42.2	43.1	38.06

^a i.e. data capture for the monitoring period, in cases where monitoring was only carried out for part of the year.

^b i.e. data capture for the full calendar year (e.g. if monitoring was carried out for six months the maximum data capture for the full calendar year would be 50%.)

^c Means should be "annualised" as in Box 3.2 of TG(09), if monitoring was not carried out for the full year.

^d Annual mean concentrations for previous years are optional.

Set out below in figs 2.3 – 2.7 are trend graphs of selected diffusion tube and real time (Salisbury) data for Nitrogen dioxide monitoring sites in the County.

Figure 2.3 Trends in Annual Mean Nitrogen Dioxide Concentration Measured at Automatic Monitoring Sites in Salisbury.

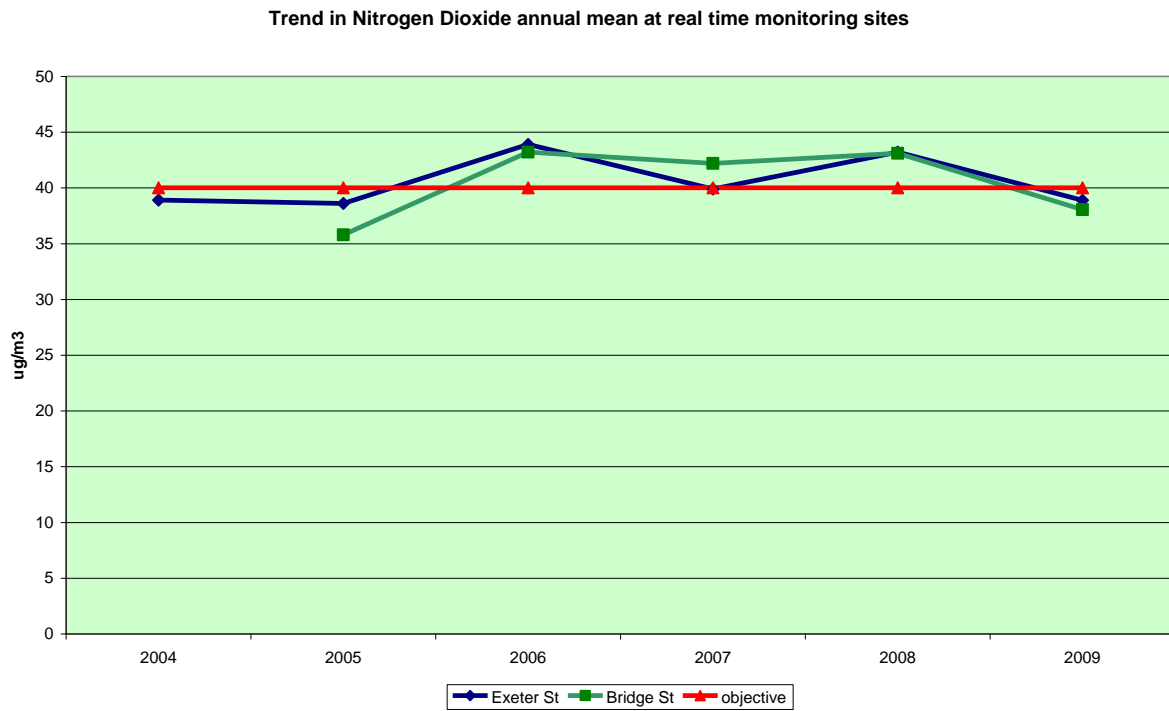


Figure 2.4 Trends in Annual Mean Nitrogen Dioxide Concentration Measured with diffusion tubes in Bradford On Avon.

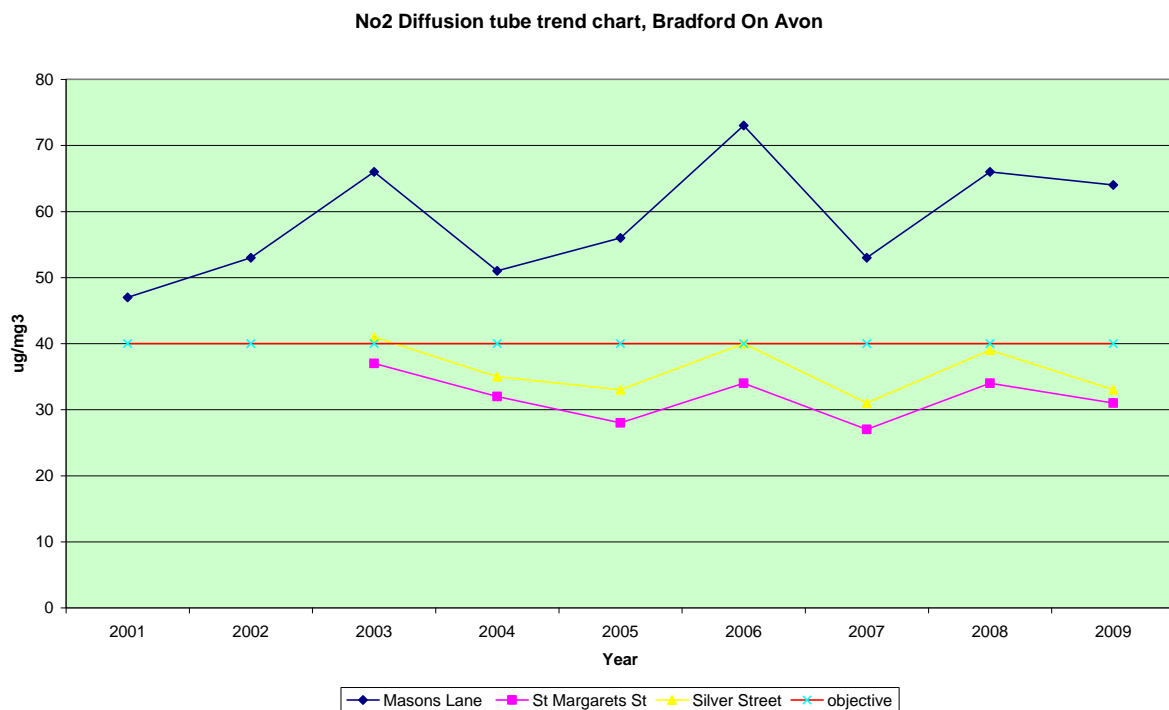


Figure 2.5 Trends in Annual Mean Nitrogen Dioxide Concentration Measured with diffusion tubes in Westbury.

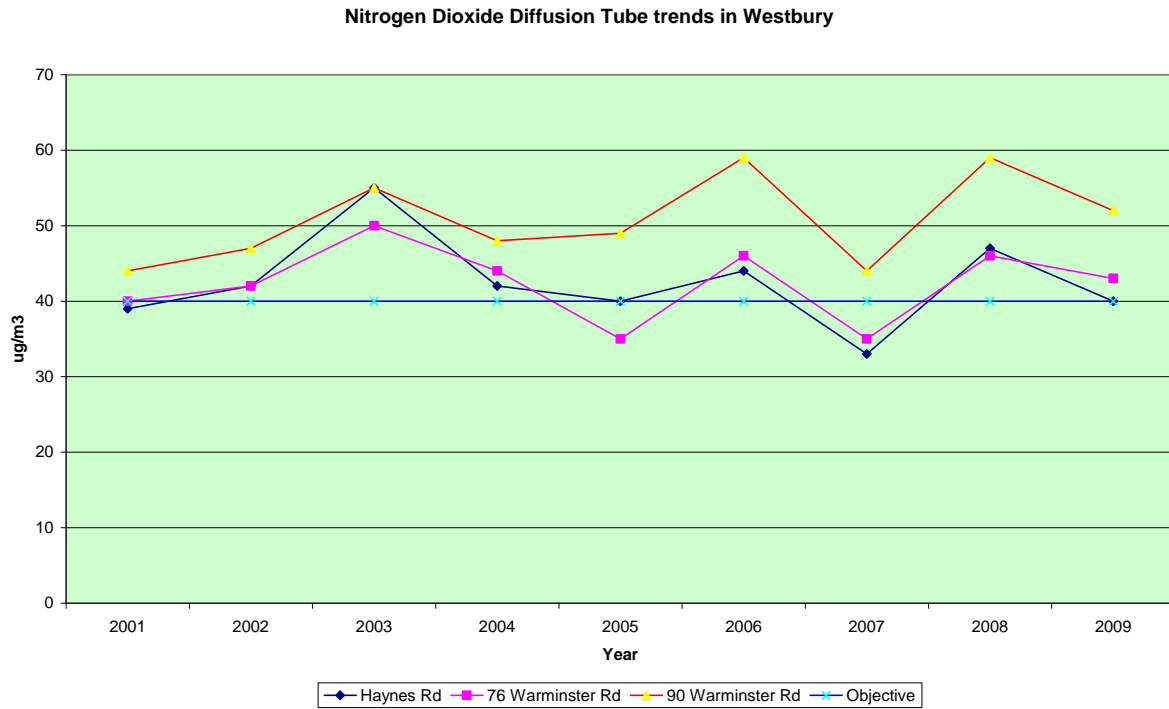


Figure 2.6 Trends in Annual Mean Nitrogen Dioxide Concentration Measured with diffusion tubes in Devizes.

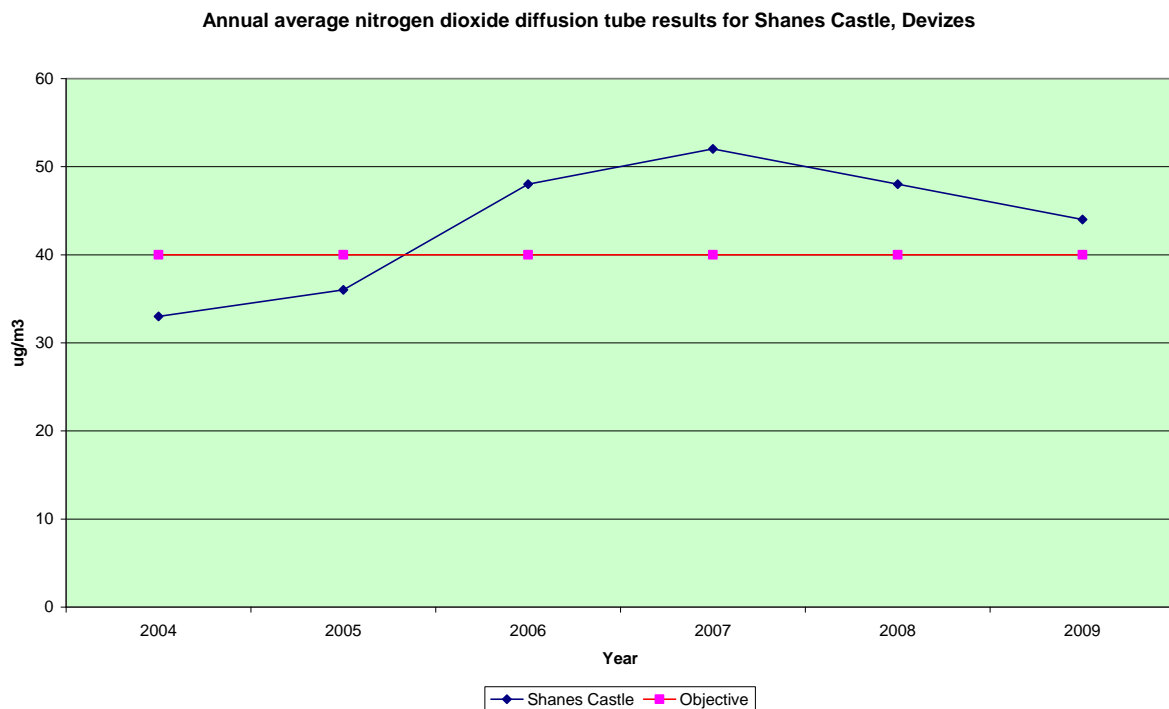


Figure 2.7 Trends in Annual Mean Nitrogen Dioxide Concentration Measured with diffusion tubes in Marlborough.

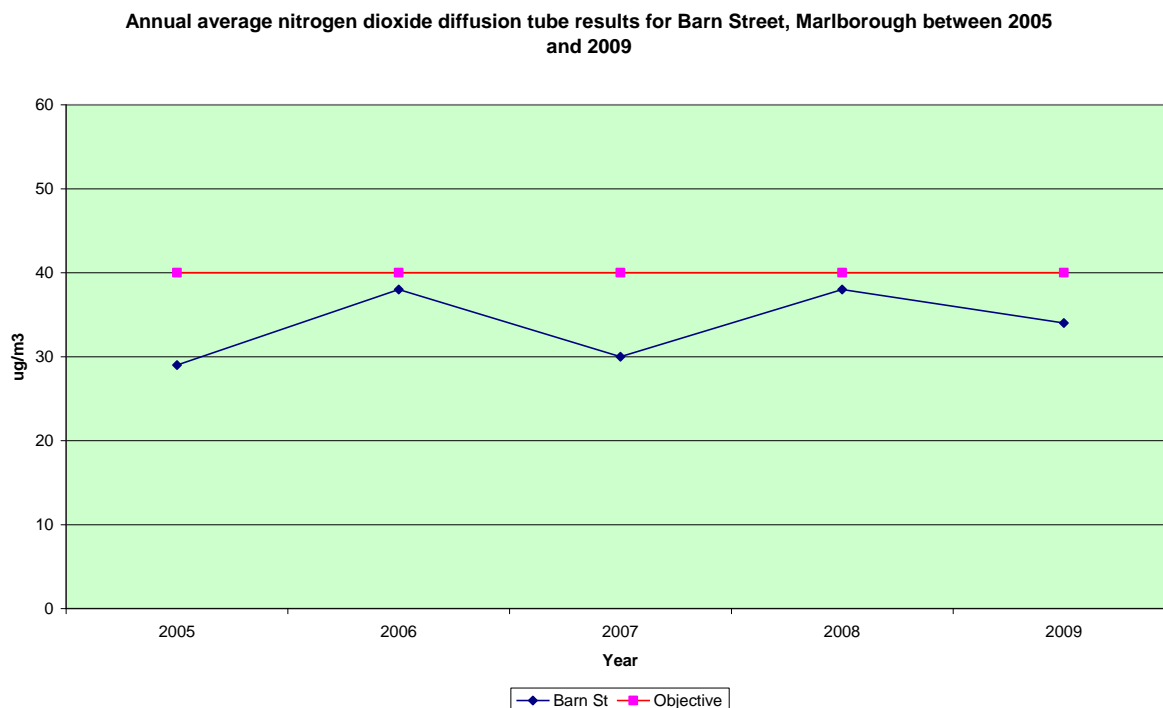


Table 2.3b Results of Automatic Monitoring for Nitrogen Dioxide: Comparison with 1-hour Mean Objective

Site ID	Location	Within AQMA?	Data Capture for monitoring period ^a %	Data Capture for full calendar year 2009 ^b %	Number of Exceedences of hourly mean (200 µg/m ³)		
					2007 ^c	2008 ^c	2009
Salisbury							
	Exeter Street	Y	96.58	96.58	0	0	0
	Bridge Street	Y	90.73	90.73	0	0	0

^a i.e. data capture for the monitoring period, in cases where monitoring was only carried out for part of the year.

^b i.e. data capture for the full calendar year (e.g. if monitoring was carried out for six months the maximum data capture for the full calendar year would be 50%.)

^c Numbers of exceedences for previous years are optional.

Table 2.4 Results of Nitrogen Dioxide Diffusion Tubes

Site ID	Location	Within AQMA?	Data Capture for monitoring period ^a %	Data Capture for full calendar year 2009 ^b %	Annual mean concentrations ($\mu\text{g}/\text{m}^3$)		
					2007 ^{c, d}	2008 ^{c, d}	2009 ^c
Salisbury							
	74 London Rd	Y	100	100	41.2	46.6	40.7
	79 Estcourt Road	Y	50	50	-	-	29.79
	44 High St	Y	100	100	24.8	28.5	23.4
	1 High St	Y	92	92	37.9	40.7	36.6
	St Francis Rd	N	83	83.	17.9	20.7	18.2
	Canadian Ave	N	100	100	18.7	23.8	20.5
	37 Castle Rd -	Y	100	100	32.2	37.2	31.6
	93 Castle St -	Y	100	100	39.6	43.1	36.8
	82 Crane St	Y	92	92	35.8	41.2	35
	2 Minster St	Y	100	100	54	54.8	46.5
	10 London Rd	Y			23.9		
	Winchester St	Y	100	100	35.5	40.6	35
	100 Brown St	Y	92	92	39.4	44.6	36.5
	New Canal	Y	100	100	38.9	40.3	34.9
	Lloyds Castle St	Y	100	100	41.1	46.5	40.8
	123 South Western Rd	Y	100	100	45.9	51.5	46.4
	17 Fisherton St	Y	25	25	-		37.6
	42 Fisherton St		67	67	40.2	40.3	35.5
	Blue Boar Row	Y	100	100	34.9	36.9	31.7
	Salisbury College [A36]	N	100	100	-	40.7*	31.5
	6 Wilton Road [A36]	Y	92	92	51.2	51.5	46.5
	12 Devizes Rd	N	100	100	31.3	38.2	33.6
	75 Exeter St.	Y	92	92	49.3	57.6	51.7
	St Marks Ave	Y	100	100	30.3	34.4	31
	15 St Martins Church	Y	100	100	26.5	28.4	25.5
	Milford Street	Y	92	92	35.1	38.7	33

*2 months data

Site ID	Location	Within AQMA?	Data Capture for monitoring period ^a %	Data Capture for full calendar year 2009 ^b %	Annual mean concentrations ($\mu\text{g}/\text{m}^3$)		
					2007 ^{c, d}	2008 ^{c, d}	2009 ^c
Wilton							
	1 Queen St	N	100	100	36.3	40.4	34.3
	12 West St	N	100	100	32.3	35.9	32.6
Stoford							
	Dairy Cottage Charity Farm [A36]	N	100	100	37.1	38.9	34.4
Amesbury							
	1 Chambers Ave	N	67	67	13.2	16.7	16.9
	20 London Rd	N	92	92	-	-	20
	10 Oak Place, London Rd	N	92	92	21.9	20.5	20

Site ID	Location	Within AQMA?	Data Capture for monitoring period ^a %	Data Capture for full calendar year 2009 ^b %	Annual mean concentrations ($\mu\text{g}/\text{m}^3$)		
					2007 ^{c, d} *	2008 ^{c, d} **	2009 ^c ***
Westbury							
	76 Warminster Rd	Y	75	75	39	46	43
	90 Warminster Rd	Y	83	83	50	59	52
	Haynes Rd	Y	92	92	38	47	40
	Danvers Way	N	67	67	15	16	14
Bradford on Avon							
	Masons Lane	Y	83	83	60	47	64
	Silver St	Y	75	75	35	39	33
	St Margaret's Street (co location)	Y	100	100	30	34	32
	Market St	Y	92	92		30	32
	New Road	N	75	75	22	26	23
Trowbridge							
	County Way	N	92	92	33	41	34
	Hill St	N	83	83	31	37	33

* Bias correction factor 0.77 used obtained from UWE website

** Bias correction factor 0.87 used obtained from UWE website

*** Bias correction factor 0.79 used

Site ID	Location	Within AQMA?	Data Capture for monitoring period ^a %	Data Capture for full calendar year 2009 ^b %	Annual mean concentrations ($\mu\text{g}/\text{m}^3$)		
					2007 ^{c, d} *	2008 ^{c, d} **	2009 ^c
Devizes							
	Hillsborough	N	100	100	40	33	30
	St. Peters School	N	100	100	21	26	20
	Cyprus Terrace	N	100	100	N/A	N/A	31
	Melbourne Place	N	100	100	N/A	N/A	42
	Police Station	N	100	100	22	28	25
	Windsor Drive	N	100	100	18	26	24
	Trafalgar Place South	Y	100	100	N/A	42	51
	Bath Rd	N	100	100	N/A	N/A	28
	Market Place	N	100	100	16	20	18
	Wadsworth	N	100	100	27	35	30
	Shanes Castle 2	Y	100	100	N/A	48	43
	Shanes Castle	Y	100	100	43	45	42
	Roses	N	100	100	35	40	41
	Townsend	N	100	100	N/A	N/A	28
	St James Terrace	N	100	100	N/A	N/A	39
Marlborough							
	6 Herd St (*1)	N	92	92	N/A	57	53
	Old School House, Herd St (*2)	N	100	100	N/A	N/A	39
	Corner House, (*4)	N	92	92	N/A	N/A	41
	27 Herd St (*5)	N	100	100	N/A	N/A	41
	Barn St (*1) – The Green	N	100	100	29	38	34
	Barn St (*2) – 6 Barn St	N	66	66	N/A	N/A	41
	High Street	N	92	92	24	30	30
	St Peters Church	N	92	92	27	33	30

* Bias adjustment factor of 0.99 used, obtained from UWE website

** Bias adjustment factor of 0.98 used, obtained from UWE website

Site ID	Location	Within AQMA?	Data Capture for monitoring period ^a %	Data Capture for full calendar year 2009 ^b %	Annual mean concentrations ($\mu\text{g}/\text{m}^3$)		
					2007 ^{c, d} *	2008 ^{c, d} **	2009 ^c
Chippenham							
	8 Thurston Court	No	83	83	25	28	28
	90 Queens Crescent	No	83	83	18	23	18
	1 Elizabeth Place	No	83	83	14	16	16
	9 Marshfield Rd	No	83	83	33	36	34
	Bath Road	No	75	75	25	29	25
	Marshfield Rd	No	75	75	29	30	27
Calne, Cherhill, Compton Bassett							
	The Strand	No	83	83	33	32	27
	Curzon Street	No	83	83	33	39	41
	Northern Distributer	No	75	75	14	16	15
	Compton Bassett: Atcherley Rd	No	83	83	12	14	13
	Cherhill: Main Rd	No	83	83	10	12	10
Wootton Bassett, Lyneham, Colerne & Corsham							
	Wootton Bassett High St, Barclays Bank	No	75	75	32	34	29
	Lyneham, Chippenham Rd	No	83	83	13	16	14
	Colerne, Cleavers Ave	No	75	75	13	18	13
	Corsham, 32 Bath Rd	No	83	83	N/A	N/A	33
	Corsham, Pickwick Rdbt	No	83	83	N/A	N/A	32

* Bias correction factor of 0.77 used, obtained from UWE website

** Bias correction factor of 0.87 used, obtained from UWE website

^a i.e. data capture for the monitoring period, in cases where monitoring was only carried out for part of the year.

^b i.e. data capture for the full calendar year (e.g. if monitoring was carried out for six months the maximum data capture for the full calendar year would be 50%.)

^c Means should be “annualised” as in Box 3.2 of TG(09), if monitoring was not carried out for the full year.

^d Annual mean concentrations for previous years are optional.

2.2.2 PM₁₀

Automatic BAM data for Westbury

An automatic particulate analyser (BAM) is currently located in Westbury; however the data capture was extremely poor for 2009.

Historically automatic monitoring for particulates has been undertaken in Westbury and no exceedences were identified. We are currently looking for a suitable location in another town within Wiltshire.

The problems with the data collection have now been rectified.

Table 2.5a Results of PM₁₀ Automatic Monitoring: Comparison with Annual Mean Objective

Site ID	Location	Within AQMA?	Data Capture for monitoring period ^a %	Data Capture for full calendar year 2009 ^b %	Annual mean concentrations ($\mu\text{g}/\text{m}^3$)		
					2007 ^{c, d}	2008 ^{c, d}	2009 ^c
Salisbury.							
	Exeter St	Y	93.43	93.43	23.7	17.1	17.5
	Bridge St	Y	86.18	86.18	21.2	14.8	13.34

^a i.e. data capture for the monitoring period, in cases where monitoring was only carried out for part of the year.

^b i.e. data capture for the full calendar year (e.g. if monitoring was carried out for six months the maximum data capture for the full calendar year would be 50%.)

^c Means should be "annualised" as in Box 3.2 of TG(09), if monitoring was not carried out for the full year.

^d Annual mean concentrations for previous years are optional.

Table 2.5b Results of PM₁₀ Automatic Monitoring: Comparison with 24-hour Mean Objective

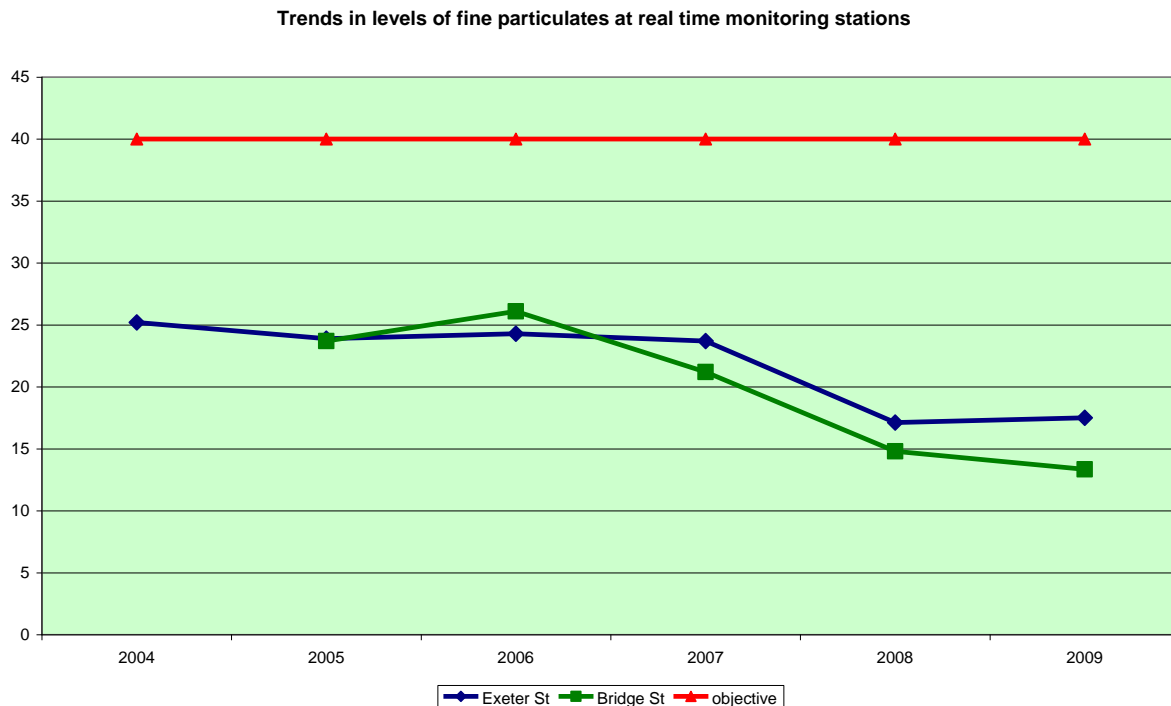
Site ID	Location	Within AQMA?	Data Capture for monitoring period ^a %	Data Capture 2009 ^b %	Number of Exceedences of daily mean objective ($50 \mu\text{g}/\text{m}^3$)		
					2007 ^c	2008 ^c	2009 ^c
Salisbury							
	Exeter St	Y	96.4	96.4	10	8	3
	Bridge St	Y	87.9	87.9	5	8	0

^a i.e. data capture for the monitoring period, in cases where monitoring was only carried out for part of the year.

^b i.e. data capture for the full calendar year (e.g. if monitoring was carried out for six months the maximum data capture for the full calendar year would be 50%.)

^c Numbers of exceedences for previous years are optional.

Figure 2.8 Trends in levels of fine particulates measured at automatic monitoring sites in Salisbury.



2.2.3 Sulphur Dioxide

Wiltshire Council no longer undertakes any SO₂ monitoring. The former Districts Council's Updating and Screening Assessments 2006 and Progress Reports 2007 did not identify any issues for this pollutant across Wiltshire.

Historically sulphur dioxide was monitored in the Westbury area due to the presence of a large Lafarge Cement plant. The plant has been mothballed and as yet it is unknown what the future of the plant is.

2.2.4 Benzene

Wiltshire Council does not carry out any Benzene monitoring. The former District Council's Updating and Screening Assessments 2006 and Progress Reports 2007 did not identify any issues for this pollutant in any of the former District areas.

2.2.5 Other pollutants monitored

Wiltshire does not undertake monitoring for any other pollutants.

Summary of Compliance with AQS Objectives

Wiltshire Council has measured concentrations of Nitrogen Dioxide above the annual mean objective at relevant locations outside of the AQMA, and **are proceeding to a Detailed Assessment (as identified by our USA 2009)**, for:

- **Queen Street, Wilton, Salisbury (now near to completion with a conclusion that no AQMA will be necessary).**
- **Herd Street and Barn Street, Marlborough**

A further assessment is currently being undertaken of:

- **Shanes Castle, Bath Road, Devizes**

New Local Developments

This assessment has indicated that there are no new local development sources of concern in Wiltshire for the year 2009.

2.3 Road Traffic Sources

The local transport planning team were contacted with regard to roads with a potentially high flow of Buses and /or HGV's. Their response indicated that no roads in the County are known to have a HGV flow of greater than 20%, with a maximum of 18% recorded on the A303. Other points of concern noted include the B4696 north of Leigh Crossroads (16%) and the B3092 at Maiden Bradley (14%).

Other Transport Sources

<http://www.wiltshire.gov.uk/wiltshire-council-ppc-register-sept-09.pdf>

A list of processes permitted by the Environment Agency can be viewed at:

<http://www.wiltshire.gov.uk/pollution-prevention-control-100310.pdf>

No new industrial sources have been identified.

2.4 Commercial and Domestic Sources

No new commercial or domestic sources have been identified in Wiltshire. It should however be noted that Lafarge cement works in Westbury has been mothballed.

2.5 New Developments with Fugitive or Uncontrolled Sources

Wiltshire Council confirms that there are no new or newly identified local developments which may have an impact on air quality within the Local Authority area.

3 Local / Regional Air Quality Strategy

Wiltshire County Council, in collaboration with the four Wiltshire District local authorities of Salisbury, North Wiltshire, West Wiltshire and Kennet initiated the development of an Air Quality Strategy (AQS) Framework in 2006 in response to the need for a coherent and unified way forward in the management of air quality across the County. The Framework was the first attempt to draw together the important issues to improve local air quality.

A key recommendation resulting from the development of the Framework Strategy was for the development of a full Air Quality Strategy (AQS), to enable planners, transport planners, environmental protection officers and local government officers of other disciplines to embrace the need to improve air quality. Most important to the success of an AQS is the integration of a whole range of policy areas, to embrace the need to consider air quality in all aspects of spatial, transport, community and economic planning.

Since Wiltshire became a Unitary Authority in April 2009 a draft AQS for Wiltshire has been developed by Public Protection in conjunction with colleagues in Transport Planning and is now out for consultation on the Wiltshire website:

<http://www.wiltshire.gov.uk/draft-aq-strategy-wiltshire-jan10.pdf>

The consultation closes on the 18th June 2010.

4 Planning Applications

Planning applications approved in Wiltshire 2009:

Planning reference	Development	Air quality / traffic assessment	Conclusion
S/2009/1574 Archers Gate Amesbury	Construction of 12 residential properties and ancillary road infrastructure.	Yes, as part of the Larger initial application for development of Butterfield Down	No exceedance of AQ objectives likely. Diffusion tube monitoring extended to include new service road & results confirm this
S/2009/1943 Hampton Park Phase II, Salisbury	Construction of 525 dwellings, country park & Infrastructure	Yes- full EIA	Predicted to have minor impact on air quality
S/2010/0173 Ex-Pembroke Park School Bemerton Heath, Salisbury	65 new dwellings & associated infrastructure	Traffic assessment.	Existing residential suburb, outside of areas of concern. Impact on AQ likely to be low.
S/2010/0215 & S2008/0550 Hatches Lane, Southampton road Salisbury	New Lidl Supermarket & alteration of existing transport depot	Yes.	S106 funding secured. Site accessed via the A36(T) Southampton Road which is close to the NO ₂ annual mean objective
E/2009/01486, land at North Tidworth	500 new dwellings (MOD and civilian)	Yes	Predicted to have no significant impact upon air quality.
W/09/03047/FUL Cereal Partners, Staverton	CHP Plant	Yes EI assessment	Conclusion – no impact upon air quality.
E/08/01124/FUL, Station Road, Wootton Bassett	Erection of 60 Bed Care Home; former St Ivel factory.	Yes	Ongoing although no significant impact considered likely

5 Air Quality Planning Policies

Wiltshire unitary Authority came into existence on the 1st April 2009, replacing

- Wiltshire County Council,
- Kennet District Council
- West Wiltshire District Council
- North Wiltshire District Council
- Salisbury District Council

Formulation of new Local Development Frameworks, Mineral Strategies and associated policies is currently underway. Owing to specific circumstances two LDF documents are under development; one for the South covering the old Salisbury District Council administrative area as the existing Local Plan is about to expire and an LDF covering the remainder of county.

Public Protection Services have contributed evidence to both documents.

In November 2009 the South Wiltshire Core Strategy Development Plan Document was submitted to the Secretary of State for independent examination. Major changes to the document are now the subject of public consultation, and this includes changes to core policy 25 on air quality.

We will continue to be actively involved in the development of these policies.

6 Local Transport Plans and Strategies

Local Transport Plan 2 (LTP2)

This plan covers the period 2006/07- 2010/11 and was developed in accordance with the Governments second edition of Full Guidance on Local Transport Plans. The central aim of this guidance was to meet:

“local transport needs more effectively through improved access to jobs and services, particularly for those most in need, in ways which are sustainable: improve public transport: reduce problems of congestion, pollution and safety”

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

- Tackling congestion
- Better air quality
- Delivering accessibility
- Safer roads

As part of the development of the LTP2 20 community area LTP consultations were undertaken as the council is committed to building and maintaining partnerships to ensure that the LTP and transport services deliver community needs.

LTP2 is subject to annual reporting with a specific appendix on progress with Air Quality Action Planning. The 2007 and 2008 progress reports can be accessed via the following link to the Wiltshire Council LTP publications page:

<http://www.wiltshire.gov.uk/parkingtransportandstreets/roadandtransportplans/transportplans.htm>

Local Transport Plan 3 (LTP3)

LTP3 for Wiltshire will set out the aims and objectives for transport for the period 2011-2026. It will be published in March 2011 and is currently undergoing development and consultation. The Specialist Environmental Protection Team will be seeking to play an active role and of particular importance will be the Air quality Strategy for Wiltshire the development of which has been sponsored by our colleagues in Transport Planning.

The LTP3 Strategic Environmental Assessment Draft Scoping Report and associated development documents are available via the following webpage:

<http://www.wiltshire.gov.uk/parkingtransportandstreets/roadandtransportplans/transportplans.htm>

7 Climate Change Strategies

Following reorganisation into a new Unitary Authority, Wiltshire Council has recently established, a dedicated climate change department. Strategies are currently under development.

8 Implementation of Action Plans

Action Plan update

Wiltshire Council has only recently submitted to DEFRA an update on their Air Quality Action Plan. The comments of which were received by Wiltshire Council on the 15th April 2010, therefore no further update will be submitted with this Progress Report. To view this report follow the following link:

<http://www.wiltshire.gov.uk/wiltshireaqap-pr2009.pdf>

The only significant change is the opening of the fifth and final park and ride at Petersfinger, Salisbury on Tuesday 1st June 2010.

Work to revise the Action Plan, however, will be undertaken to take into account the formation of Wiltshire Council, new AQMAs, and new policies and strategies which have an impact on air quality.

9 Conclusions and Proposed Actions

9.1 Conclusions from New Monitoring Data

Monitoring undertaken in 2009 has showed that all AQMAs in Wiltshire should remain as results are above the air quality objective. This applies to Salisbury, Westbury, Bradford On Avon and Devizes.

Monitoring with diffusion tubes has indicated that an AQMA is likely to be declared in Marlborough. Further work is currently being undertaken and consultation will be undertaken soon to determine the AQMA area.

A Detailed Assessment is currently being undertaken for the newly declared Devizes AQMA and for Wilton near Salisbury.

The Detailed Assessment for Wilton has concluded that an AQMA will not need to be declared.

It should be noted that as Wiltshire Council was only formed in 2009 a review of all monitoring locations has been undertaken and the monitoring network has been altered accordingly. The results and locations will be reported on in the 2011 Progress Report.

9.2 Conclusions relating to New Local Developments

There are no new developments in Wiltshire currently that will require a more detailed consideration in the next Updating and Screening Assessment.

9.3 Other Conclusions

Any conclusions drawn from consideration (if applicable) of –

- Implementation of Air Quality Action Plans
- Additional monitoring (of parameters not covered by regulations)
- Local air quality strategy
- Planning applications not yet approved
- Local Transport Plan
- Relevant updates of planning policies that relate to air quality.

Delete this instruction box before submitting the report.

9.4 Proposed Actions

Marlborough

A Detailed Assessment for Marlborough (exceedences of nitrogen dioxide) will be taken to the next Marlborough Area Board for ratification. Consultation on options for the AQMA will then be undertaken with a view to declaring the Marlborough AQMA in the late Summer/early Autumn 2010.

Additional nitrogen dioxide diffusion tube sites have been added to the monitoring network and work is underway to identify a suitable automatic monitoring site in which to locate a nitrogen dioxide and particulate monitor.

Devizes

The Devizes AQMA was declared in March 2010 (For exceedences of nitrogen dioxide). The Detailed Assessment is currently underway and consultation on proposed options for the Action Plan will be conducted this summer.

Wilton

The Detailed Assessment (for exceedences of nitrogen dioxide) has been completed in its draft format for approval internally. This will then be submitted to Defra. It concludes that an AQMA will not be declared in Wilton.

Existing AQMAS

Monitoring in existing AQMAS has not identified the need to change boundaries or revoke any AQMAS.

10 References

Air Quality (England) Regulations 2000 (SI 928) and the Air Quality (England) (Amendment) Regulations 2002 (SI 3043).

Salisbury District Council Updating and Screening Assessment 2006

Salisbury District Council Progress Reports 2007, 2008.

Kennet DC Progress Report 2007

WWDC further assessment of air quality (Nov 2003)

WWDC Air Quality Action Plan (Westbury and Bradford on Avon AQMA's) 2005

WWDC Updating and Screening Assessment 2006
WWDC Progress Report 2007, 2008.

NWDC 2008 Air Quality progress Report

Wiltshire Air Quality Strategy (AQS) Framework (2006)

draft AQS for Wiltshire (2010)

South Wiltshire Core Strategy Development Plan (2009)

Wiltshire Local Transport Plan 2 (LTP2)

Wiltshire Local Transport Plan 3 (LTP3) and associated documents

Wiltshire Council Air Quality Action Plan Update

Appendices

Appendix A: QA/QC of diffusion tube data

Laboratory and Preparation Information

Wiltshire Council utilises diffusion tubes prepared and analysed by Bristol City Scientific Services. The laboratory participates in the Workplace Analysis Scheme for Proficiency (WASP) for nitrogen dioxide tubes. They analyse a solution supplied by Netcen as part of the QA/QC scheme that they run. The laboratory also participates in a field inter-comparison scheme which is controlled by Netcen and organised by the Health and Safety Laboratory.

Three tubes are co-located with a continuous analyser which provides a reference value. The tubes are prepared by pipetting 30 μ l of solution of 20% triethanolamine in water onto the metal grids in the end of the cap, then assembling the tube components. A fresh batch of tubes is prepared each month ready to dispatch in time for the required exposure date. Laboratory blanks are retained so that at least one is run alongside each batch of samples. Travel blanks are supplied three-monthly as required by the UK survey procedure.

QA/QC

The WASP Scheme is an independent proficiency testing scheme operated by the Health and Safety Laboratory (HSL). Each month a diffusion tube doped with nitrite is distributed to each participating laboratory; participants then analyse the tube and report the results to HSL. The nominal mass of nitrite on the doped tubes is different each month, and is intended to reflect the range encountered in actual monitoring. For the purpose of diffusion tube QA/QC in the context of Local air Quality Management, AEA Energy & Environment carry out an assessment of laboratory performance for each full calendar year. This was based on the following criteria, which were agreed with Defra and HSL:

- Participating laboratories must complete at least 10 of the 12 monthly WASP rounds.
- The year's single worst result is ignored: this makes some limited allowance for one-off problems with analytical equipment etc.
- Each laboratory's monthly standardised results are then combined to give a standard uncertainty for the full year, expressed as a relative standard deviation (%RSD).
- The RSD must be within 15%.

Mean Standardised result (actual result / nominal value): 0.98. Mean percentage under/over-estimation of analysis: -1.5%. Comparison with AEA performance criteria for Local Authority Support: RSD of Standardised Results, ignoring worst value: 4.0 % - this is within the performance target of 15%.

Comments: This laboratory's WASP results met AEA Energy & Environment's performance criteria in 2009. See **Lab Precision Document** (appendix?) sent by Bristol Scientifics (Env Man/air quality/dif tubes/lab precision)

Appendix B: QA:QC of automatic monitoring data

QA/QC of automatic monitoring (Salisbury Continuous Analysers)

Data management and reporting is carried out mainly through the Ambient Air Quality Central Software package IDAZRW. The station is polled automatically from a PC of Environmental Services via a GSM modem. The poll occurs three times daily at 00:00 hours, 08:00 hours and 13:00 hours. The PC remains switched on constantly. Features of the software include:

- Automatic calibration every 73 hours
- Automatic redial on busy line or after communication failure
- Detailed logs of data requests and transmission problems
- Remote control of stations for zero test, test gas, measuring range and calibrations
- Calculation of scaling factors and application to nearest results following each automatic calibration
- Marking of abnormal readings, negative readings or readings taken during instrument failure or calibration
- Deletion of abnormal readings

Manual scaling is, therefore, not required. The auto-scaling feature means that the figures are more frequently scaled than the accepted manual scaling operation on a two-weekly basis. Data is checked manually at least weekly, more normally daily, to ensure that the software is making the correct adjustments. There should, therefore, be no requirement to manually back-correct and abnormal readings are marked. During the calibration checks a manual note is taken of span and zero and NO₂ gas readings, any abnormal conditions or error readings and any actions taken.

Manual calibrations are compared with auto-calibration. At 6 monthly intervals the data is compared with the nearest AURN site. Any abnormal data will be discarded unless it can be traced to a local event. The correction factors are recorded in the calibration report and any local anomalous results are investigated for example steam cleaning of the street by Environmental Services to remove chewing gum.

Data capture for Wiltshire Council – Updating and Screening Assessment 2009 the Salisbury site was high, with only a small percentage being lost due to calibration, filter changes and head cleaning. It is however reported that there have been problems encountered retrieving data via the modem caused by issues with the IT department who will not proactively check the status of the link following routine server maintenance and upgrades. This has caused loss of data where memory space at the monitoring station has been exceeded. Loss of data has not related to the functioning of the analysers.