

*North
Wiltshire
District
Council*

Improving North Wiltshire



PROGRESS REPORT (APRIL 2008) ON THE REVIEW

AND

ASSESSMENT OF

AIR QUALITY

IN

NORTH WILTSHIRE



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DISTRICT COUNCIL

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EXECUTIVE SUMMARY

This progress report summarises the progress on implementing local air quality management (LAQM) in North Wiltshire.

It reports on the ongoing Nitrogen Dioxide and Sulphur Dioxide diffusion tube monitoring as well as recent automatic monitoring carried out in Cricklade Town Centre for Nitrogen Dioxide and PM₁₀.

This demonstrates that 2005 (NO₂) and 2004 (PM₁₀) objectives are not being breached.

The report also confirms that there are no new local developments that may have an adverse impact on air quality in North Wiltshire.

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CHAPTER 1:

1.0 An introduction to the District of North Wiltshire

- 1.1 The District of North Wiltshire covers 300 square miles and extends south from the upper reaches of the Thames Valley. It is bisected by the Avon Valleys which run through the District from North to South. Swindon lies adjacent to the north-east boundary and Bath to the south-west.
- 1.2 Sections of the southern part of the Cotswold Area of Outstanding Natural Beauty (AONB) fall within the west of the District, with parts of the North Wessex Downs AONB to the east.
- 1.3 Over half the total population of 125,000 live in the six main towns of the District. The largest, Chippenham, has a population of over 33,189 and is expanding fast. The other towns are Calne (13,789); Corsham (10,970); Wootton Bassett (11,120); Cricklade (4,240) and Malmesbury (5,420) residents.
- 1.4 Both the M4 motorway and the railway cross the District from London to Bristol and South Wales. The M4 motorway, which crosses the centre of the District, has junctions to the north of Chippenham and just west of Swindon. The London and Swindon to Bath and Bristol railway line parallels the motorway and has a station at Chippenham well served by high-speed trains.
- 1.5 The District retains its economic prosperity and continues to draw new industries, largely to the industrial sites being developed at Chippenham, Calne and Wootton Bassett.

The District of North Wiltshire



CHAPTER 2:

2.0 The role of review and assessment

2.1 The Air Quality Strategy establishes the framework for air quality improvements. Measures agreed at national and international level are the foundations on which the strategy is based. It is recognised, however, that despite these measures, areas of poor air quality will remain, and that these will best be dealt with using local measures implemented through the Local Air Quality Management (LAQM) regime.

2.2 The role of the local authority in the review and assessment process is to identify these areas, where it is considered likely that the Air Quality Objectives, included in the Air Quality Regulations 2000 and (Amendment) Regulations 2002, will be exceeded.

The objectives for each pollutant are described on the following website address:

<http://www.airquality.co.uk/archive/laqm/information.php?info=objectives>

The Phased approach to review and assessment

2.2.1 The relevant technical guidance for local authorities to follow is LAQM.TG (03) and this document builds upon the phased approach to review and assessment established in the previous technical guidance, LAQM.TG4 (00).

2.2.2 The intention is that local authorities should only undertake a level of assessment that is commensurate with the risk of an air quality objective being exceeded.

2.2.3 During the first round of review and assessments, local authorities were required to carry out a three stage investigation of air quality within their District, with a fourth stage report required if exceedences were predicted. North Wiltshire District Council submitted a joint second and third stage report in December 2000, which concluded that no exceedences were likely and that no Air Quality Management Areas (AQMA's) would need to be declared.

- 2.2.4 The first step of the second round of review and assessment process was the 2003 Updating and Screening Assessment, which was undertaken by all authorities. This was based on a checklist approach to identify those matters that have changed since the first round was completed, and which may now require further assessment.
- 2.2.5 Updating and Screening Assessments take account of new monitoring data; new objectives; new sources or significant changes to existing sources, either locally or in neighbouring authorities; and other changes that might affect air quality.
- A simple screening assessment is then carried out if any significant changes are identified.
- 2.2.6 If the Updating and Screening Assessment identified a risk that an air quality objective would be exceeded at a location with relevant public exposure, the authority will be required to undertake a Detailed Assessment.
- 2.2.7 The Detailed Assessment is aimed at concluding with reasonable certainty whether or not a likely exceedence will occur. Where an exceedence is identified, then the assessment should be sufficiently detailed to determine both its magnitude and geographical extent. An Air Quality Management Area should not be declared unless a Detailed Assessment has been completed.
- 2.2.8 An Updating and Screening Assessment was also completed in 2006. Progress reports were also submitted in 2004, 2005 and 2007. No Detailed Assessments have been necessary in North Wiltshire.

CHAPTER 3:

3.0 The Role of Progress Reports

- 3.1 Progress Reports have been introduced into the Local Air Quality Management (LAQM) system following a detailed evaluation of the first round of local authority review and assessment.
- 3.2 A need was identified to develop a longer-term vision for both LAQM and the review and assessment process. The process was seen to be too ‘stop-start’, with some local authorities completing their first round of review and assessment and then doing little for several years until the next round. This did not encourage the integration of LAQM into the routine work of local authorities.
- 3.3 This has been the case in North Wiltshire, where the local authority submitted a “Second and Third Stage review and Assessment” report to DEFRA in December 2000, concluding that there was no requirement to designate any Air Quality Management Areas (AQMA’s).
- 3.4 The findings were accepted by the Government, and whilst we continued to monitor (passively), the next mandatory requirement was to submit the Updating and Screening Assessment (USA) to DEFRA in May 2003.
- 3.5 As previously stated, the 2003 and 2006 USA’s concluded that there was no requirement to carry out a Detailed Assessment for any pollutant, at any location in the North Wiltshire District.

Progress Report Aims and Requirements

3.5.1 The overall aims of a Progress Report should be to:

- report progress on implementing local air quality management.
- report progress in achieving, or in many cases maintaining, concentrations below the air quality objectives.

3.5.2 It is considered these aims can be best achieved by addressing two matters:

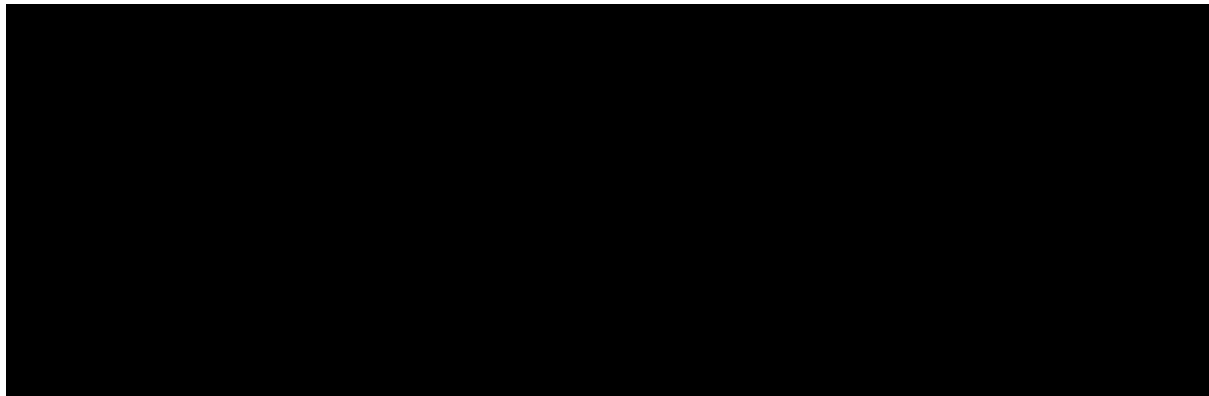
- new monitoring results.
- new local developments that might affect local air quality.

CHAPTER 4:

4.0 Monitoring in North Wiltshire

4.1 Monitoring of air quality in North Wiltshire has always focused on relevant locations that will be susceptible to the most traffic congestion.

4.2 This has led to more detailed “automatic” assessments in specific locations, however we continue to monitor using passive diffusion tubes for Nitrogen Dioxide (NO₂) at sixteen sites (see Table 1). The 2005 annual mean objective for NO₂ is 40ug/m³.



4.3 In terms of monitoring trends, we have thirteen sites where we have five years worth of tube data or more. These sites are portrayed in Figure 1.

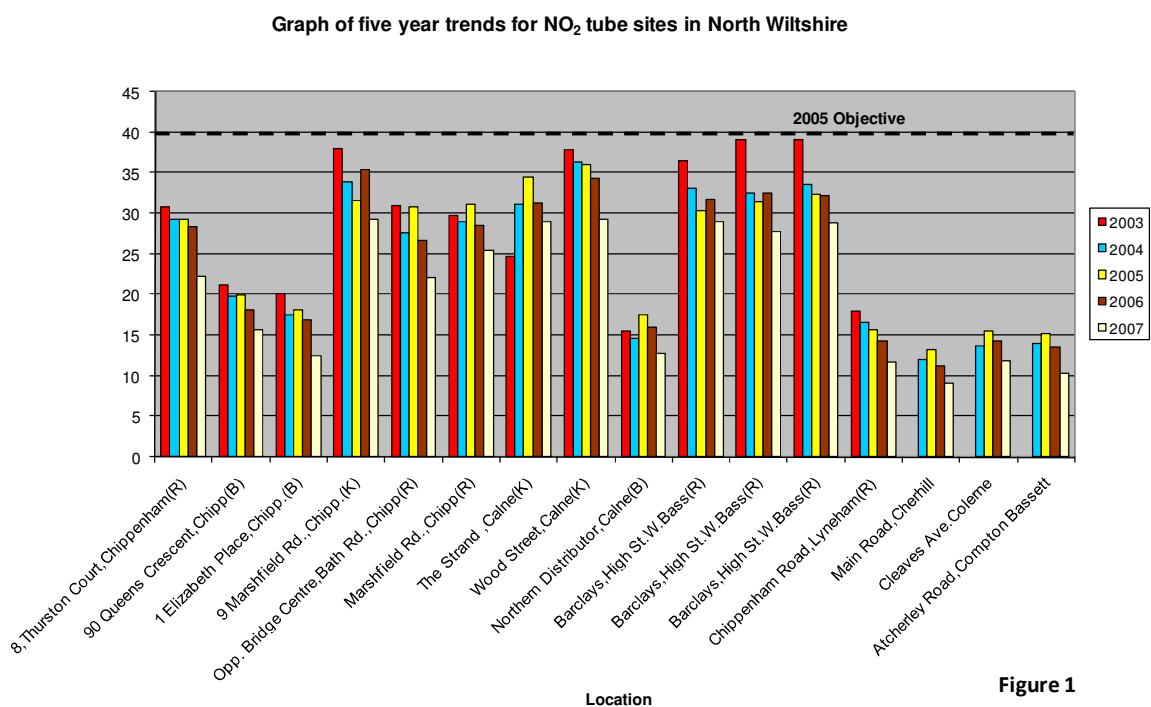


Figure 1

4.4 In Chippenham, we have taken part in the former UK National Network survey for diffusion tube monitoring since 1994. These sites met specified criteria in terms of their location and are:

Roadside (R) – 8, Thurston Court, Chippenham

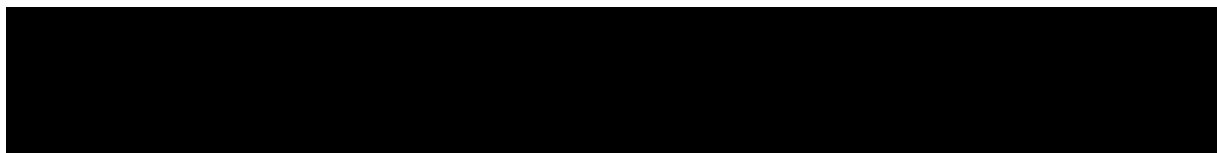
Background (B) – 90, Queens Crescent, Chippenham

Background (B) – 1, Elizabeth Place, Chippenham

Kerbside (K) – 9, Marshfield Road, Chippenham

4.5 An intermediate site (Allington Way) was phased out at the end of 2000, and replaced with a roadside site (Thurston Court). This was carried out in accordance with advice from the survey coordinators (National Environmental Technology Centre).

4.6 As a result of this, 10 years worth of data only exists for three sites and this is portrayed in Table 2 and Figure 2. We continue to monitor at these sites despite the survey being ceased.



Ten year trends for former UK Network NO₂ diffusion tube sites in Chippenham

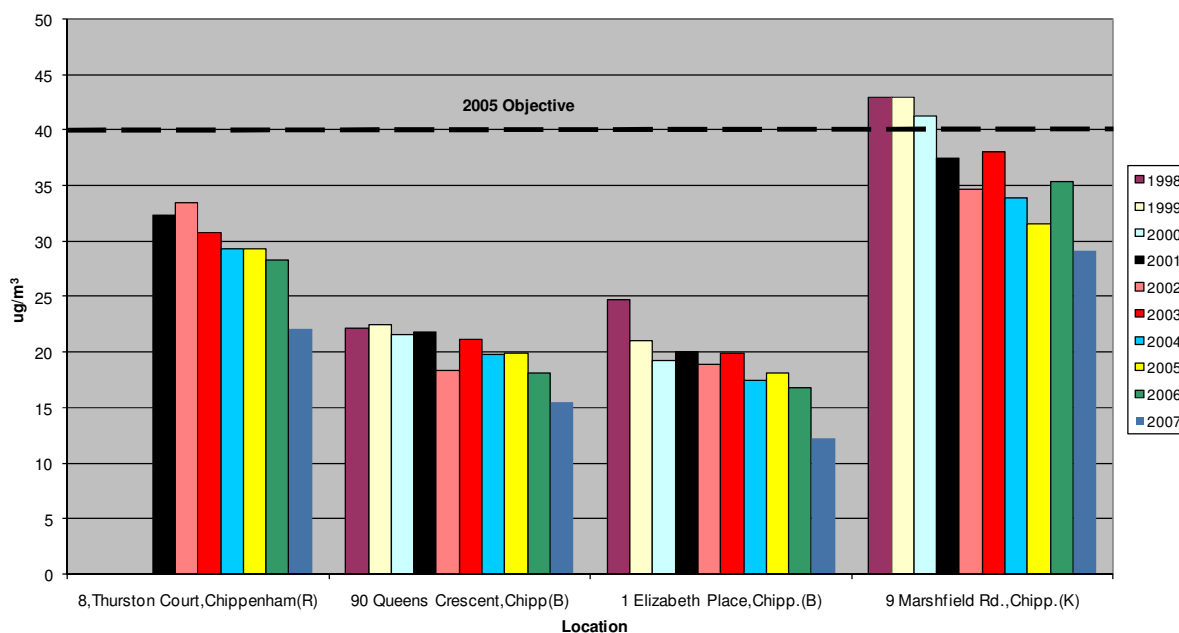


Figure 2

4.7 It should be noted that all diffusion tube data since 2002 has been bias corrected, following advice contained in LAQM.TG(03). 2007 data has been bias corrected by a factor of 0.68 provided by West Wiltshire District Council, a neighbouring Authority who undertake a triplicate diffusion tube collocation study at their Bradford-on-Avon automatic analyser site. This is not dissimilar to the factor of 0.77 obtained from the Review and Assessment helpdesk <http://www.uwe.ac.uk/aqm/review> and then download spreadsheet of Bias Adjustment Factors (v.04/08). This is an overall factor from five national studies across the United Kingdom (including West Wiltshire), however, I feel I can justify using the West Wiltshire bias factor in isolation due to the fact that their district is so close and similar to North Wiltshire. I can confirm that even if I used the ‘worst-case’ overall factor of 0.77, we would still see no exceedances. Indeed, the highest value would have been 33ug/m³ at several sites. Appendix 1 lists the Quality Control procedures used by the tube suppliers (Bristol City Scientific Services).

4.8 It can be seen from all trend graphs that, generally, concentrations are reducing, with the exception of 2003, where there was a slight increase. 2004 concentrations reduced from 2003 levels, with the exception of The Strand, Calne. This is because the ‘roadside’ lamppost was removed and the tube was subsequently installed ‘kerbside’ during 2004.

4.9 It is important to put these results into context, however, by noting that all 2007 concentrations are well below the 2005 annual mean objective of 40ug/m³. (See Figure 3)

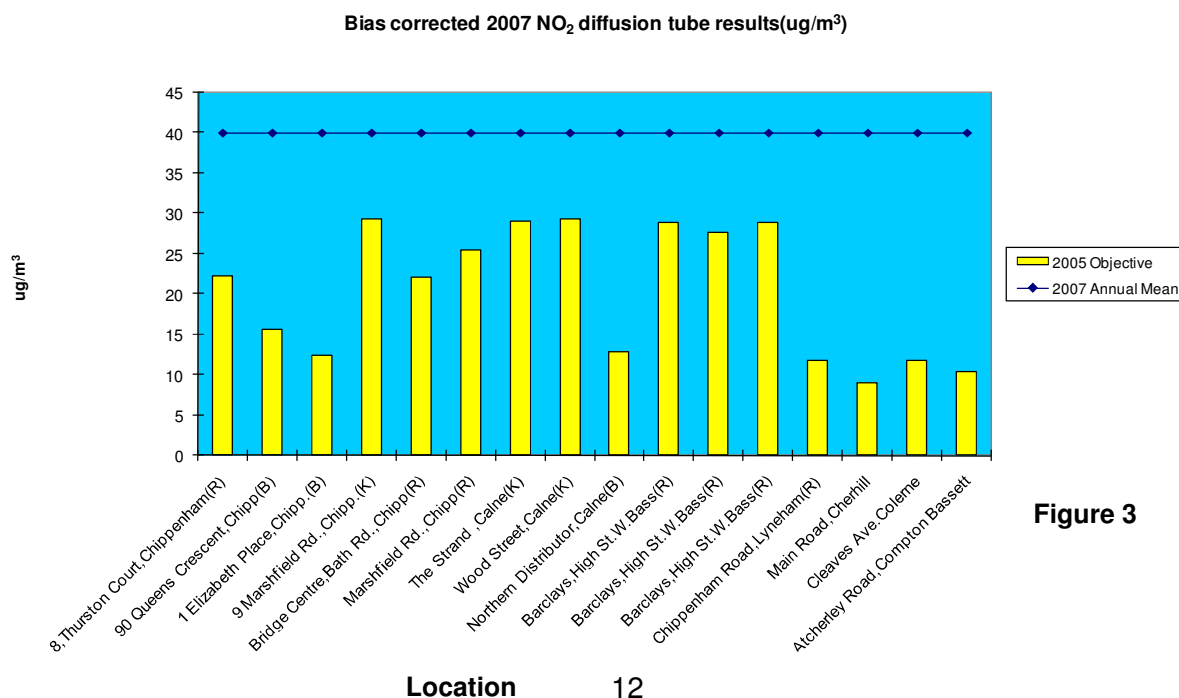


Figure 3

- 4.10 We have also recently carried out automatic monitoring for Nitrogen Dioxide and PM₁₀ in Cricklade Town Centre from November 2007 to March 2008.
- 4.10 The monitoring unit was hired from Enviro Technology and the data was passed to Air Quality Consultants for analysis and assessment. A report is attached as Appendix 2, concluding that the objectives for both pollutants will not be breached.
- 4.11 Sulphur Dioxide (SO₂) monthly background concentrations have also been obtained (See Table 3) at key locations around the 'edge' of the district. These are not designed to prove compliance with the air quality objectives, but to portray any impact of a proposed source outside of the district. This is explained in Chapter 5.

CHAPTER 5:

5.0 New Local Developments

5.1 Progress reports should deal with changes that have taken place that may affect air quality.

The items to include are:-

- New industrial processes included in LAQM.TG (03) i.e. Part A, A2 or B processes;
- New developments with an impact on air quality, especially those that will significantly change traffic flows. This should only be developments that have been granted planning permission.
- New landfill sites, quarries etc, that have been granted planning permission, and which have nearby relevant exposure as defined in LAQM.TG(03), Box 8.4.

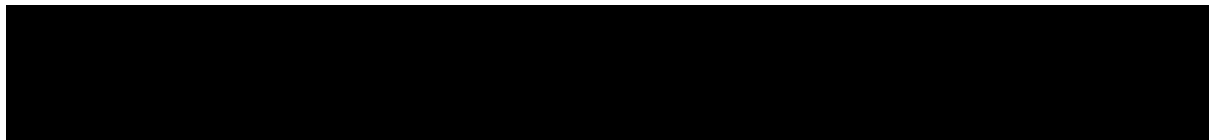
5.2 Industrial Processes

5.2.1 In terms of industrial processes, no new processes have been identified within the North Wiltshire District as being significant sources of the key pollutants, however, there was one outside of the district, which had previously caused some concern to local Members.

5.2.2 This was the Lafarge site in Westbury, who applied to the Environment Agency to burn Recycled Liquid Fuel (RLF). The site is approximately 15km from the boundary of our district. Whilst, North Wiltshire officers do not believe that this would have had an adverse effect on air quality in our district, due to distance, we nevertheless decided to install new Nitrogen Dioxide and Sulphur Dioxide diffusion tubes.

5.2.3 These tubes have been sited in Calne, Colerne, Compton Bassett and Cherhill and would have given 'background' data prior to commencement of the proposal, as well as impact

assessment during the trial. The results area contained in Tables 1, and 3 (below). The trial has been postponed, however we have decided to keep the tubes in place.



5.3 New Developments

5.3.1 With regard to new developments, ongoing consultation with the Development Control team of our Planning Services section confirms that no such developments have been granted permission that would have a significant impact on air quality. I attach a list of ‘major’ applications that have been permitted in the last year for information (see Appendix 3). This includes development such as those that would warrant an Environmental Impact Assessment (EIA) eg: the Basil Hill Barracks, Corsham site (07/01614/F). An Air Quality Assessment was submitted, as required, and I am satisfied with its conclusion that there will be no breaches of the Air Quality Objectives.

This is an isolated example of the consultation process that prevails in the Local Authority, regarding air quality issues.

5.4 New Landfill Sites/Quarries

5.4.1 With regard to new landfill sites/quarries, ongoing consultation with Wiltshire County Council, Mineral and Waste Planners, confirms that there are no sites meeting the “relevant exposure” criteria contained in LAQM.TG (03).

5.4.2 Local Transport Issues

5.4.3 The County Council helps the District Council in carrying out its air quality reviews and assessments by collecting, analysing and providing details of traffic data.

5.4.4 'Better Air Quality' is also a shared transport priority of Central and Local Government, and is one of the key themes of the Wiltshire Local Transport Plan (LTP). A primary objective of the LTP is:

“To reduce the impact of traffic on people’s quality of life and Wiltshire’s built and natural environment, and to manage the transport network in a sensitive and appropriate manner.”

The County Council will seek to achieve this objective by a number of measures including:

- Implementation of the Western Wiltshire Sustainable Transport Strategy (which includes Chippenham and Corsham);
- promoting and supporting local bus services;
- improving facilities for cyclists and pedestrians;
- and introducing appropriate demand, traffic and network management measures.

CHAPTER 6:

6.0 Conclusions

- 6.1 This progress report concludes that ongoing passive diffusion tube and automatic monitoring has produced no exceedences of the air quality objectives for Nitrogen Dioxide or PM₁₀.
- 6.2 The report also concludes that no new developments have been identified, through the Planning regime, that would have an adverse impact on air quality.
- 6.3 Air quality objectives set by the Government are being comfortably met and the air quality in North Wiltshire is good.

APPENDICES

- Appendix 1 Diffusion tube analytical quality control.
- Appendix 2 Nitrogen Dioxide and PM₁₀ automatic monitoring in Cricklade Town
Centre 2007/2008.
- Appendix 3 List of “major” planning applications granted permission in the last year.

APPENDIX 1

Diffusion tube analytical quality control

APPENDIX 2

**Nitrogen Dioxide and PM₁₀ automatic monitoring in
Cricklade Town Centre 2007/2008**

APPENDIX 3

**List of “major” planning applications granted permission
in the last year**