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# Air Quality Progress Report 2008



Air Quality in the Borough of Melton  
between  
January and December 2007

April 2008

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## Air Quality in Melton, January to December 2007

### Section 1 : Introduction

- 1.1 The local air quality management (LAQM) system was introduced in the Environment Act 1995 and subsequent Regulations. Local authorities have to review the present quality of air and the likely future quality of air and assess whether the nationally prescribed objectives are likely to be achieved. Progress reports are required to be undertaken in the years when the authority is not carrying out Updating and Screening Assessments or a Detailed Assessment of air quality.
- 1.2 The following air quality objectives set out in the Air Quality Regulations provide the statutory basis for the system of Local Air Quality Management.

Pollutant	Air Quality Objective		Date to be achieved by
	Concentration	Measured as	
Benzene	16.5 ug/m <sup>3</sup>	Running annual mean	31.12.2003
	5 ug/m <sup>3</sup>	Annual mean	31.12.2010
1,3 Butadiene	2.25 ug/m <sup>3</sup>	Running annual mean	31.12.2003
Carbon monoxide	10.0 ug/m <sup>3</sup>	Maximum daily running 8-hour mean	31.12.2003
Lead	0.5 ug/m <sup>3</sup>	Annual mean	31.12.2004
	0.25 ug/m <sup>3</sup>	Annual mean	31.12.2008
Nitrogen dioxide	200 ug/m <sup>3</sup> not to be exceeded more than 18 times a year	1 hour mean	31.12.2005
	40 ug/m <sup>3</sup>	Annual mean	31.12.2005
Particles (PM <sub>10</sub> )	50 ug/m <sup>3</sup> not to be exceeded more than 35 times a year	24 hour mean	31.12.2004
	40 ug/m <sup>3</sup>	Annual mean	31.12.2004
Sulphur dioxide	350 ug/m <sup>3</sup> not to be exceeded more than 24 times a year	1 hour mean	31.12.2004
	125 ug/m <sup>3</sup> not to be exceeded more than 3 times a year	24 hour mean	31.12.2004
	266 ug/m <sup>3</sup> not to be exceeded more than 35 times a year	15 minute mean	31.12.2005

- 1.3 There have been no significant changes or developments likely to have a negative effect on air pollution since the Updating and Screening Assessment carried out in 2006. Previous reports have indicated that the Government's objectives are being, or will be, achieved for all the pollutants of concern. National measures to reduce emissions by

road vehicles appear to be having the desired effect of reducing air pollution and ensuring compliance with the Governments objectives.

- 1.4 This report supplements previous reports by providing additional details about the monitoring locations and contains graphs showing trends over a number of years.



Figure 1

## Section 2 : Purpose of the Progress Report

- 2.1 Following consultation on the LAQM process, the Government concluded that it was too 'stop-start' and that gaps of several years might occur between air quality reviews. Updating and Screening Assessments are now required at intervals of three years whilst Progress Reports maintain continuity and are to be produced in the intervening years.
- 2.2 Progress Reports are designed to ensure continuity in the LAQM process and are intended to assist local authorities by –
- helping retain a profile for LAQM within the authority, including the retention of staff with a knowledge of air quality issues;
  - providing a means for communicating air quality information to Members and the public;
  - maximising the usefulness and interpretation of the monitoring effort being carried out by the local authority;
  - maximising the value of the investment in monitoring equipment ;
  - making the next round of review and assessment that much easier, as there will be a readily available up to date source of information;
  - helping local authorities respond to requests for up to date information on air quality;
  - providing information to assist in other policy areas, such as transport and land use planning;
  - providing a ready source of information on air quality for developers carrying out environmental assessments for new schemes;
  - demonstrating progress with implementation of air quality Action Plans and/or air quality strategies;
  - providing a timely indication of the need for further measures to improve air quality, rather than delaying until the next full round of review and assessment.

## Section 3 : New Monitoring Results

- 3.1 **Diffusion Tubes:** The Council has been monitoring oxides of nitrogen at thirteen diffusion tube sites throughout the Borough during 2007. There are three town centre sites, seven main roads in the town of Melton Mowbray and three main roads in the rural district. The comparison of diffusion tube data for 2006 and 2007 can be seen at Appendix 1.

### Diffusion Tube Site Locations

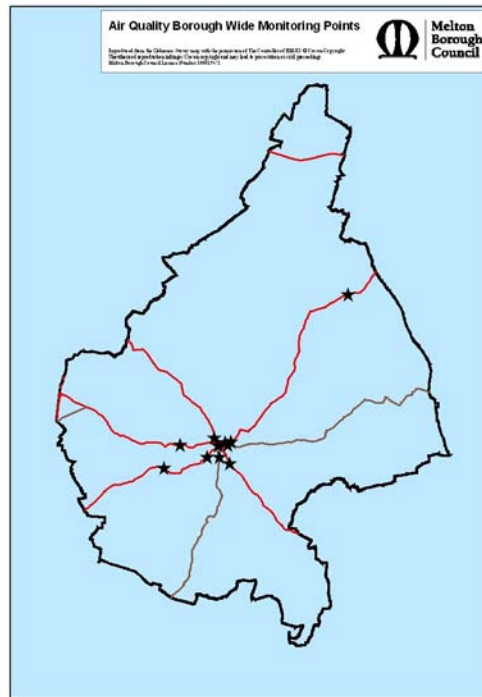


Figure 2

- 3.2 **Nitrogen Dioxide**

**OBJECTIVE: 200 micrograms per cubic metre or less, when expressed as an hourly mean, not to be exceeded more than 18 times a year to be achieved by 31 December 2005. 40 micrograms per cubic metre or less, when expressed as an annual mean, to be achieved by 31 December 2005.**

	2006	2007	December 2010 Projection
Annual Average concentration	26.54 $\mu\text{g}/\text{m}^3$ Corrected = <b>23</b> $\mu\text{g}/\text{m}^3$	33.60 $\mu\text{g}/\text{m}^3$ Corrected = <b>30</b> $\mu\text{g}/\text{m}^3$	30 x (0.734÷0.832) = <b>26</b> $\mu\text{g}/\text{m}^3$ [TG(O3) p6-9]

- 3.3 Diffusion tubes are provided and analysed by Bureau Veritas using 10% TEA (triethanolamine) in water and are typically exposed for one-month periods. Results have been corrected by 0.9 in 2007, for laboratory bias using the recommended default factors at the following link [www.uwe.ac.uk/aqm/review/diffusiontube310308.xls](http://www.uwe.ac.uk/aqm/review/diffusiontube310308.xls) .

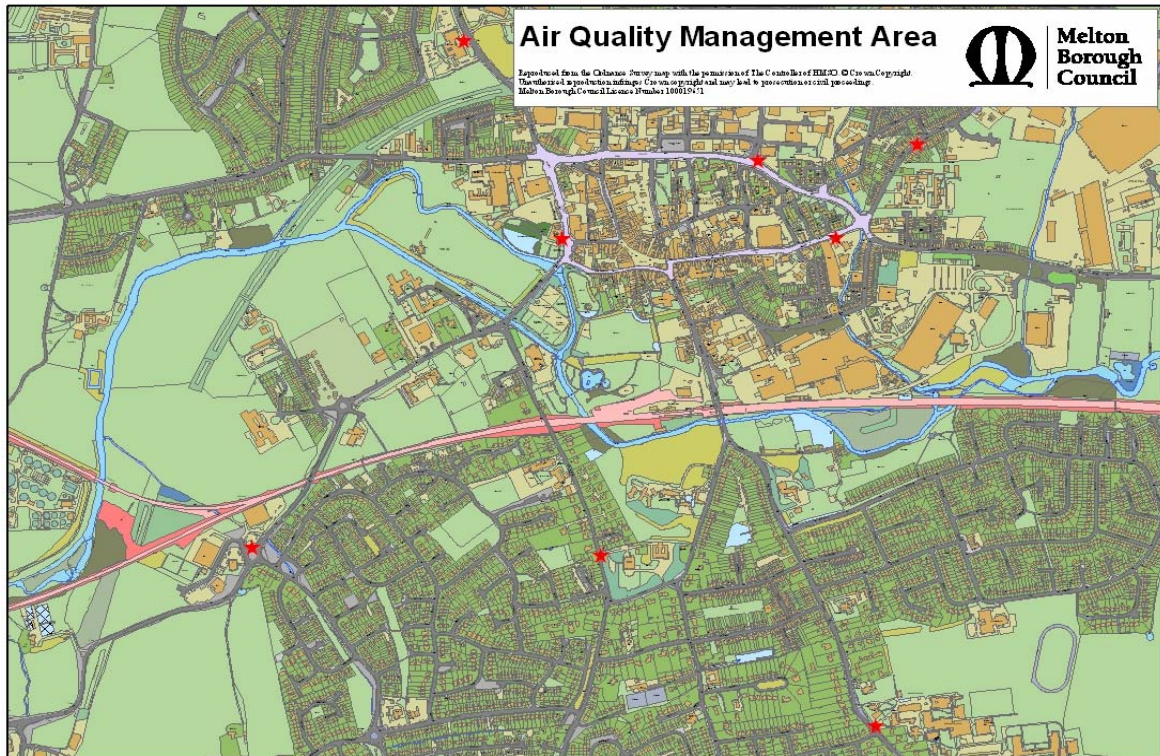


Figure 3.

### 3.4 Town Centre

Figure 3 identifies the three monitoring stations in the town centre in the **revoked** Air Quality Management Area (AQMA) ring, colour coded mauve. Traffic going in to, through or across town has to use part of this route. There is no alternate ring road.

Figure 4

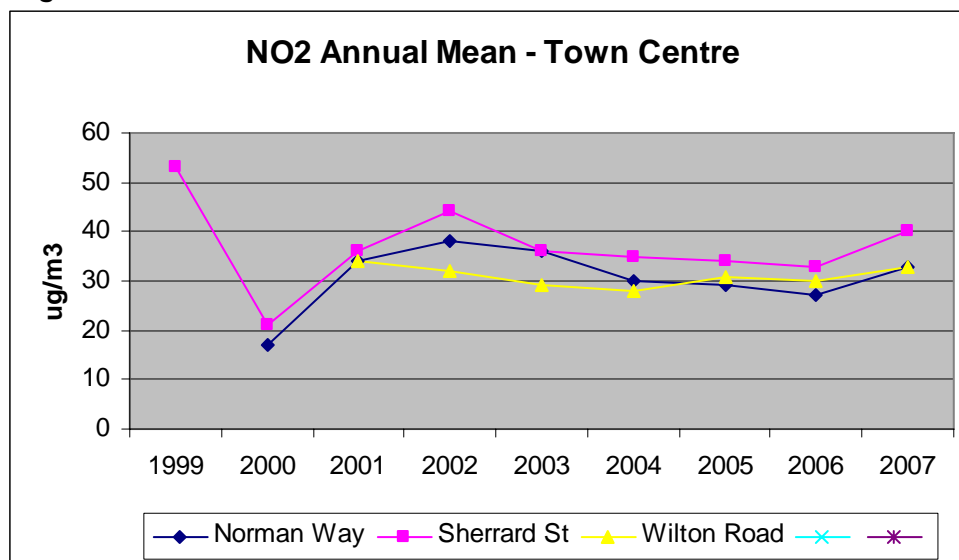


Figure 4 illustrates the trend over nine years of monitoring. Norman Way is the most northerly point on the ring and the remaining points run clockwise. The figures in 2007 indicate a slight rise which may be attributable to roadworks to improve a major junction in the town during 2007. These roadworks resulted in more stationary traffic for

periods and further monitoring will be carried out to assess whether the trend continues. Further monitoring will indicate whether the annual mean will remain less than 40  $\mu\text{g}/\text{m}^3$  at the end of December 2010.

### 3.5 *Main Roads in Melton Mowbray*

Figure 3 also identifies the seven monitoring stations on the roads into the town centre. Nottingham Road is the most northerly point on the plan and the remaining points run clockwise.

**Figure 5**

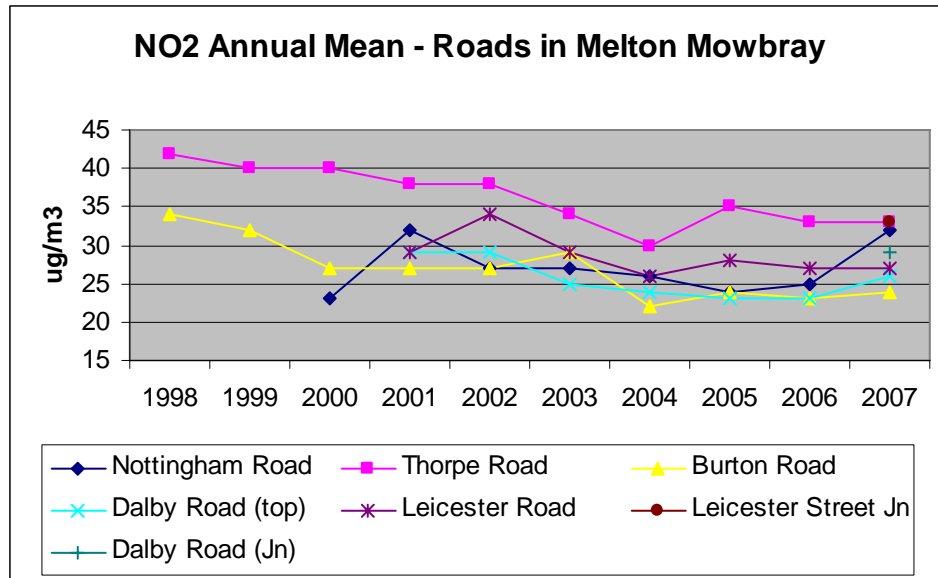
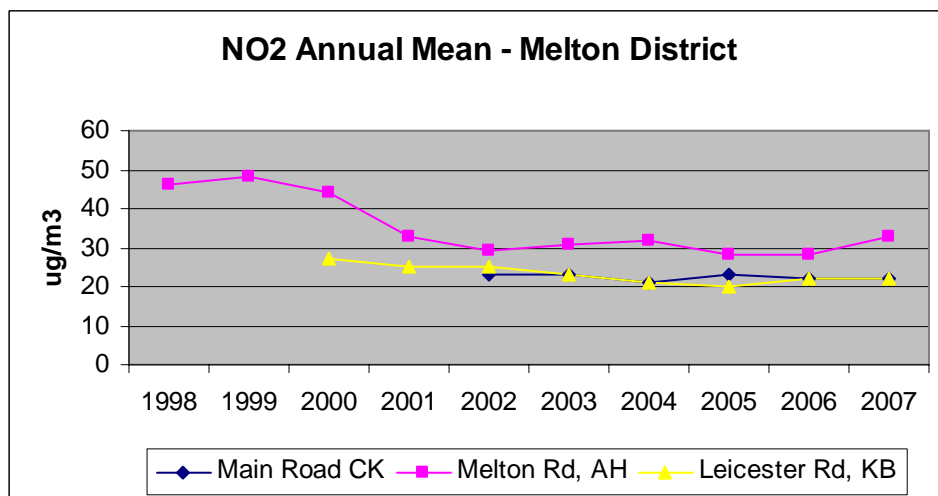


Figure 5 illustrates the the trend since 1998. The results generally indicates the annual means are all below of 40 $\mu\text{g}/\text{m}^3$ . Monitoring will continue in these areas.

### 3.6 *The District of Melton Borough Council*

Figure 2 identifies the three monitoring points outside the town, one close to the north east borough boundary in Croxton Kerrial and two to the west of the town. The lower site is Kirby Bellars and the higher is Asfordby Hill.

**Figure 6**



As can be seen from the graph at figure 6, since 2000 the annual mean has been below 40 $\mu\text{g}/\text{m}^3$  and continues to be at or below 33 $\mu\text{g}/\text{m}^3$ .

## Section 4 : New Local Developments

- 4.1 No new industrial processes (A1, A2 or B) commenced operation or changed significantly during the period 1 January 2006 to 31 December 2006, however one major process has closed down which had permits for sawdust and solvent.
- 4.2 There has been a significant junction improvement during 2007. there were periods which resulted in significant stationary traffic but as a result traffic flows were reduced as vehicles sought alternate routes. Overall this may have had a slight impact on air quality but does not appear to have been significant. The results for 2008 will be compared to determine this.
- 4.3 No additional landfills, quarries, etc., have been granted planning permission.
- 4.4 Brooksby quarry commenced operation for gravel extraction and grading in October 2006. Melton Borough Council was unsuccessful with a bid to DERFA for PM10 testing at this site. However Melton Borough Council is now working in partnership with our neighbour Charnwood Borough Council (CBC) as they have a quarry in their district operated by the same company. The quarry in Charnwood is larger and includes blasting and granite crushing operations. CBC are proposing to use a *Partisol* sampler for analysis followed up with electron microscopy to determine source of particulate matter, as there are three potential sources in the vicinity. If, as a result of this analysis, CBC are able to discount the quarry as the main source of the particulate matter, it will indicate that the quarry operating at Brooksby is unlikely to be significant.

## Section 5 : Additional Information

- 5.1 In 2005 the Council revoked the Air Quality Management Area and continues to monitor and to ensure progress is satisfactory.
- 5.2 The Council does not monitor ozone, polycyclic aromatic hydrocarbons (PAHs) or any other air pollutant. During 2007 there were no complaints regarding odour and dust emission from regulated industrial sources.
- 5.3 There is an options appraisal being carried out resulting from monitoring traffic flows, travel speeds and carrying out a census. There is a multi departmental team of officers from Melton Borough Council and Leicestershire County Council who are working together to develop the strategic position with regard to traffic congestion, this includes a by-pass proposal consideration.
- 5.4 An aim of the Leicestershire County Council Local Transport Plan is to achieve improvement of the air quality. It refers to the fact that the AQMA has now been revoked, however it also identifies that a ring road may be proposed in the next decade.
- 5.5 The Local Development Framework of Melton Borough Council will link with this consultation and the outcomes. It is acknowledged that more land in the Borough will be required for new housing and employment land. It is intended that this will contribute to the solution for transport.

## Section 6 : Conclusions

- 6.1 Air quality in Melton currently meets national standards for carbon monoxide, benzene, 1,3-butadiene, lead, sulphur dioxide, particulates and nitrogen dioxide.
- 6.2 The thirteen existing diffusion tube sites in the Borough will continue to be monitored and the results analysed for trends.
- 6.3 The interdepartmental links into the Leicestershire Transport Plan will continue as transport is the major contributor to air quality in Melton Mowbray. It is perceived that this will be the most effective method to bring about continued improvement to the air quality issues in the town.
- 6.4 Further information concerning this report may be obtained from Victoria Clarke, Principal Environmental Health Officer on 01664 502408 or e-mail [vclarke@melton.gov.uk](mailto:vclarke@melton.gov.uk).

## Appendix 1

### Comparison of Diffusion Tube Data for 2006 and 2007

LOCATION	ANNUAL MEAN (unadjusted) 2007 $\mu\text{g}/\text{m}^3$	CORRECTED VALUE 2007** $\mu\text{g}/\text{m}^3$	CORRECTED VALUE 2006* $\mu\text{g}/\text{m}^3$
Wilton Road, Melton Mowbray	37	33	30
Leicester Road, Melton Mowbray	30	27	27
Sherrard Street, Melton Mowbray	44	40	33
32 Thorpe Road, Melton Mowbray	40	33	33
Norman Way, Melton Mowbray	37	33	27
Burton Road, Melton Mowbray	26	23	23
Nottingham Road, Melton Mowbray	36	32	25
Dalby Road, Melton Mowbray	29	27	23
Melton Road, Asfordby Hill	37	33	28
Leicester Road, Kirby Bellars	26	22	22
Main Road, Croxton Kerrial	26	22	22
Leicester Road, Leicester St end	33	29	30
Leicester Road, Dalby Rd end	37	33	22

\*Correction factors for 2006 of 0.87 for Cassella/10% TEA in Water and

\*\*Correction factors for 2007 of 0.9 for Cassella/10% TEA in Water  
taken from

[www.uwe.ac.uk/aqm/review/diffusiontube310308.xls](http://www.uwe.ac.uk/aqm/review/diffusiontube310308.xls)