



# **2012 Air Quality Progress Report for Daventry District Council**

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

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## Executive Summary

Daventry District Council have monitored NO<sub>2</sub> levels throughout the district for the year 2012.

12 of the 22 locations monitored throughout the district showed a decrease in concentrations with 10 sites showing an increase in recorded levels. This data means it is difficult to determine an upward or downward trend throughout the district.

None of the sites that showed an increase were above the peak levels recorded between 2008 and 2012. The most significant increase recorded was at Long Buckby Wharf, which is a kerbside location for the M1 with no residential receptors in close proximity. All monitoring locations situated close to receptors were well below the 40 µg/m<sup>3</sup> limit. Levels at Haythog Farm House, an isolated farmhouse which is the nearest receptor to the M1 were 29.57 µg/m<sup>3</sup>, showing a significant decrease since 2011. Daventry District Council will continue to monitor this location closely.

Two NO<sub>2</sub> tubes were relocated in 2011 from locations which consistently recorded low levels to a relatively busy interchange (A45 Flore and A45 Weedon) to reflect potential future developments. The initial results from these locations do not give cause for concern.

No detailed assessments have been undertaken. Review of national monitoring data suggests no need to monitor other pollutants.

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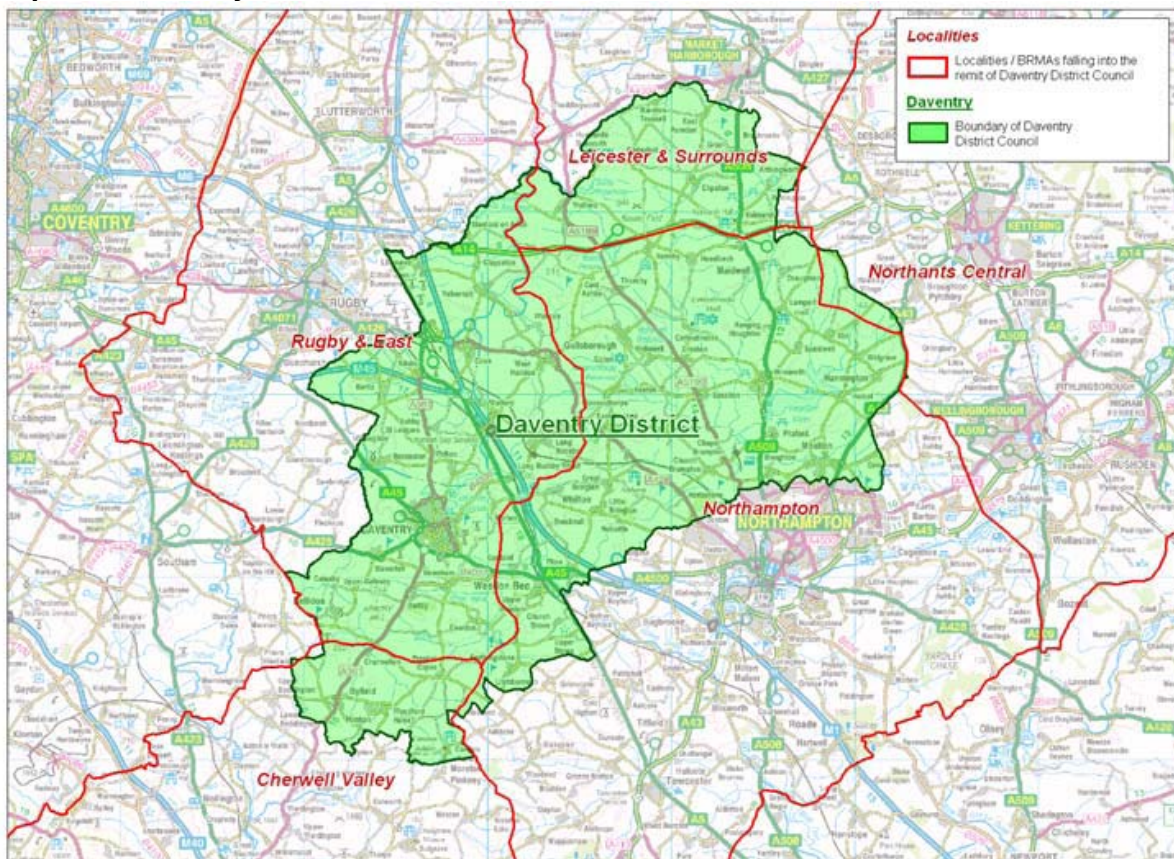
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# 1 Introduction

## 1.1 Description of Local Authority Area

Daventry District is a predominantly rural district with the larger and most northerly section occupying that part of the Northamptonshire Uplands lying to the east of the Watford Gap section of the M1 Motorway. This northern part of the district stretches from Northampton in the south to Market Harborough and the Leicestershire border in the north; from the Warwickshire town of Rugby in the west almost to Kettering and the A6 Towns in the east. A smaller part of the District is situated to the south west of the M1 Motorway, with its southernmost boundary coming to within 6 miles of the Oxfordshire border at Banbury.

Map 1.0 - Daventry District



The population of the District further to the 2011 census was estimated to number some 78,000 people. The administrative centre of the district is Daventry town itself, which is located within this southern area, some 8 miles from Junction 16 of the M1. The town has grown steadily since the early sixties, having been the subject of an

expansion scheme designed to cater for Birmingham people needing alternative housing accommodation.

The population of Daventry Town at mid 1996 was approximately 20,000. Whilst there are no more recent population estimates for the town itself, Daventry District Council is planning for Daventry Town to grow significantly in the next few years and to reach a population of around 40,000<sup>(1)</sup>. The town is continuing to grow as an employment, shopping and recreational centre for the surrounding rural area, with a forecast that the population of the district will increase to 90,200 by 2031<sup>(1)</sup>. The 'usually resident' population of Daventry District recorded in the 2011 census was 77,843.

Whilst the town has become well known as an ideal location for warehousing, not least as the home of Ford Motor Company's major distribution centre, it has gradually acquired a wide range of manufacturing and service industries, located on three industrial estates.

The district is home to a major distribution hub, the Daventry International Rail Freight Terminal (DIRFT), located to the North West of the district, close to the district boundary with Rugby. DIRFT is currently under expansion, with further significant growth predicted in the next few years.

The district lies within the Milton Keynes/South Midlands Growth Area.

## **1.2 Purpose of Progress Report**

This report fulfils the requirements of the Local Air Quality Management process as set out in Part IV of the Environment Act (1995), the Air Quality Strategy for England, Scotland, Wales and Northern Ireland 2007 and the relevant Policy and Technical Guidance documents. The LAQM process places an obligation on all local authorities to regularly review and assess air quality in their areas, and to determine whether or not the air quality objectives are likely to be achieved. Where exceedences are considered likely, the local authority must then declare an Air Quality Management

Area (AQMA) and prepare an Air Quality Action Plan (AQAP) setting out the measures it intends to put in place in pursuit of the objectives.

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 LAQM **in England** are set out in the Air Quality (England) Regulations 2000 (SI 928), The Air Quality (England) (Amendment) Regulations 2002 (SI 3043), and are shown in Table 1.1 (overleaf). This table shows the objectives in units of microgrammes per cubic metre  $\mu\text{g}/\text{m}^3$  (milligrammes per cubic metre,  $\text{mg}/\text{m}^3$  for carbon monoxide) with the number of exceedences in each year that are permitted (where applicable).



**Table 1.1 Air Quality Objectives included in Regulations for the purpose of LAQM in England**

Pollutant	Air Quality Objective		Date to be achieved by
	Concentration	Measured as	
Benzene	16.25 µg/m <sup>3</sup>	Running annual mean	31.12.2003
	5.00 µg/m <sup>3</sup>	Annual mean	31.12.2010
1,3-Butadiene	2.25 µg/m <sup>3</sup>	Running annual mean	31.12.2003
Carbon monoxide	10 mg/m <sup>3</sup>	Running 8-hour mean	31.12.2003
Lead	0.50 µg/m <sup>3</sup>	Annual mean	31.12.2004
	0.25 µg/m <sup>3</sup>	Annual mean	31.12.2008
Nitrogen dioxide	200 µg/m <sup>3</sup> not to be exceeded more than 18 times a year	1-hour mean	31.12.2005
	40 µg/m <sup>3</sup>	Annual mean	31.12.2005
Particulate Matter (PM <sub>10</sub> ) (gravimetric)	50 µg/m <sup>3</sup> , not to be exceeded more than 35 times a year	24-hour mean	31.12.2004
	40 µg/m <sup>3</sup>	Annual mean	31.12.2004
Sulphur dioxide	350 µg/m <sup>3</sup> , not to be exceeded more than 24 times a year	1-hour mean	31.12.2004
	125 µg/m <sup>3</sup> , not to be exceeded more than 3 times a year	24-hour mean	31.12.2004
	266 µg/m <sup>3</sup> , not to be exceeded more than 35 times a year	15-minute mean	31.12.2005

## 1.4 Summary of Previous Review and Assessments

Between 1998 and 2000, Daventry District Council undertook its first round of review and assessments of air quality. The first round assessments concluded that pollutant concentrations were likely to meet the air quality objectives and it was not necessary for Daventry District Council to declare any AQMA's. The updating and screening assessment from 2003 concluded that some properties close to the M1 may exceed the objectives, however the monitoring data at locations close to the M1 was not representative of relevant exposure. It was agreed after discussion between Daventry District Council and DEFRA that there was no need to proceed to a detailed assessment for NO<sub>2</sub>. The 2005 progress report also reported that monitored NO<sub>2</sub> concentrations in the vicinity of the M1 were exceeding the objectives; however these locations were again not representative of relevant exposure as the monitoring tubes were located virtually next to the hard shoulder and not near any potential public exposure.

The 2006 Updating and Screening Assessment undertaken by Bureau Veritas concluded that the air quality objectives for benzene, 1,3-butadiene, carbon monoxide, lead, PM10 and sulphur dioxide would be met and there would be no requirement to undertake a detailed assessment of these pollutants. The predicted annual mean NO<sub>2</sub> concentrations for a number of monitoring sites had indicated that the annual mean would be exceeded. However the road traffic contribution to the predicted pollutant concentrations reported was doubled to compensate for restricted dispersion of vehicle emissions in street canyons which was described in LAQM.TG(03) at the time. The circumstances for relevant exposure at the monitored locations is that the canyon effect contains the pollutants at the carriageway and actually minimises the effect upon those properties located at the top of a sizeable embankment as the M1 travels through a cutting. The DMRB model is not able to take such topography conditions into consideration in its calculations. Bureau Veritas concluded that a detailed assessment is required based upon the predicted annual mean NO<sub>2</sub> concentrations exceeding the objective in the vicinity of the M1 at Haythog Farm, Yelvertoft Road and Greenhill Farm. However Bureau Veritas concluded that a cautious approach be taken of the NO<sub>2</sub> results as the data is based upon predictions

with a street canyon effect and the monitored concentrations exceeding the AQS objective close to the M1, were not in the immediate vicinity of relevant receptors.

The 2009 Updating and Screening Assessment undertaken by Daventry District Council determined that the conclusions drawn in 2006 assessment remained current. There was no need for detailed assessments to be undertaken in any locations throughout the district and it was concluded that the Benzene monitoring cease.

The 2010 progress report identified that across the district there was a slight increase in concentrations from 2008, but were below or less than the peak levels identified in 2007. There were increases at High Street, Welford and New Street, Daventry above the 2007 peak level. Levels at Haythog Farmhouse in close proximity to the M1 were close to the threshold level but had remained at a fairly constant level for several years. There were no exceedances of the NO<sub>2</sub> threshold level.

The 2011 progress report identified no clear trends, with some slight increases in some locations and some slight decreases in other locations. Levels at Haythog Farmhouse were the lowest level recorded at this location.

An Updated Screening Assessment was carried out in 2012 by Daventry District Council and determined that the conclusions drawn in 2009 were still valid. There is no need for detailed assessment to be undertaken in any location in the district and Benzene monitoring does not need to re-commence.

## **2 New Monitoring Data**

### **2.1 Summary of Monitoring Undertaken**

#### **2.1.1 Automatic Monitoring Sites**

Daventry District Council does not operate any continuous monitoring sites.

#### **2.1.2 Non-Automatic Monitoring Sites**

There is a local monitoring scheme for NO<sub>2</sub> using passive diffusion tubes. Details of the site locations for NO<sub>2</sub> monitoring are shown in table 2.2 below.

Within Daventry District nitrogen dioxide has been measured using diffusion tubes at 22 sites across the area. Since the 2012 Screening Assessment, there has been no change in the locations of the diffusion tubes. There are changes planned to some locations for 2013, to take account of planned local development. The details within table 2.2 reflect the current monitoring locations to year end 2012.

Gradko Ltd supplies and analyses the diffusion tubes using the 20% TEA (Triethanolamine) in water method. Gradko participates in the UK National Diffusion Tube Network and the Workplace Analysis Scheme for Efficiency (WASP). They currently hold UKAS accreditation for analysis of diffusion tubes and consistently achieve the highest performance level in annual field inter-laboratory performance comparisons.

Table 2.2 Details of Non-Automatic Monitoring Sites

Table 2.2 Details of Non-Automatic Monitoring Sites Site Name	Site Type	OS Grid Ref	Pollutants Monitored	In AQMA?	Relevant Exposure? (Y/N with distance (m) to relevant exposure)	Distance to kerb of nearest road (N/A if not applicable)	Worst- case Location?
A361 Roundabout, Byfield	Roadside	X 451734 Y 253421	NO <sub>2</sub>	N	Y (15M)	1m	Y
Church St Byfield	Urban background	X 451752 Y 253386	NO <sub>2</sub>	N	Y (10M)	1M	N/A
A361. Kilsby	Roadside	X 456213 Y 270717	NO <sub>2</sub>	N	N	1M	N/A no receptor
A428 Roundabout, West Haddon	Roadside	X 462960 Y 271794	NO <sub>2</sub>	N	Y(5M)	1M	Y
Watford Rd West Haddon	Suburban/ rural	X 462930 Y 271745	NO <sub>2</sub>	N	Y (1M)	.5M	N/A
Morrison Rd West Haddon	Rural	X 463424 Y 272119	NO <sub>2</sub>	N	Y (10M )	.5M	N/A
Post Office Moulton	Roadside	X 478300 Y 266200	NO <sub>2</sub>	N	Y(5M)	1M	Y
Church St Moulton	Suburban/ rural	X 478382 Y 266386	NO <sub>2</sub>	N	Y(1M)	.5M	N/A
New St Daventry	Roadside	X 457420 Y 262439	NO <sub>2</sub>	N	N	1M	Y
London Rd Daventry	Roadside	X 457592 Y 261745	NO <sub>2</sub>	N	N	1M	Y
Inlands Daventry	Suburban	X 457437 Y 262110	NO <sub>2</sub>	N	Y(10M)	1M	N/A
M1 Lilbourne	Roadside	X 456572 Y 276826	NO <sub>2</sub>	N	N	1M	N/A no receptor
Horsepool Lilbourne	Suburban/ rural	X 456217 Y 277049	NO <sub>2</sub>	N	Y(10M)	1M	Y
Haythog Farm Crick	Roadside to M1	X 457573 Y 273884	NO <sub>2</sub>	N	N	N/A	N/A no receptor
Haythog Farm Crick	Suburban/ Rural	X 457673 Y 273884	NO <sub>2</sub>	N	N	N/A	N/A no receptor
Haythog Farmhouse	Suburban/ Rural	X 457673 Y 273884	NO <sub>2</sub>	N	Y (1M)	N/A	Y
Buckby Wharf	Roadside to M1	X 461389 Y 265483	NO <sub>2</sub>	N	N	1M	N/A no receptor
Buckby Wharf	Suburban/ Rural	X 461358 Y 265469	NO <sub>2</sub>	N	Y(10M)	1M	N/A
School Lane Naseby	Rural	X 468834 Y 278099	NO <sub>2</sub>	N	Y (5M)	.5M	N/A
High St Welford	Rural	X 464240 Y 280355	NO <sub>2</sub>	N	Y (10M)	1M	N/A
A45, Windsor Close, Weedon	Roadside	X 462862 Y 259867	NO <sub>2</sub>	N	Y (10M)	5M	N/A
A45, Spring Lane, Flore	Roadside	X 464353 Y 260282	NO <sub>2</sub>	N	Y (5M)	.5M	N/A

## 2.2 Comparison of Monitoring Results with Air Quality Objectives

### 2.2.1 Nitrogen Dioxide (NO<sub>2</sub>)

#### Automatic Monitoring Data

Daventry District Council does not operate any automatic monitoring sites.

#### Diffusion Tube Monitoring Data

Annual mean results from 2012 are presented in Table 2.5 on page 14. Annual mean data from 2008 – 2011 is recorded in Table 2.6, along with 2012 monitoring results.

**From table 2.5, it can be seen that the following site was above the 40µg/m<sup>3</sup> maximum annual mean.**

#### **Kerbside to M1 at Lilbourne (N12)**

It can be seen from Table 2.5 that the levels kerbside to the M1 at Lilbourne (N12) are 67.45µg/m<sup>3</sup>. This location however, is not representative of nearby properties; the NO<sub>2</sub> levels at Horsepool Lane, Lilbourne (N13), which is representative of nearby properties, is at 21.11µg/m<sup>3</sup>. As reported in the USA undertaken in 2012, it is likely that the circumstances for exposure at this monitoring location is that the canyon effect contains the pollutants at the carriageway and minimises the effect upon those properties which are located at the top of a sizeable embankment and at least 30 metres away from the M1 as it travels through a cutting. Therefore a detailed assessment is not required.

**From table 2.5, it can be seen that the following site was of marginal significance when comparing the 40µg/m<sup>3</sup> maximum annual mean.**

It can be seen from table 2.5 that levels at Haythog Farm Crick, (N14) are close to marginal levels at 35.12 µg/m<sup>3</sup>. This location is on the edge of the M1 however, and is therefore not representative of nearby properties; the NO<sub>2</sub> levels at Haythog Farmhouse, (N16), which is the nearest property, are at 29.57µg/m<sup>3</sup>. The diffusion tube located at position N14, is the close to the M1 and is not representative of the exposure at the property. Therefore a detailed assessment is not required. This location will continue to be monitored by Daventry District Council, as variations have

been recorded at this location in the recent past, however the important data is that at location N16 where a receptor lies.

**All other sites**

Across the district there was a slight increase at some sites and a slight decrease at others. The figures are very similar to those reported in 2011. The NO<sub>2</sub> tube located at the M1, Lilbourne, remains fairly stable, with peaks and troughs recorded throughout the year. These peaks and troughs can be due to traffic incidents and weather patterns. The M1 remains the main source of air pollution in the district.

Overall the annual mean at the majority of sites is well below the 40µg/m<sup>3</sup> objective. The only site which does exceed the annual mean objective is kerbside to the M1 motorway and does not have relevant public exposure.

**Table 2.5 Results of NO<sub>2</sub> Diffusion Tubes 2012**

Site ID	Location	Site Type	Within AQMA?	Triplicate or Co-located Tube	Full Calendar Year Data Capture 2012 (Number of Months or %) <sup>a</sup>	2012 Annual Mean Concentration (µg/m <sup>3</sup> ) - Bias Adjustment factor = 0.87 <sup>b</sup>
N1	A361 Roundabout, Byfield	Roadside	N	N	12	19.78
N2	Church Street, Byfield	Urban Background	N	N	12	13.62
N3	A361, Kilsby	Roadside	N	N	11	25.09
N4	A428 roundabout, West Haddon	Roadside	N	N	12	21.93
N5	Watford Road, West Haddon	Suburban / Rural	N	N	12	22.85
N6	Morrison Road, West Haddon	Rural	N	N	12	16.52
N7	Post Office, Moulton	Roadside	N	N	11	25.42
N8	Church Street, Moulton	Suburban / Rural	N	N	11	16.66
N9	New Street, Daventry	Roadside	N	N	12	22.81
N10	London Road, Daventry	Roadside	N	N	12	19.27



Site ID	Location	Site Type	Within AQMA?	Triplicate or Co-located Tube	Full Calendar Year Data Capture 2012 (Number of Months or %) <sup>a</sup>	2012 Annual Mean Concentration ( $\mu\text{g}/\text{m}^3$ ) - Bias Adjustment factor = 0.87 <sup>b</sup>
N11	Inlands, Daventry	Suburban	N	N	12	18.54
N12	M1, Lilbourne	Roadside	N	N	11	<b>67.45</b>
N13	Horsepool, Lilbourn	Roadside	N	N	11	21.11
N14	Haythog Farm	Roadside to M1	N	N	11	35.12
N15	Haythog Farm	Suburban / Rural	N	N	12	32.01
N16	Haythog Farmhouse	Suburban / Rural	N	N	12	29.57
N17	Buckby Wharf	Roadside to M1	N	N	12	33.97
N18	Buckby Wharf	Suburban / Rural	N	N	12	25.60
N19	School Lane, Naseby	Rural	N	N	12	15.20
N20	39 High Street, Welford	Rural	N	N	12	23.04
N21	A45, Weedon	Roadside	N	N	12	18.55
N22	A45, Flore	Roadside	N	N	12	18.61

In bold, exceedance of the NO<sub>2</sub> annual mean AQS objective of 40 $\mu\text{g}/\text{m}^3$

Table 2.6 below demonstrates the air quality results for the five year period from 2008 – 2012. There are no clear trends identified from this data, as there are increases and decreases noted at varying locations.

**Table 2.6 Results of NO<sub>2</sub> Diffusion Tubes (2008 to 2012)**

Site ID	Site Type	Within AQMA?	Annual Mean Concentration (µg/m <sup>3</sup> ) - Adjusted for Bias <sup>a</sup>				
			2008 (Bias Adjustment Factor = XX)	2009 (Bias Adjustment Factor = XX)	2010 (Bias Adjustment Factor = XX)	2011 (Bias Adjustment Factor = 0.89)	2012 (Bias Adjustment Factor = 0.87)
N1	A361 Roundabout Byfield K	N	22.0	20.9	20.6	21.72	19.78
N2	Church Street, Byfield UB	N	16.2	16.2	18.9	15.55	13.62
N3	A361, Kilsby	N	N/A	N/A	N/A	27.09	25.09
N4	A428, Roundabout, West Haddon K	N	22.7	24.0	24.4	20.99	21.93
N5	Watford Road, West Haddon S/R	N	23.0	21.5	25.5	22.65	22.85
N6	Morrison Road, West Haddon B	N	17.7	18.1	17.8	15.58	16.52
N7	Post Office, Moulton K	N	24.7	26.0	29.3	30.26	25.42
N8	Church Street, Moulton B	N	17.7	18.8	19.1	21.68	16.66
N9	New Street, Daventry K	N	30.4	29.4	28.9	28.06	22.81
N10	London Road, Daventry K	N	19.5	20.9	22.7	18.14	19.27
N11	Inlands, Daventry S	N	18.3	18.2	21.5	15.77	18.54
<b>N12</b>	<b>M1 Lilbourne (Kerbside to M1)</b>	<b>N</b>	<b>88.1</b>	<b>80.3</b>	<b>74.0</b>	<b>63.67</b>	<b>67.45</b>

Site ID	Site Type	Within AQMA?	Annual Mean Concentration ( $\mu\text{g}/\text{m}^3$ ) - Adjusted for Bias <sup>a</sup>				
			2008 (Bias Adjustment Factor = XX)	2009 (Bias Adjustment Factor = XX)	2010 (Bias Adjustment Factor = XX)	2011 (Bias Adjustment Factor = 0.89)	2012 (Bias Adjustment Factor = 0.87)
N13	Horsepool, Lilbourne (Background to M1)	N	23.1	21.5	25.4	26.61	21.11
N14	Haythog Farm, Crick (kerbside to M1)	N	<b>47.1</b>	36.7	37.7	<b>40.91</b>	35.12
N15	Haythog Farm Crick (Background to M1)	N	35.9	32.3	30.3	30.95	32.01
N16	Haythog Farmhouse	N	40.3	34.0	29.5	30.90	29.57
N17	Buckby Wharf (Kerbside to M1)	N	35.9	31.7	40.7	24.71	33.97
N18	Buckby Wharf (Background to M1)	N	32.5	28.3	29.6	23.86	25.60
N19	School Lane, Naseby B	N	15.9	17.3	18.5	17.93	15.20
N20	39 High Street Welford B	N	22.3	22.0	27.8	21.95	23.04
N21	A45, Windsor Close, Weedon	N	N/A	19.2	25.0	20.15	18.55
N22	A45, Spring Lane, Flore	N	N/A	20.4	24.4	21.21	18.61

In bold, exceedance of the NO<sub>2</sub> annual mean AQS objective of 40 $\mu\text{g}/\text{m}^3$

### **2.2.2 Particulate Matter (PM<sub>10</sub>)**

There is currently no monitoring of PM<sub>10</sub> within Daventry District. There were no reported exceedances of the annual mean concentration value for PM<sub>10</sub> nationally during 2012<sup>(2)</sup>. Therefore it is likely that there would be no measured exceedances of PM<sub>10</sub> objectives in Daventry district and no need for this monitoring to be carried out.

### **2.2.3 Sulphur Dioxide (SO<sub>2</sub>)**

There is currently no continuous or indicative monitoring of sulphur dioxide within Daventry district. Sulphur dioxide concentrations measured during 2012 at all sites within the UK automatic monitoring network including busy roadside sites met the AQS objective for 2012 in relation to 1-hour and 24 hour mean concentrations<sup>(2)</sup>. There were no reported exceedances of the 15-minute, hourly or daily AQS objectives at sites within the East Midlands. Daventry district does not have any history of coal mining where solid fuel usage would have been likely to be used as a means of heating rather than natural gas.

### **2.2.4 Benzene**

Daventry District Council did monitor Benzene from 2002 to 2008 at five sites across the district. Levels were consistently significantly below the 2010 objective of 5µg/m<sup>3</sup>. Monitoring of Benzene is therefore no longer undertaken by Daventry District Council.

### **2.2.5 Other Pollutants Monitored**

Daventry District Council does not monitor any other pollutants.

## **Summary of Compliance with AQS Objectives**

Daventry District Council has examined the results from monitoring in the district. Concentrations are all below the objectives. The only site which exceeds the annual mean objective is kerbside to the M1 and does not have relevant public exposure; therefore there is no need to proceed to a Detailed Assessment.

### **3 New Local Developments**

There were additional residential properties built at the Middlemore housing estate in Daventry, but these would number around 100 and have no impact on air quality objectives.

There has been no significant development in Daventry District in 2012.

#### **3.1 Road Traffic Sources**

There are no new or newly identified road traffic sources within Daventry District in 2012.

#### **3.2 Other Transport Sources**

There are no new or newly identified non-road traffic sources within Daventry District in 2012.

#### **3.3 Industrial Sources**

There are no new or newly identified industrial sources within Daventry District in 2012.

#### **3.4 Commercial and Domestic Sources**

There are no newly identified commercial or domestic sources of significance within Daventry District in 2012.

#### **3.5 New Developments with Fugitive or Uncontrolled Sources**

There are no new or newly identified fugitive or uncontrolled sources within Daventry District in 2012.

#### **3.6 Conclusions – New Local Developments**

Daventry District 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.

Daventry District Council confirms that all the following have been considered:

- **Road traffic sources**
- **Other transport sources**
- **Industrial sources**
- **Commercial and domestic sources**
- **New developments with fugitive or uncontrolled sources.**

## **4 Local / Regional Air Quality Strategy**

Daventry District Council does not have a local air quality strategy, nor is it intended to write one in the near future. It is not felt that this is required at the current time, due to low levels of pollutants within the district.

## **5 Planning Applications**

There have been no major planning applications approved within Daventry District for 2012. However, there is an approved permission in place for a large development of 1000 houses in Daventry, known as Monksmoor, which is expected to commence in 2013. A diffusion tube will be relocated in 2013 to monitor air quality in this location prior to, during and after development.

Applications for a large supermarket and commercial development are expected in 2013 in Daventry town centre which may impact upon local air quality.



## **6 Conclusions and Proposed Actions**

### **6.1 Conclusions from New Monitoring Data**

Further monitoring will be continued for Nitrogen Dioxide at key locations in the district.

Levels of NO<sub>2</sub> at Haythog Farmhouse will be closely monitored as this property is the closest to the M1 in the District, and is the only occupied property which receives relatively high levels of NO<sub>2</sub>. Levels at other monitoring sites are either not representative of nearby receptors or are well below the 40 µg/m<sup>3</sup> Annual mean.

Across the district the results of air quality monitoring for 2012 is very similar to that for 2011. There are no marked increases or decreases although there are minor variations in some locations. A review of the diffusion tube locations is to be carried out in 2013. .

### **6.2 Conclusions relating to New Local Developments**

There are no significant local developments identified in 2012 which will require consideration in the next Updating and Screening Assessment – although there may be some in 2013.

There is no need for a Detailed Assessment for any of the proposed developments to date.

### **6.3 Other Conclusions**

The expected application for a supermarket and commercial development in the town centre may require relocation of some diffusion tubes; however this will be addressed in the 2013 progress report.

The 2012 report has identified a stable air quality situation within the Daventry District when compared to results from 2011. There are no significant increases or decreases in levels across the district, although there are slight variations. This

report provides an update on air quality monitoring and local developments in line with the required guidance.

The report compares new monitoring data from 2012 against the relevant Air Quality Objectives. The conclusions are that no further investigation is required for

Nitrogen Dioxide

Carbon Monoxide

Benzene

1,3-Butadiene

Lead

Sulphur Dioxide

Fine Particles – PM<sub>10</sub>

The report also compares data from the last five years (2008 – 2012), which shows an initial steady improvement in air quality followed by slight upwards and downwards variations dependant on location.

## **6.4 Proposed Actions**

Changes to the location of monitoring sites has been planned for 2013, taking into account anticipated town centre and other developments in Daventry District. With no anticipated rises in traffic at certain locations, a decision has been made to withdraw monitoring at locations which are consistently recording levels well below the criteria. Full details of these changes will be given in the 2013 progress report as there have been no changes made during the 2012 reporting period.

Next course of action: to submit 2013 progress report.

## 7 References

1. Daventry District Area Profile 2013. Published by Daventry District Council, November 2013. Sourced on line
2. Air Pollution in the UK 2012 – Compliance Assessment Summary. Published by DEFRA, September 2013. Accessed online from: <http://uk-air.defra.gov.uk/library/annualreport/index>

# Appendices

Appendix A: Quality Assurance / Quality Control (QA/QC) Data

## Appendix A: QA:QC Data

### Diffusion Tube Bias Adjustment Factors

#### Factor from Local Co-location Studies (if available)

Daventry District Council has not carried out any co-location studies.

### Diffusion Tube Bias Adjustment Factors

Diffusion tubes require a bias factor to be determined to ensure the accuracy of the measurements. This is done by co-location of tubes with a continuous analyser or that tubes are in triplicate at the measurement location so to improve precision and accuracy in the results. However bias of diffusion tubes is largely associated with the laboratory and preparation method used. The bias correction factor for monthly exposure of Gradko tubes made up with 20% TEA in water is calculated each year available at the UWE helpdesk web site

<http://www.uwe.ac.uk/aqm/review/R&Asupport/diffusiontube050509.xls>

The bias adjustment factors used for the NO<sub>2</sub> diffusion tube results are listed below

Year	Bias adjustment factor
2010	Unknown
2011	0.89
2012	0.87

#### Factor from Local Co-location Studies (if available)

Daventry District Council do not co locate any diffusion tubes.

### Discussion of Choice of Factor to Use

The national bias adjustment factors have been used. The 0.87 bias figure was derived from the national figures provided by Gradko.