







BOURNEMOUTH BOROUGH COUNCIL

2011 AIR QUALITY PROGRESS REPORT

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Executive Summary

Part IV of the Environment Act 1995 places a statutory duty on local authorities to review and assess the air quality within their area and take account of Government Guidance when undertaking such work. This Progress Report is a requirement of the Fourth Round of Review and Assessment and is a requirement for all local authorities. The report is submitted within the permitted schedule of reporting - end of April 2011. The Report has been undertaken in accordance with the Technical Guidance LAQM.TG (09) and associated tools (as updated in 2010).

This Progress Report considers all new monitoring data and assesses the data against the Air Quality Strategy (AQS) Objectives. It also considers any development changes that may have an impact on air quality as well as updating on any relevant strategy and policy changes.

Having considered the latest monitoring data and development updated, it is concluded that the air quality objectives for benzene, 1, 3-butadiene, carbon monoxide, lead, NO₂, PM₁₀ and sulphur dioxide will be met. There is no requirement to undertake a Detailed Assessment for these pollutants.

Proposed actions from this Progress Report are as follows:

- Continue monitoring within the AQMA and if possible extend the monitoring network around the AQMA.
- Continue monitoring at all other locations within the Borough.

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1 Introduction

1.1 Description of Local Authority Area

The Borough of Bournemouth is situated in Dorset on the south coast of England. The Borough, which serves the coastal town of Bournemouth, is urbanised in nature.

The local economy is dominated by the tourist and the banking and finance sectors. There is little remaining “heavy” industry in Bournemouth and any potentially polluting industrial and commercial processes are regulated under the Pollution, Prevention and Control Act 1999. The main source of air pollution in the district continues to be road traffic emissions from major roads, whilst other pollution sources, including commercial, industrial and domestic sources, also make a contribution to background pollution concentrations.

An Air Quality Management Area (AQMA) was declared in May 2006 at Wimborne Road, Winton, where exceedences of the annual mean Objective for nitrogen dioxide (NO₂) were predicted.

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. 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 includes the number of permitted exceedences in any given year (where applicable).

Table 1 - Air Quality Strategy objectives included in Regulations for the purpose of LAQM in England.

Pollutant	Objective		Date to be Achieved by
	Concentration	Measured as	
Benzene (C ₆ H ₆)	16.25 µg/m ³	Running annual mean	31.12.2003
	5.00 µg/m ³	Running annual mean	31.12.2010
1,3-Butadiene (C ₄ H ₆)	2.25 µg/m ³	Running annual mean	31.12.2003
Carbon Monoxide (CO)	10.0 mg/m ³	Running 8-hour mean	31.12.2003
Lead	0.5 µg/m ³	Annual mean	31.12.2004
	0.25 µg/m ³	Annual mean	31.12.2008
Nitrogen Dioxide (NO ₂)	200 µg/m ³ , not to be exceeded more than 18 times a year	1-hour mean	31.12.2005
	40 µg/m ³	Annual mean	31.12.2005
Particles (PM ₁₀) (gravimetric)	50 µg/m ³ , not to be exceeded more than 35 times a year	24-hour mean	31.12.2004
	40 µg/m ³	Annual mean	31.12.2004
Sulphur Dioxide (SO ₂)	350 µg/m ³ , not to be exceeded more than 24 times a year	1-hour mean	31.12.2004
	125 µg/m ³ , not to be exceeded more than 3 times a year	24-hour mean	31.12.2004
	266 µg/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

Bournemouth Borough Council undertook its first round of Review and Assessment between 1998 and 2002, which concluded that all air quality objectives would be met across the Borough.

The first phase of the second round of Review and Assessment, the USA, was completed in 2003. The USA concluded that the Council should complete a Detailed Assessment for predicted exceedences of the NO₂ annual mean objective at Wimborne Road in Winton.

The Detailed Assessment, completed in 2005, confirmed that the NO₂ annual mean objective would be exceeded at the Wimborne Road, Winton. The Detailed Assessment recommended that further NO₂ diffusion tube monitoring be carried out at several sites in the Wimborne Road area and south of the Talbot Road/Wimborne Road junction. In Addition, the Detailed Assessment concluded that the Council should consider declaring an AQMA to include the facades of buildings from the junction of Wimborne Road and Calvin Road, to the junction of Talbot Road and Wimborne Road. An AQMA was declared in May 2006.

In 2006, the Council completed the first phase of the third round of Review and Assessment with a new USA. The 2006 USA concluded that no Detailed Assessment was required for benzene, 1,3-butadiene, carbon monoxide, lead, particles or sulphur dioxide. However, the Council identified several exceedences of the NO₂ annual mean AQS objective and it was recommended that a Detailed Assessment be carried out in 11 areas of Bournemouth. It was advised that this assessment be completed during 2008/2009.

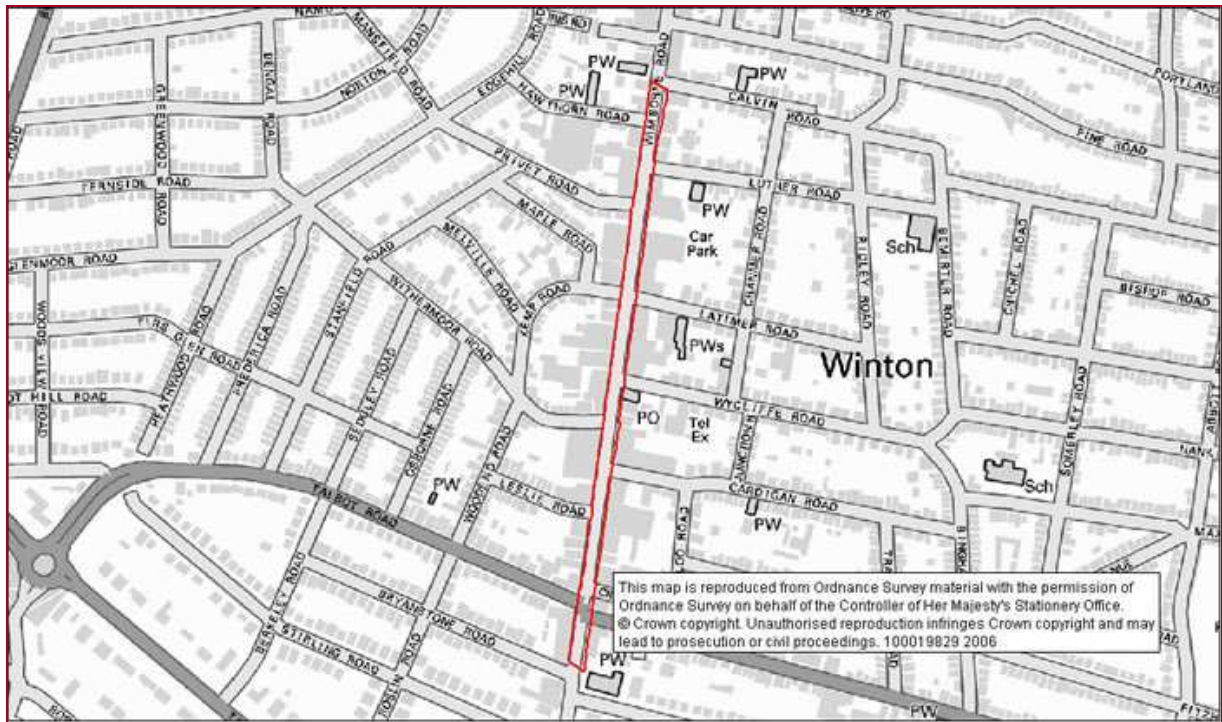
In 2008, the Council completed an Annual Progress Report (APR), before the planned Detailed Assessment. The APR confirmed that the relevant AQS objectives for carbon monoxide, benzene, 1,3 butadiene, lead, sulphur dioxide and particles would be met within Borough. With regard to NO₂, it was concluded that the 1-hour mean AQS objective would be met, however, it was concluded that the NO₂ annual mean AQS objective remained likely to be exceeded at 10 of the 11 sites identified for Detailed Assessment in Bournemouth Borough Council's 2006 USA report. As such, the APR confirmed that a Detailed Assessment should be undertaken for the NO₂ annual mean AQS objective at these sites.

The Detailed Assessment was completed in February 2009 for these 10 sites, and concluded that exceedence of the NO₂ annual mean AQS objective at nearby properties was unlikely. Therefore, there was no need to declare any new AQMA's in Bournemouth.

In November 2009, the Council completed a Detailed Assessment Update (Further Assessment) for the Wimborne Road AQMA. The purpose of the assessment was to update the 2005 Detailed Assessment to identify whether or not the current extent of the AQMA in Winton was appropriate and to inform the necessity to extend or maintain the AQMA, or look to revoke its status. The assessment concluded that the AQMA should remain and recommended that further NO₂ diffusion tube monitoring in the area.

The 2009 Updating Screening and Assessment and 2010 Annual Progress Report were produced as one combined report. This report concluded that the AQS objectives for all pollutants would be met within Bournemouth Borough. Some additional monitoring requirements were identified along the B3063 through the screening of traffic sources. Therefore there was no need to proceed to Detailed Assessment.

Figure 1 - Map of AQMA – Wimborne Road, Winton



2 New Monitoring Data

2.1 Summary of Monitoring Undertaken

This section provides details of monitoring carried out in 2010, the year covered by this report.

No changes were made to monitoring sites since 2009 (as reported in the 2009 USA/2010 Annual Progress Report).

2.1.1 Automatic Monitoring Sites

There is currently automatic monitoring of nitrogen dioxide, particulates (PM_{2.5}) and ozone undertaken by the Council at one location in the area, Bournemouth Automatic Urban and Rural Network (AURN) background site.

Figure 2 - Map of Monitoring Sites in Bournemouth Borough

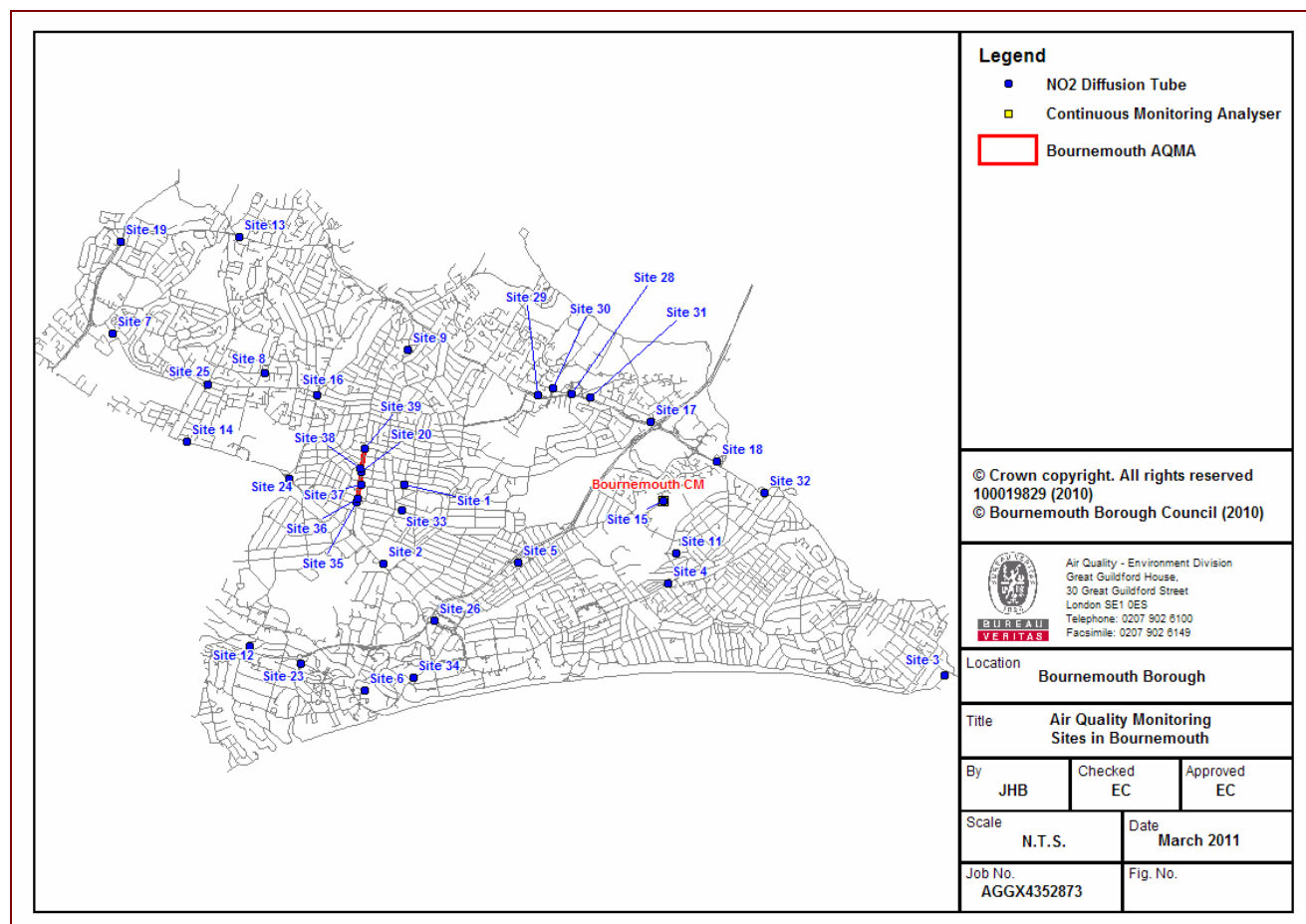


Table 2 - Details of Automatic Monitoring Sites

Site Name	Site Type	OS Grid Reference (X,Y)	Pollutants Monitored	In AQMA ?	Relevant Exposure? (Y/N with distance (m) to relevant exposure)	Distance to Kerb of Nearest Road (m) (N/A if not applicable)	Worst-Case Location?
Bournemouth AURN	Urban Background	X 412321 Y 93345	NO _x , PM _{2.5} , O ₃	N	N	48	N

2.1.2 Non-Automatic Monitoring

The Council undertook monitoring at 35 NO₂ passive diffusion tubes sites in 2010. The diffusion tubes are supplied and analysed by Rotherham MBC / South Yorkshire laboratories utilising the 50% Triethanolamine (TEA) in acetone preparation method. The methods meet the guidelines set out in Defra's report "Diffusion Tubes For Ambient NO₂ Monitoring: Practical Guidance"¹.

With regard to the application of a bias adjustment factor for the diffusion tubes, both local and national bias factors can be used, as indicated on Defra's air quality LAQM Support website².

Previous bias factors used to correct 2006-2009 diffusion tube data were based on the national bias factor, which is calculated from the results of many co-location studies (using the same laboratory and tube preparation method). In 2008 the council set up a co location study at their continuous monitoring site. However due to low data capture in 2010 this study can not be used to produce a bias adjustment factor at this time. Therefore, in order to be consistent with the Council's previous LAQM reports, the national bias factor (of 0.88 for 2010 based on 5 studies) for the relevant laboratory and preparation method was used for this assessment. However as, the Council now has the possibility to use a local bias factor, future LAQM reports will consider both possibilities for the adjustment of NO₂ diffusion tubes.

The diffusion tubes are currently exposed over a 4-week period. Although not compulsory, Technical Guidance LAQM.TG(09) recommends the use of the calendar of suggested exposure periods for LAQM monitoring. This calendar, published by Defra for NO₂ diffusion tube monitoring³, suggests alternate exposure periods of 4 / 5 weeks.

As over the past few years, the diffusion tube results have been adjusted based on the national bias factor, it is especially recommended that the Council follow this calendar for future monitoring to be consistent with national diffusion tube surveys.

¹ Available at http://laqm.defra.gov.uk/documents/0802141004_NO2_WG_PracticalGuidance_Issue1a.pdf

² <http://laqm.defra.gov.uk/tools-monitoring-data/year-adjustment.html>

³ <http://laqm.defra.gov.uk/diffusion-tubes/data-entry.html>

Table 3 - Details of Non- Automatic Monitoring Sites

Site No.	Location	Site Type	X	Y	Pollutant Monitored	In AQMA ?	Relevant Exposure? (Y/N with distance (m) to relevant exposure)	Distance to Kerb of Nearest Road (m) (N/A if not applicable)	Worst-Case Location ?
1	Somerley Road	R	409166	93539	NO ₂	N	Y - 3.6	1.4	Y
2	Cemetery	UB	408922	92579	NO ₂	N	Y - 0	7	N
3	Hengistbury (Southbourne Coast Road)	R	415747	91224	NO ₂	N	Y- 27	2	Y
4	Christchurch Road (Pokesdown)	R	412386	92337	NO ₂	N	Y – 1.3	1.2	Y
5	Capstone Place	K	410562	92604	NO ₂	N	Y – 5.5	0	Y
6	Lower Gardens	UB	408689	91035	NO ₂	N	N - 44	N/A	N
7	Turbary Park Avenue	R	405626	95384	NO ₂	N	Y- 13	1.7	Y
8	Howeth Road	K	407471	94908	NO ₂	N	Y- 15	0.5	Y
9	Lystra Road	R	409215	95182	NO ₂	N	Y - 4.6	2.2	Y
11	Kings Park Drive	R	412486	92712	NO ₂	N	Y – 3.5	1	Y
12	Surrey Gardens	R	407295	91577	NO ₂	N	Y - 10	3	Y
13	Wimborne Road (Kinson)	R	407160	96559	NO ₂	N	Y – 6	2	Y
14	Wallisdown Road	K	406530	94069	NO ₂	N	Y – 7	0.4	Y
15	AQMU Portchester Sch (Harewood Ave)	UB	412319	93340	NO ₂	N	N - 48	N/A	N
16	Boundary Road	R	408110	94630	NO ₂	N	Y – 13	2.6	Y
17	Castle Lane West (Cooper Dean)	R	412175	94308	NO ₂	N	Y- 10	3.1	Y
18	Castle Lane East (Tesco's)	R	412977	93821	NO ₂	N	Y - 31	4	Y

Site No.	Location	Site Type	X	Y	Pollutant Monitored	In AQMA ?	Relevant Exposure? (Y/N with distance (m) to relevant exposure)	Distance to Kerb of Nearest Road (m) (N/A if not applicable)	Worst-Case Location ?
19	Ringwood Road	R	405720	96496	NO ₂	N	Y - 31	1.5	Y
20	Wimborne Road (Winton)	R	408640	93695	NO ₂	Y	Y – 3.3	1.1	Y
23	Cambridge Road	K	407913	91369	NO ₂	N	Y - 31	0.5	Y
24	Talbot Avenue (Boundary Road Roundabout)	K	407772	93616	NO ₂	N	Y- 26	0	Y
25	Kinson Road (Columbia Road Junction)	R	406775	94758	NO ₂	N	Y- 5	1	Y
26	St Pauls Road (Roundabout)	K	409533	91884	NO ₂	N	Y - 16	0.6	Y
28	Castlepoint (Castle Lane West)	R	411211	94652	NO ₂	N	Y – 8.5	9.5	N
29	Castlepoint West (Castle Lane West)	R	410803	94627	NO ₂	N	Y - 20	2	Y
30	Yeomans Road	R	410977	94716	NO ₂	N	Y - 14	3	Y
31	Castlepoint East (Castle Lane West)	R	411432	94600	NO ₂	N	Y - 11	2	Y
32	Iford Bridge Roundabout (Christchurch)	R	413556	93440	NO ₂	N	Y – 8.3	2	Y
33	Alma Road	R	409146	93228	NO ₂	N	Y – 5.6	1	Y
34	Bath Road	R	409286	91190	NO ₂	N	Y – 12.4	1.5	Y
35	299 Wimborne Road	R	408588	93329	NO ₂	Y	Y – 2.5	1	Y
36	Wimborne Road Junction	K	408606	93374	NO ₂	Y	Y – 4.3	0	Y

Site No.	Location	Site Type	X	Y	Pollutant Monitored	In AQMA ?	Relevant Exposure? (Y/N with distance (m) to relevant exposure)	Distance to Kerb of Nearest Road (m) (N/A if not applicable)	Worst-Case Location ?
37	Cardigan Road	K	408649	93542	NO ₂	N	Y- 2.5	0	Y
38	Kemp Road	K	408631	93744	NO ₂	N	Y – 1.6	0	Y
39	Wimborne Road Lib Club	K	408691	93979	NO ₂	Y	Y – 7.2	0	Y

(K = Kerbside, R = Roadside, UB = Urban background)

2.2 Comparison of Monitoring Results with Air Quality Objectives

2.2.1 Nitrogen Dioxide (NO₂)

2.2.1.1 Automatic Monitoring Data – AURN Bournemouth Background Site

Automatic monitoring at the AURN Bournemouth Background Site had good data capture (99%) in 2010. The results showed that no exceedences of the AQS objectives were recorded.

Table 4 - Results of Automatic Monitoring for Nitrogen Dioxide: Comparison with Annual Mean Objective

Location	Within AQMA?	Data Capture for Monitoring Period %	Data Capture for Full Calendar Year 2010 %	Annual Mean Concentrations (µg/m ³)		
				2008	2009	2010
AURN Bournemouth Background Site	N	99	99	15.2	16.5	17.8

In bold, exceedence of the NO₂ annual mean AQS objective of 40µg/m³

Table 5 - Results of Automatic Monitoring for Nitrogen Dioxide: Comparison with 1-hour Mean Objective

Location	Within AQMA?	Data Capture for Monitoring Period %	Data Capture for Full Calendar Year 2010 %	Number of Hourly Means >200 µg/m ³ *		
				2008	2009	2010
AURN Bournemouth Background Site	N	99	99	0	0	0

In bold, exceedence of the NO₂ hourly mean AQS objective (200 µg/m³ – not to be exceeded more than 18 times per year)

* If the period of valid data is less than 90% of a full year, the 99.8th percentile of hourly means is shown in brackets

2.2.1.2 Diffusion Tube Monitoring Data

The nitrogen dioxide diffusion tube data are summarised in Table 6 below. The full dataset (period mean values) are included in Appendix B.

In 2010 there were seven diffusion tube results that exceeded the annual mean NO₂ objective. Four of these sites are outside of the current Wimbourne AQMA. Sites outside of the AQMA that are over the annual mean objective are:

- Site 23 – Cambridge Road (42.9 µg/m³)
- Site 25 – Kinson Road (42.6 µg/m³)
- Site 26 – St Pauls Road (44.1 µg/m³)
- Site 34 – Bath Road (44.1 µg/m³)

These sites have been considered using the NO₂ fall off with distance calculator⁴ provided by Defra on the LAQM Support website.

- Site 23 – Cambridge Road predicted result at façade is 23.1 µg/m³
- Site 25 – Kinson Road predicted result at façade is 33.0 µg/m³
- Site 26 – St Pauls Road predicted result at façade is 27.0 µg/m³
- Site 34 – Bath Road predicted result at façade is 30.3 µg/m³

After using the fall off with distance calculator all of the results are below the annual mean objective for NO₂ therefore there is no need to progress to Detailed Assessment at this point.

Table 6 - Results of Nitrogen Dioxide Diffusion Tubes

Site ID	Location	Within AQMA?	2010 % Data Capture	Annual Mean Concentrations (µg/m ³) Adjusted For Bias				
				2006 (Bias Factor: 0.99)	2007 (Bias Factor: 0.85)	2008 (Bias Factor: 0.90)	2009 (Bias Factor: 0.91)	2010 (Bias Factor: 0.88)
1	Somerley Road	N	100	20.3	18.7	16.5	16.6	19.2
2	Cemetery	N	92	25.4	23.7	21.5	23.3	24.6
3	Hengistbury (Southbourne Coast Road)	N	100	18.4	16.3	14.7	14.2	17.5

⁴ Available at <http://laqm.defra.gov.uk/tools-monitoring-data/no2-falloff.html>

Site ID	Location	Within AQMA?	2010 % Data Capture	Annual Mean Concentrations ($\mu\text{g}/\text{m}^3$) Adjusted For Bias				
				2006 (Bias Factor: 0.99)	2007 (Bias Factor: 0.85)	2008 (Bias Factor: 0.90)	2009 (Bias Factor: 0.91)	2010 (Bias Factor: 0.88)
4	Christchurch Road (Pokesdown)	N	100	38.7	33.0	31.4	31.0	35.9
5	Capstone Place	N	100	27.5	24.8	24.3	22.5	25.6
6	Lower Gardens	N	92	23.8	20.9	18.7	17.4	20.2
7	Turbary Park Avenue	N	100	30.8	26.0	26.5	26.4	28.3
8	Howeth Road	N	100	22.4	20.7	20.1	19.0	21.8
9	Lystra Road	N	100	20.3	17.5	17.3	15.7	17.9
11	Kings Park Drive	N	100	18.0	16.2	16.3	16.0	17.1
12	Surrey Gardens	N	100	22.0	18.8	17.9	18.3	20.0
13	Wimborne Road (Kinson)	N	100	40.8	34.9	33.2	32.7	36.0
14	Wallisdown Road	N	100	41.8	36.1	36.4	35.4	39.3
15	AQMU Portchester Sch (Harewood Ave)	N	100	18.2	15.2	14.7	13.4	16.2
16	Boundary Road	N	100	29.4	26.0	24.3	23.1	28.2
17	Castle Lane West (Cooper Dean)	N	77	40.4	33.6	34.3	32.3	33.4
18	Castle Lane East (Tesco's)	N	100	37.1	32.8	31.2	33.2	35.7
19	Ringwood Road	N	100	27.3	22.5	21.5	22.3	25.4
20	Wimborne Road (Winton)	Y	100	46.8	38.3	37.9	39.7	46.2
23	Cambridge Road	N	100	40.5	37.6	38.1	36.4	42.9
24	Talbot Avenue (Boundary Road Roundabout)	N	100	38.9	34.9	34.6	35.2	39.7
25	Kinson Road (Columbia Road Junction)	N	100	41.7	36.2	36.6	36.9	42.6
26	St Pauls Road (Roundabout)	N	100	40.6	38.6	39.8	37.6	44.1

Site ID	Location	Within AQMA?	2010 % Data Capture	Annual Mean Concentrations ($\mu\text{g}/\text{m}^3$) Adjusted For Bias				
				2006 (Bias Factor: 0.99)	2007 (Bias Factor: 0.85)	2008 (Bias Factor: 0.90)	2009 (Bias Factor: 0.91)	2010 (Bias Factor: 0.88)
28	Castlepoint (Castle Lane West)	N	100	35.0	28.1	29.5	28.0	30.3
29	Castlepoint West (Castle Lane West)	N	92	30.3	28.5	28.8	27.7	30.8
30	Yeomans Road	N	92	33.7	28.1	29.7	30.0	31.1
31	Castlepoint East (Castle Lane West)	N	100	37.3	38.1	36.0	35.0	37.1
32	Iford Bridge Roundabout (Christchurch)	N	92	41.4	35.8	35.5	33.5	36.1
33	Alma Road	N	100	34.2	31.2	30.9	28.7	34.9
34	Bath Road	N	100	47.1	37.4	40.0	35.9	44.1
35	299 Wimborne Road	Y	92	-	37.9	35.2	33.9	42.2
36	Wimborne Road Junction	Y	100	-	39.7	37.6	37.2	43.5
37	Cardigan Road	N	92	-	28.5	25.5	25.0	29.9
38	Kemp Road	N	100	-	24.5	24.4	23.8	28.8
39	Wimborne Road Lib Club	Y	100	-	35.8	32.7	33.6	35.9

In bold, exceedence of the NO_2 annual mean AQS objective of $40\mu\text{g}/\text{m}^3$

2.2.2 Particulates

There was no PM₁₀ carried out within Bournemouth Borough in 2010. All previous LAQM reports have identified that there is no predicted likely exceedence of the PM₁₀ AQS objectives.

PM_{2.5} is monitored at the AURN background site. PM_{2.5} objectives have been set out in the UK Air Quality Regulations. Although there is no requirement for local authorities to review and assess PM_{2.5} against these objectives as part of the LAQM regime, results have been reported as recommended by Technical Guidance LAQM.TG(09).

The PM_{2.5} results indicate that levels are well below the target value of 25µg/m³ in 2010.

Table 7 - Results of Automatic Monitoring for Particulates (PM_{2.5})

Location	Within AQMA?	PM _{2.5} Annual Mean *
Bournemouth AURN Background	No	9
* As a comparison, the UK Air Quality Standard objective for PM _{2.5} is 25µg/m ³ (target value) for England		

2.2.3 Ozone (O₃)

Continuous monitoring of O₃ is undertaken by Bournemouth Borough Council at the Bournemouth AURN Background monitoring site. Ozone is a transboundary pollutant; the sources of ozone are frequently spatially distant from the measured site of the concentrations. This pollutant is not a prescribed air quality objective for LAQM purposes.; however, it has been reported as recommended by Technical Guidance LAQM.TG(09).

The results from 2010 indicate the objective for ozone is being met, although the number of 8-hour means > 100 µg/m³ was close to the maximum of 10 exceedences allowed per year.

Table 8 - Results of Automatic Monitoring for Ozone: Comparison with Objectives

Location	Within AQMA?	Description	% Data capture 2010	Number of Exceedences in 2010
Bournemouth AURN Background	No	Maximum 8-hour running mean > 100 µg/m ³	99	8

In bold, exceedence of the ozone AQS objective (100µg/m³ 10 exceedences allowed per year)

2.2.4 Summary of Compliance with AQS Objectives

Results from the monitoring sources within the borough have been assessed and the majority are below the ASQ objectives. Monitoring within the AQMA is still showing exceedences of the objectives for NO₂. No sites outside of the AQMA are exceeding the air quality objectives.

Bournemouth has examined the results from monitoring in the borough. Concentrations are all below the objectives, therefore there is no need to proceed to a Detailed Assessment.

3 New Local Developments

3.1 Road Traffic Sources

The council confirm that there have been no new road sources added in the borough since the last round of Review and Assessment.

3.2 Other Transport Sources

The council confirm that there have been no new other transport sources added in the borough since the last round of Review and Assessment.

3.3 Industrial Sources

The council confirm that there have been no new industrial sources added in the borough since the last round of Review and Assessment.

3.4 Commercial and Domestic Sources

The council confirm that there have been no new commercial sources added in the borough since the last round of Review and Assessment.

3.5 New Developments with Fugitive or Uncontrolled Sources

Bournemouth Borough Council has not identified any fugitive or uncontrolled sources.

Bournemouth Borough 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.

4 Local / Regional Air Quality Strategy

Bournemouth Borough Council has not developed a Local Air Quality Strategy and the Borough is not part of any regional strategy.

5 Planning Applications

Bournemouth Borough Council has not identified any planning applications made during 2010.

6 Air Quality Planning Policies

Bournemouth does not currently have any Air Quality Planning Policies.

7 Local Transport Plans and Strategies

Bournemouth is included in the South East Dorset Local Transport Plan 2006-2011 which has been prepared in collaboration with Poole and Dorset County Councils. This report includes some mention of air quality issues within the borough and identifies some potential positive and negative effects that could result from the South East Dorset LTP.

Bournemouth also has the Council's Local Transport Plan that seeks to provide improvements which contribute to meeting the national and local goals. There were no changes during 2010 since the last round of Review and Assessment.

Since April 2011 LTP3 was formally adopted and this defines how we will deliver transport against a number of National Transport objectives related to:

- Supporting Economic Growth
- Reduce Carbon Emissions
- Providing Equality of Opportunity
- Improving Safety, Security & Health (which includes Air Quality)
- Improved Quality of Life

The LTP3 is a joint strategy developed in partnership with Poole and Dorset CC and a copy can be viewed by following this link <http://www.dorsetforyou.com/localtransportplan>

8 Climate Change Strategies

The "Go Green Bournemouth" Climate Change Strategy outlines the boroughs climate change strategies up to 2026. The Strategy outlines at a high level how the Borough will be adapting to climate change, create a low carbon sustainable Bournemouth and how the people and council of Bournemouth can play their part. Air quality is mentioned under Sustainability Weaknesses, highlighting that their *'performance on tranquillity and air quality is low compared with other areas and the density of urban living is considered to be having a negative impact on peoples' physical and mental health'*.

9 Implementation of Action Plans

The AQMA on Wimborne Road has not yet had an action plan released. The recommendations from the detailed assessment (update 2009) have been taken into account with the decision to add more diffusion tubes within the AQMA now being made. It is anticipated that the tubes will be moved to the façades of relevant exposure by the end of August 2011 and will form part of the existing diffusion tube survey carried out across Bournemouth. They will serve to address the current uncertainty regarding the current NO₂ levels which are monitored by diffusion tubes at either kerbside/roadside location's. The results will then be considered with future LAQM reporting to determine whether the AQMA declaration should remain in place. This will then dictate whether the action plan is produced.

In addition to this proposed work the Planning and Transport section will continue to look at ways of improving traffic flow through Wimborne Road. They currently have a plan in place to implement MOVA (Microprocessor Optimised Vehicle Actuation) at the Winton Banks crossroad junction due to the high traffic flow and congestion. The plan will implemented by the end of 2011 and it is hoped that this will contribute to an improvement in air quality in that area.

10 Conclusions and Proposed Actions

10.1 Conclusions from New Monitoring Data

The monitoring data from 2010 showed that for the majority of locations within the Borough the AQS objectives are being met. However within the AQMA there is still an exceedence of the NO₂ annual mean objective at several monitoring sites, which confirms that the AQMA is still required in Wimborne Road. No sites outside of the AQMA are shown to be exceeding any AQS objectives.

10.2 Conclusions relating to New Local Developments

The Council confirmed that there had been no new local developments since the last round of Review and Assessment.

10.3 Proposed Actions

- Continue monitoring within the AQMA and if possible extend the monitoring network around the AQMA.
- Continue monitoring at all other locations within the Borough.

11 References

- Local Air Quality Management Technical Guidance LAQM TG (09)
- Bournemouth 2009 Updating Screening Assessment/ Annual Progress Report
- Bournemouth Go Green Climate Strategy
- Bournemouth Core Strategy
- Bournemouth Local Transport Plan

Appendices

Appendix A - QA:QC Data

Diffusion Tube Bias Adjustment Factors

The diffusion tubes are supplied and analysed by Rotherham MBC / South Yorkshire laboratories utilising the 50% Triethanolamine (TEA) in acetone preparation method. The methods meet the guidelines set out in Defra's report "Diffusion Tubes For Ambient NO₂ Monitoring: Practical Guidance"¹.

A bias adjustment of 0.92 has been derived from the spreadsheet of Diffusion Tube National Bias Adjustment Factors⁵.

Discussion of Choice of Factor to Use

The national bias adjustment factor has been used to correct 2010 diffusion tube raw data. Bournemouth does have a co location study but the co location tubes did not have good data capture in 2010 which is why they have not been used in this assessment.

Short-term to Long-term Data Adjustment

No short to long term data adjustment was required for this assessment.

QA/QC of Automatic Monitoring

QA/QC of automatic monitoring is carried out every six months by AEA. The data ratification reports can be downloaded quarterly from http://ukair.defra.gov.uk/library/reports?section_id=13

QA/QC of Diffusion Tube Monitoring

Tube preparation and analysis follows operating procedure HS/WI/1015 (NO₂). Nitrogen dioxide analysis procedures are compliant with the Diffusion Tubes for Ambient NO₂ Monitoring: Practical Guidance for users and laboratories (February 2008).

⁵ <http://laqm.defra.gov.uk/bias-adjustment-factors/national-bias.html>

Appendix B – Monitoring Data

Table 9 - 2010 Diffusion Tube Monitoring – Monthly Mean Measurements ($\mu\text{g}/\text{m}^3$)

Site	X	Y	Start and End Exposure Period														Bias Adjusted Annual Mean
			07/01/10	04/02/10	04/03/10	01/04/10	29/04/10	27/05/10	24/06/10	22/07/10	19/08/10	16/09/10	14/10/10	11/10/10	09/12/10		
			03/02/10	03/03/10	31/03/10	28/04/10	26/05/10	23/06/10	21/07/10	18/08/10	15/09/10	13/10/10	10/11/10	08/12/10	05/01/11		
SITE 1	409166	93539	34	28	26	22	17	12	12	10	12	19	21	34	37	19.2	
SITE 2	408922	92579	38	35	33	32	24	17	25	13	23	26	29	33	35	24.6	
SITE 3	415747	91224	30	21	19	21	15	16	11	10	12	19	19	32	33	17.5	
SITE 4	412386	92337	57	39	44	50	36	37	31	25	31	54	38	45	43	35.9	
SITE 5	410562	92604	44	31	34	33	26	19	19	20	21	26	33	34	38	25.6	
SITE 6	408689	91035	36	23	15	25	20	15	16	14	17	23	24	35	36	20.2	
SITE 7	405626	95384	43	34	34	35	32	26	31	24	29	34	33	32	31	28.3	
SITE 8	407471	94908	38	29	26	25	22	15	18	14	20	27	27	36		21.8	
SITE 9	409215	95182	35	29	22	21	15	13	11	10	14	17	21	29	28	17.9	
SITE 11	412486	92712	33	22	24	22	14	11	12	9	9	17	18	30	32	17.1	
SITE 12	407295	91577	35	28	24	23	18	15	13	12	17	20	23	32	36	20.0	
SITE 13	407160	96559	51	47	47	36	39	34	36	34	38	37	45	42	46	36.0	
SITE 14	406530	94069	52	48	50	41	43	34	40	35	39	45	46	51	57	39.3	
SITE 15	412319	93340	27	19	35	21	15	11	11	8	10	16	16	25	26	16.2	
SITE 16	408110	94630	38	41	21	36	34	31	25	20	26	31	33	41	40	28.2	
SITE 17	412175	94308	42	36	44	40	29	31	39	30	41	35	41	42	43	33.4	
SITE 18	412977	93821	49		42	39	36	32	37		41	40	41	43	46	35.7	
SITE 19	405720	96496	37	34	34	30	31	26	18	12	25	27	25	40	36	25.4	

Site	X	Y	Start and End Exposure Period													Bias Adjusted Annual Mean
			07/01/10	04/02/10	04/03/10	01/04/10	29/04/10	27/05/10	24/06/10	22/07/10	19/08/10	16/09/10	14/10/10	11/10/10	09/12/10	
			03/02/10	03/03/10	31/03/10	28/04/10	26/05/10	23/06/10	21/07/10	18/08/10	15/09/10	13/10/10	10/11/10	08/12/10	05/01/11	
SITE 20	408640	93695	67	52	56	52	42	46	56	37	28	57	58	63	68	46.2
SITE 23	407913	91369	61	46	48	49	47	45	38	48	39	48	52	55	58	42.9
SITE 24	407772	93616	54	45	44	46	42	40	36	42	37	47	53	48	53	39.7
SITE 25	406775	94758	56	50	50	50	45	42	40	36	41	49	53	62	55	42.6
SITE 26	409533	91884	57	55	54	55	45	38	39	38	49	50	52	62	57	44.1
SITE 28	411211	94652	37	36	38	36	29	25	31	24	32	34	38	42	45	30.3
SITE 29	410803	94627	45	38	41	36	28	26	30	24	37	31	38	38	43	30.8
SITE 30	410977	94716	44	42	39	37	33	30	39	21	30	35	33	38	39	31.1
SITE 31	411432	94600	49	43	38	47	41	29	43	44	39	39	46	44	46	37.1
SITE 32	413556	93440	51	44	24	43	45	39	38	33	38	42	43	45	48	36.1
SITE 33	409146	93228	56	49	42	42	34	31	25	29	29	41	39	50	49	34.9
SITE 34	409286	91190	53	50	42	49	57	51	51	44	41	49	50	58	57	44.1
SITE 35	408588	93329	55	48	51	47	44	41	36	37	32	48	56	67	61	42.2
SITE 36	408606	93374	59	56	50	52	51	41	40	37	40	46	52	59	59	43.5
SITE 37	408649	93542	41	38	40	32	31	25	22	24	24	33	37	49	45	29.9
SITE 38	408631	93744	45	37	34	36	31	25	25	16	26	32	32	44	42	28.8
SITE 39	408691	93979		48	47	41	34	29	32	29	36	41	48	53	51	35.9

In bold, exceedence of the annual mean NO₂ AQS objective of 40µg/m³