



2010 Air Quality Progress Report for North Somerset District Council

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

30 April 2010

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Executive Summary

This is the first Progress Report of the fourth round of Review and Assessment. As the title implies, this report outlines any changes there have been over the past year in emission levels, monitoring sites and locations that may require additional monitoring prior to the next Updating and Screening Assessment (USA) in 2012.

As in previous years road transport remains the main source of local air pollution in the district, industrial emissions continue to decline with the 'moth-balling' or closure of some businesses.

The primary pollutants of nitrogen dioxide, benzene and PM₁₀ continue to comply with their respective objectives at all relevant locations in North Somerset.

No Detailed Assessment is currently required.

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1 Introduction

1.1 Description of Local Authority Area

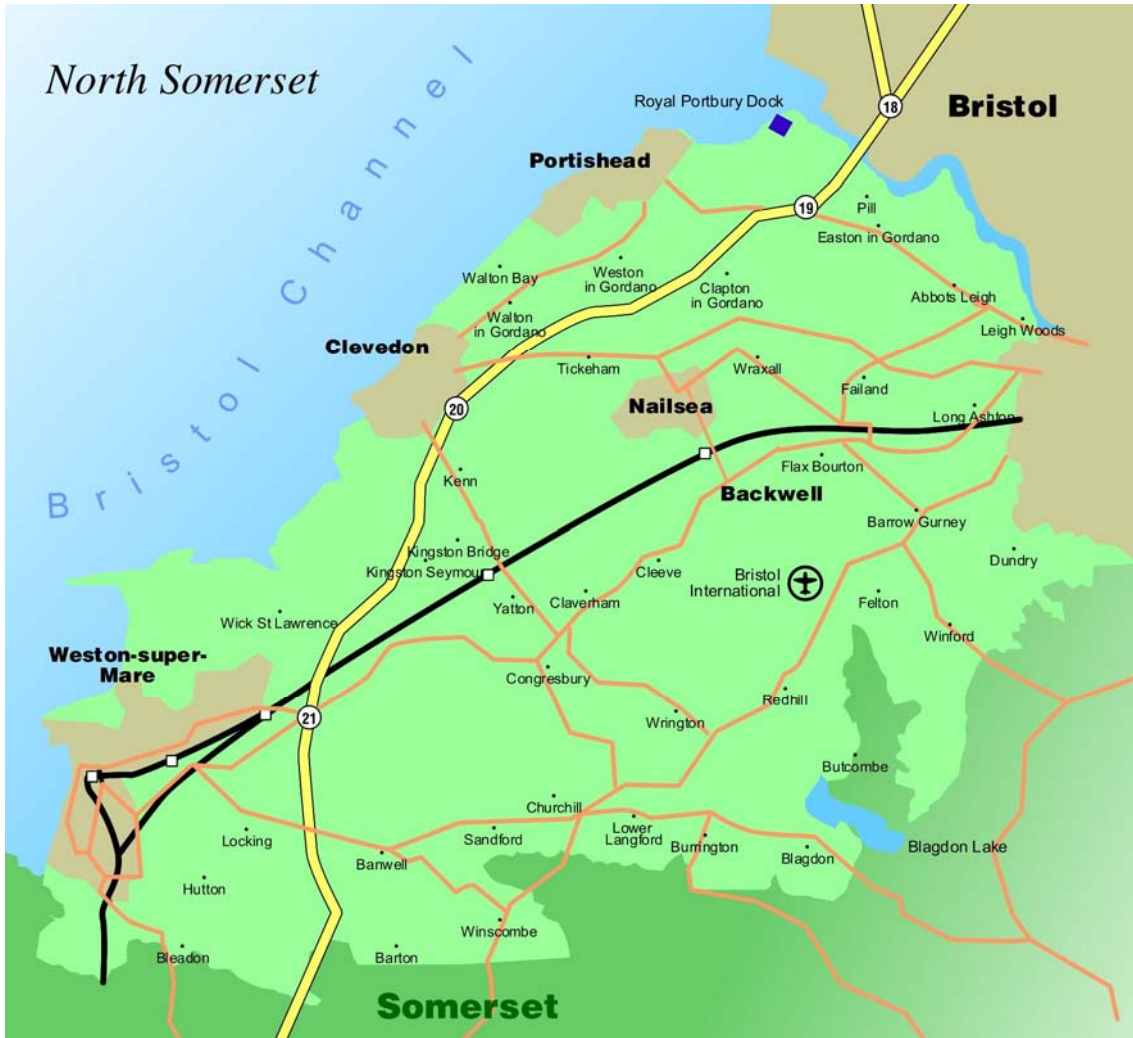


Fig 1 North Somerset

North Somerset covers an area of 145 square miles and is part of the West of England sub-region which includes the unitary authorities of Bristol, Bath and North East Somerset and South Gloucestershire.

North Somerset's boundary stretches from the edge of Bristol and the river Avon in the north to the river Axe and the Mendip Hills in the south. Two thirds of the area is designated as greenbelt or an Area of Outstanding Natural Beauty.

Urban North Somerset includes Nailsea and the coastal towns of Clevedon, Portishead and Weston-super-Mare. The industrial sectors of the district include engineering, manufacturing, food processing, agriculture and tourism. The population in mid June 2009 was estimate at 208,700. The area benefits from good national and international transport links, with an Airport, several main line rail stations, a deep sea port and the M5/M4 motorway networks.

1.2 Purpose of Progress Reports

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

Pollutant	Concentration	Measured as	Date to be achieved by
Benzene	16.25 $\mu\text{g}/\text{m}^3$	Running annual mean	31.12.2003
	5.00 $\mu\text{g}/\text{m}^3$	Running annual mean	31.12.2010
1,3-Butadiene	2.25 $\mu\text{g}/\text{m}^3$	Running annual mean	31.12.2003
Carbon monoxide	10.0 mg/m^3	Running 8-hour mean	31.12.2003
Lead	0.5 $\mu\text{g}/\text{m}^3$	Annual mean	31.12.2004
	0.25 $\mu\text{g}/\text{m}^3$	Annual mean	31.12.2008
Nitrogen dioxide	200 $\mu\text{g}/\text{m}^3$ not to be exceeded more than 18 times a year	1-hour mean	31.12.2005
	40 $\mu\text{g}/\text{m}^3$	Annual mean	31.12.2005
Particles (PM₁₀) (gravimetric)	50 $\mu\text{g}/\text{m}^3$, not to be exceeded more than 35 times a year	24-hour mean	31.12.2004
	40 $\mu\text{g}/\text{m}^3$	Annual mean	31.12.2004
Sulphur dioxide	350 $\mu\text{g}/\text{m}^3$, not to be exceeded more than 24 times a year	1-hour mean	31.12.2004
	125 $\mu\text{g}/\text{m}^3$, not to be exceeded more than 3 times a year	24-hour mean	31.12.2004
	266 $\mu\text{g}/\text{m}^3$, not to be exceeded more than 35 times a year	15-minute mean	31.12.2005

1.4 Summary of Previous Reviews and Assessment

Round	Date	Procedure
Round 1	December 1998	First complete review and assessment as an initial Stage 1 review and assessment
	October 2000	Completion of Stage 2 First review and assessment
	September 2001	Further review and assessment of identified 'hotspots'
	November 2001	Stage 3 draft report Proposed AQMA – Banwell Village
	February 2002	Stage 4 (further monitoring) and confirmation of AQMA – Banwell Village
Round 2	February 2003	Updating and Screening Assessment Revocation of AQMA, June 2003, Banwell
	March 2004	Progress Report, no further action
	March 2005	Progress Report, no further action
Round 3	March 2006	Updating and Screening assessment, no further action
	March 2007	Progress Report, no further action
	March 2008	Progress Report, no further action
Round 4	March 2009	Updating and Screen assessment, no further action

Outcome of last Progress Report 2008

The previous Progress Report indicated that all relevant locations, even those with increased traffic flows, also those locations around the airport gave pollutant levels that met the current air quality objectives.

2 New Monitoring Data

2.1 Summary of Monitoring Undertaken

2.1.1 Automatic Monitoring Sites

North Somerset Council does not carry out automatic monitoring.

2.1.2 Non-Automatic Monitoring

Currently North Somerset operates 40 diffusion tubes for the sampling of nitrogen dioxide. At 30 of these locations the monitoring also includes BTX diffusion tubes for the measuring benzene concentrations.

The full site locations are listed in Table 2.

Table 2 Location of Nitrogen Dioxide and Benzene Diffusion Tubes

Site No	Site Name	OS Grid Ref	Site type	Pollutants monitored	Dist. to kerb of nearest road (m)	Relevant Exposure Y/N (m)	Worst case location Y/N
1	Long Ashton Park & Ride (A370)	X 356169 Y 171227	B	NO ₂ & B	15	NA	NA
2	Portbury (Priory Road)	X 349760 Y 175470	R	NO ₂	4	Y 7	N
3	Clevedon M5 Roundabout (Junc 20)	X 341623 Y 170589	K	NO ₂ & B	2	N 85	Y
4	Ham Green, St Katherines School	X 353070 Y 175103	B	NO ₂ & B	NA	NA	NA
5	Pill (Railway Line)	X 352379 Y 176021	B	NO ₂ & B	NA	NA	NA
6	Portishead , High Street	X 346719 Y 176320	R	NO ₂ & B	5	Y 8	Y
7	Portbury M5 (Junc 19)	X 349781 Y 175420	R	NO ₂ & B	6	N 20	Y
8	Bristol Airport (A38)	X 351210 Y 165328	R	NO ₂	8	Y 14	N
9	Felton Primary School	X 351327 Y 165523	R	NO ₂ & B	8	Y 9	Y
10	Downside Road (Homelea)	X 350928 Y165723	B	NO ₂ & B	20	NA	NA
11	Downside Road (Top 8)	X 351092 Y165875	K	NO ₂ & B	3	Y 4	Y
12	Nailsea, Link Road	X 347599 Y 170899	R	NO ₂ & B	5	Y 6	Y
13	Yatton, High Street	X 343353 Y 165440	R	NO ₂	4	Y 6	Y
14	St Annes School (A370)	X 339748 Y 164207	R	NO ₂ & B	4	Y 10	N
15	Abbots Leigh	X 354326 Y 173541	K	NO ₂ & B	2	Y 3	Y
16	Sheepway	X 349609 Y 175648	R	NO ₂	4	Y 7	N
17	Backwell (A370)	X 348695 Y 168580	R	NO ₂ & B	5	Y 8	Y
18	Churchill (A38)	X 344772 Y 159716	R	NO ₂ & B	5	Y 6	N
19	Congresbury Cross (A370)	X 343 725 Y 163850	R	NO ₂ & B	3	Y 4	Y
20	Congresbury , High Street	X 343825 Y 163709	R	NO ₂	3	Y 4	Y
21	Congresbury, Smallway	X 343733 Y 164122	R	NO ₂	3	Y 6	Y
	WESTON - S - MARE						
22	High Street	X 331960 Y 161253	R	NO ₂ & B	4	Y 5	Y
23	The Boulevard	X 332209 Y161693	R	NO ₂	4	Y 5	Y
24	M5 Roundabout (Junc 21)	X 337825 Y 162560	K	NO ₂ & B	2	N 150	Y
25	Locking Road	X 334093 Y 161596	R	NO ₂ & B	4	Y 8	Y
26	Herulin Way	X 334495 Y 161263	K	NO ₂ & B	2	Y 9	Y
27	Winterstoke Road	X 333297 Y 160497	R	NO ₂ & B	4	Y 12	Y
28	Worle Parkway	X 336632 Y 162648	R	NO ₂ & B	4	Y 13	Y
29	Willow Close (M5 Junc 21)	X 337610 Y162706	R	NO ₂ & B	4	Y 150	N
30	The Drive	X 332919 Y161713	B	NO ₂	7	NA	NA
31	Bedford Road	X 332429 Y 159898	B	NO ₂	8	NA	NA

32	Somerset Avenue	X 336852 Y162114	K	NO ₂ & B	2	N 18	Y
33	Locking Camp	X 337639 Y 159580	R	NO ₂ & B	4	Y 12	Y
	BANWELL VILLAGE						
34	Pedestrian Crossing	X 339701 Y 169176	K	NO ₂	1	Y 16	Y
35	Primary School	X 339705 Y 159169	R	NO ₂ & B	4	Y 8	Y
36	A Vicker (shop)	X 339774 Y 159169	K	NO ₂ & B	2	Y 6	Y
37	Lp. 13 Junc Wovershill Road	X 339566 Y 159222	K	NO ₂ & B	2	Y 5	Y
38	Lp. 3 East Street	X 339975 Y 159059	K	NO ₂ & B	2	Y 6	Y
39	The Gables	X 339542 Y 159226	K	NO ₂ & B	2	Y 5	Y
40	Bowling Green	X 339877 Y 159155	B	NO ₂ & B	16	NA	NA

Site type

B – background

K – kerbside

R – roadside

Relevant Exposure (Yes or No) with distance in metres to relevant exposure

NA – Not applicable

2.2 Comparison of Monitoring Results with Air Quality Objectives

2.2.1 Nitrogen Dioxide

<p style="text-align: center;">Relevant NO₂ Objectives</p> <p style="text-align: center;">Hourly Mean</p> <p>UK objective to be achieved by 31 December 2005 (< 18 times a year): 200ug/m³</p> <p>EU objective to be achieved by 31 December 2010 (< 18 times a year): 200ug/m³</p> <p style="text-align: center;">Annual Mean</p> <p>UK Limit Value to be achieved by 31 December 2005: 40ug/m³</p> <p>EU Limit Value to be achieved by 31 December 2010: 40ug/m³</p>
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The two UK objectives for nitrogen dioxide, the annual and one hour mean concentrations should have been achieved by 2005. The annual mean should be applied to any location where members of the public might be regularly exposed such as facades of buildings close to roads, in particular residential properties, schools, libraries and hospitals. The one hour mean objective should be applied to any outdoor location where members of the public could be exposed to the pollutant for one hour or more such as busy shopping streets in town centres.

Bias corrected values for 2009, Table 3, indicate all relevant receptors in North Somerset apart from junction 21 on the M5 motorway at Weston-super-Mare had pollutant levels below or well below the 40 ug/m³ objective. In the case of junction 21 the nearest property situated in Willow Close is over 150 metres away thus negating the requirement for a further assessment. Herulin Way, part of the A370 leading to this junction, continues to show a small increase in traffic levels because of recent commercial development nearby but again is still not challenging the annual mean.

Monitoring in the village of Banwell again showed elevated levels of nitrogen dioxide especially at the 'constriction point' close to A Vickers (retail shop) however none of the receptors gave annual measurements above the objective. Closer inspection of these results over the period of 2007-2009, Table 4, sites 34 – 40 appears to indicate that concentrations have remained relatively constant as have traffic flows that remain between 9 –11,000 as an annual average daily traffic count (vehicles per day, AADT) along the A371.

2.2.2 Annual Mean Nitrogen Dioxide 2007-2009

The 3 year comparison data in Table 4, indicates that the majority of monitoring locations appear to have only minimal changes, with pollutant levels well below the 40 ug/m³ objective, most likely due to variations in local weather conditions. As has been the case in previous years highest pollutant values were found along the primary commuter routes to Bristol and roads accessing the 3 motorway junctions in the district. Other locations where there appears to be a continuing rise in levels is on the A370 at the Congresbury junction where considerable congestion can occur due to holiday traffic especially at weekends.

Monitoring at sites 8, 9 10 and 11, Table 4, on roads around the Airport, show no discernable rise in measurements or exceedence of the objective.

2.4 Results of Nitrogen Dioxide Diffusion Tubes

**Table 3 Nitrogen Dioxide, Diffusion Tube Results 2009
Annual Mean Concentrations (ug/m³)**

Site No	Site Name	Data Capture for Monitoring period (%)	Data Capture for full calendar year (%)	Annual Mean Concentration 2009 (ug/m ³) Adjusted for bias
1	Long Ashton Park & Ride (A370)	100	100	23.1
2	Portbury (Priory Road)	100	100	27.1
3	Clevedon M5 Roundabout (Junc 20)	100	83	26.7
4	Ham Green, St Katherines School	100	83	18.7
5	Pill (Railway Line)	100	100	25.1
6	Portishead, High Street	100	92	26.6
7	Portbury M5 (Junc 19)	100	92	32.5
8	Bristol Airport (A38)	100	92	19.6
9	Felton Primary School	100	100	25.1
10	Downside Road (Homelea)	100	100	18.8
11	Downside Road (Top 8)	100	92	24.1
12	Nailsea, Link Road	83	83	29.1
13	Yatton, High Street	75	75	22.9
14	St Annes School (A370)	100	100	30.3
15	Abbots Leigh	92	100	29.6
16	Sheepway	100	100	25.4
17	Backwell (A370)	100	100	20.6
18	Churchill (A38)	92	100	27.9
19	Congresbury Cross (A370)	92	100	32.0
20	Congresbury, High Street	100	92	31.8
21	Congresbury, Smallway	100	83	24.5
	WESTON-SUPER-MARE			
22	High Street	100	100	31.2
23	The Boulevard	92	100	29.1
24	M5 Roundabout (Junc 21)	100	100	52.7
25	Locking Road	100	100	30.1
26	Herulin Way	100	100	35.9
27	Winterstoke Road	100		27.0
28	Worle Parkway	100	100	26.1
29	Willow Close (M5 Junc 21)	100	100	26.5

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30	The Drive	100	92	19.2
31	Bedford Road	100	100	21.6
32	Somerset Avenue	100	92	22.5
33	Locking Camp	100	92	27.6
	BANWELL VILLAGE			
34	Pedestrian Crossing	100	92	27.9
35	Primary School	100	92	22.9
36	A Vicker (shop)	100	100	35.0
37	Lp 13 Junc Wolvershill Road	100	100	26.0
38	Lp 3 East Street	100	100	24.0
39	The Gables	100	100	29.5
40	Bowling Green	100	100	16.9

Bias adjustment factor 2009 – 0.86

**Table 4 Nitrogen Dioxide, Diffusion Tube Results 2007-2009
Annual Mean Concentrations ($\mu\text{g}/\text{m}^3$), Adjusted for bias**

Site No	Site Name	2007	2008	2009
1	Long Ashton Park & Ride (A370)	18.8	22.6	23.1
2	Portbury (Priory Road)	26.6	27.9	27.1
3	Clevedon M5 Roundabout (Junc 20)	30.9	40.1	26.7
4	Ham Green, St Katherines School	19.3	20.2	18.7
5	Pill (Railway Line)	21.4	21.4	25.1
6	Portishead, High Street	22.4	22.9	26.6
7	Portbury M5 (Junc 19)	32.6	28.8	32.5
8	Bristol Airport (A38)	20.6	20.3	19.6
9	Felton Primary School	23.5	27.5	25.1
10	Downside Road (Homelea)	17.6	17.7	18.8
11	Downside Road (Top 8)	24.6	28.1	24.1
12	Nailsea, Link Road	24.5	28.2	29.1
13	Yatton, High Street	19.0	21.1	22.9
14	St Annes School (A370)	28.1	32.4	30.3
15	Abbots Leigh	31.5	36.0	29.6
16	Sheepway	23.0	25.3	25.4
17	Backwell (A370)	20.6	21.1	20.6
18	Churchill (A38)	27.2	25.9	27.9
19	Congresbury Cross (A370)	27.4	26.9	32.0
20	Congresbury, High Street	27.5	26.9	31.8
21	Congresbury, Smallway	25.8	20.0	24.5
	WESTON-S-MARE			
22	High Street	29.9	31.7	31.2
23	The Boulevard	26.6	31.6	29.1
24	M5 Roundabout (Junc 21)	49.3	56.2	52.7
25	Locking Road	24.8	32.7	30.1
26	Herulin Way	30.7	31.7	35.9
27	Winterstoke Road	26.5	27.7	27.0
28	Worle Parkway	28.9	26.8	26.1
29	Willow Close (M5 Junc 21)	20.6	26.5	26.5
30	The Drive	14.9	16.3	19.2
31	Bedford Road	15.1	19.2	21.6
32	Somerset Avenue	18.4	20.2	22.5
33	Locking Camp	26.4	26.8	27.6
	BANWELL VILLAGE			
34	Pedestrian Crossing	29.9	28.7	27.9
35	Primary School	20.2	19.4	22.9
36	A Vicker (shop)	32.1	36.7	35.0
37	Lp 13 Junc Wolverhill Road	nt	26.7	26.0
38	Lp 3 East Street	nt	24.4	24.0
39	The Gables	30.1	26.9	29.5
40	Bowling Green	14.7	16.1	16.9

Bias adjustment for individual years
2007 – 0.73, 2008 – 0.86, 2009 – 0.86

nt = not tested

2.2.2 PM₁₀

<p style="text-align: center;">Relevant PM₁₀ Objectives 24-hour mean Provisional UK objective to be achieved by 31 December 2010 (< 7 times a year); 50ug/m³ Annual mean UK objective to be achieved by December 2004: 40ug/m³ Provisional UK objective to be achieved by December 2010: 20ug/m³</p>
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North Somerset Council does not carry out any automatic monitoring for particulate.

The only real source of PM₁₀ in the area is from road traffic. The 2009 USA and the previous Progress Report in 2008 indicated that the PM₁₀ objectives are unlikely to be exceeded at any location. Primary PM₁₀ data contained on the UK Air Quality Archive (www.airquality.co.uk/archive) background maps and projections for future years indicate that values of 15-20 mg/m³ are currently found. Three quarry sites continue to operate, but from one these the asphalt plant has recently been removed leaving only one similar plant in the district, also since 2009 two ready-mix concrete sites have closed permanently whilst two others have been 'moth-balled' until further notice due to the low demand for their products. No relevant exposures are within 400 metres of any quarry either.

Agricultural operations in this or adjoining districts have a negligible input to fugitive emissions.

In addition the Bristol Port Company operations based at Portbury Dock continue to report that trade is still at 2007 levels and thus the potential of airborne particulate emanating from the site continues to be minimal.

No Biomass combustion facilities are currently operating.

As there are no other major PM₁₀ sources or known 'hot spots' we can assume levels across the remainder of North Somerset are within the objectives.

2.2.3 Sulphur Dioxide

<p style="text-align: center;">Relevant Sulphur Dioxide Objectives 1-hour mean UK objective to be achieved by December 2004 350 ug/m³ not to be exceeded more than 24 times a year 24-hour mean UK objective to be achieved by December 2004 125 ug/m³ not to be exceeded more than 3 times a year</p>

Sulphur dioxide is monitored at two locations within North Somerset, at Nailsea and Portishead using diffusion tubes. The mean values for 2009 were 2.2 and 2.5 ug/m³ respectively and nearly the exact same values as obtained in 2008.

Both means are well within the objective.

2.2.4 Benzene

Relevant Benzene Objective

UK running annual mean to be achieved by 31 December 2003: 16.25ug/m³

UK running annual mean to be achieved by 31 December 2010: 5ug/m³

Almost all of this pollutant arises from traffic sources. Benzene is monitored at 30 sites using BTX diffusion tubes. These sites and their designation, whether background, roadside or kerbside are listed in Table 2. Levels of pollutant in 2009, Table 5 clearly shows there are no annual exceedences of the current 2003 objective above and already meet the 2010 annual objective.

**Table 5 Benzene, Diffusion Tube Results 2009
Annual Mean Concentrations (ug/m³)**

Site No	Site Name	Data Capture 2009(%)	Relevant Exposure Y/N (m)	Annual Mean Concentration 2009 (ug/m ³)
1	Long Ashton Park & Ride (A370)	100	NA	0.8
2	Portbury (Priory Road)	nt	nt	nt
3	Clevedon M5 Roundabout (Junc 20)	100	N 85	0.8
4	Ham Green, St Katherines School	100	NA	0.9
5	Pill (Railway Line)	100	NA	0.7
6	Portishead, High Street	92	Y 8	1.0
7	Portbury M5 (Junc 19)	100	N 20	0.8
8	Bristol Airport (A38)	nt	nt	nt
9	Felton Primary School	100	Y 9	0.8
10	Downside Road (Homelea)	100	NA	0.8
11	Downside Road (Top 8)	100	Y 4	0.9
12	Nailsea, Link Road	100	Y 6	0.9
13	Yatton, High Street	nt	nt	nt
14	St Annes School (A370)	100	Y 10	0.8
15	Abbots Leigh	100	Y 3	0.7
16	Sheepway	nt	nt	nt
17	Backwell (A370)	100	Y 8	0.7
18	Churchill (A38)	100	Y 6	0.8
19	Congresbury Cross (A370)	100	Y 4	0.8
20	Congresbury, High Street	nt	nt	nt
21	Congresbury, Smallway	nt	nt	nt
	WESTON-S-MARE			
22	High Street	100	Y 5	1.1
23	The Boulevard	nt	nt	nt
24	M5 Roundabout (Junc 21)	100	N 150	0.9
25	Locking Road	100	Y 8	1.1
26	Herulin Way	100	Y 9	1.0
27	Winterstoke Road	100	Y 12	1.0
28	Worle Parkway	100	Y 13	1.0
29	Willow Close (M5 Junc 21)	100	Y 150	0.8
30	The Drive	nt	nt	nt
31	Bedford Road	nt	nt	nt
32	Somerset Avenue	100	N 18	0.8
33	Locking Camp	100	Y 12	07
	BANWELL VILLAGE			
34	Pedestrian Crossing	nt	nt	nt
35	Primary School	92	Y 8	1.0
36	A Vicker (shop)	92	Y 6	1.1
37	Lp 13 Junc Wolvershill Road	100	Y 5	0.9
38	Lp 3 East Street	100	Y 6	0.8
39	The Gables	100	Y 5	0.9
40	Bowling Green	92	NA	0.8

NA – Not Applicable (background site)

nt – not tested

2.2.5 Other pollutants monitored

In 2009, monitoring of ozone using diffusion tubes took place at two locations – namely the Bristol Airport Boundary on Downside Road and at Churchill on the A38 close to the road junction with the A368. Ozone levels over 2009, although directly not comparable with the 8-hour mean gave an annual mean of 21.1ug/m³ on Downside Road and 22.5 ug/m³ and Churchill. These levels are well down on previous measurements recorded in 2008, however the poor summer weather may have been a major contributory factor. Nevertheless, pollutant levels are still well within the existing limits.

2.2.6 Summary of Compliance with AQS Objectives

North Somerset District Council has examined the results from monitoring in the North Somerset district. Concentrations at all relevant receptors are all below the objectives, therefore there is no need to proceed to a Detailed Assessment.

3 New Local Developments

The one major development currently under consideration by North Somerset Council is the proposed expansion of Bristol International Airport (BIA). Entec UK Ltd engaged as the Airport's main consultants have developed the Environmental Statement (ES) (Bristol International Airport, June 2009)¹ describing the air quality identified at and associated with BIA and its immediate surroundings. It also assesses the potential effects of the proposed development and expansion of BIA to handle ten million passengers by 2016 during both construction and subsequent operation and also identifies appropriate mitigation and enhancement measures with the aim of minimising any significant identified effects on air quality.

The air quality strategy concentrations apply where there is a relevant public exposure over the appropriate averaging period. This ES does not predict any exceedence of the AQ objectives at any of the receptors considered and, therefore, the risk of significant effects on human health is considered to be extremely small.

3.1 Road Traffic Sources

There are no newly identified congested streets, junctions, roads with significantly changed traffic flows or new bus and coach stations since the last years Updating and Screening Assessment (USA).

3.2 Other Transport Sources

Since the last USA there are no new transport sources operating in North Somerset.

3.3 Industrial Sources

Since the last USA there are no new or significantly changed industrial sources. Due to economic circumstances the number of industrial installations has continued to decline.

3.4 Commercial and Domestic Sources

Currently there are no biomass plants operating in North Somerset. Similarly there are no areas of significant domestic solid-fuel burning either.

3.5 New Developments with Fugitive and Uncontrolled Sources

Since the last USA there are no new locations in North Somerset with relevant exposures of fugitive or uncontrolled dust sources.

North Somerset District Council has identified the following new or previously unidentified local developments which may impact on air quality in the Local Authority area - Bristol Airport, proposed expansion
This will be taken into consideration in the next Updating and Screening Assessment, scheduled for 2012.

4 Local Air Quality Strategy for North Somerset Council

As part of a wider area based strategy, a local air quality strategy (LAQS) for North Somerset Council has been developed, which together with the individual Local Air Quality Strategies for the other three unitary authorities of the former-Avon area, will help underpin this area-based Strategy. The development of this LAQS for North Somerset Council aims to ensure that the Council moves towards building a healthier community and improving the quality of life and the environment through actions and initiatives to improve air quality locally. This will require the integration of air quality considerations into the various planning functions of the individual local authorities, including land-use (development planning and control), transport, economic, environmental and sustainable planning. The objectives of this LAQS are to thereby identify how North Somerset Council can assist in securing air quality improvements across the local authority, both within any AQMA's identified and external to them, through planning frameworks and wider activities within the local authority. The specific aims and objectives for North Somerset are as follows:

- To meet the national air quality objectives;
- To prevent the deterioration of air quality where it is already satisfactory;
- To ensure that North Somerset makes a contribution to the reduction of CO₂ emissions in line with national targets;
- To support policies in the Local Transport Plan and North Somerset Local Plan, and emerging Community Plan; and
- To protect and enhance the environment so that plants, animals and people are free from the consequences of pollution.

Corporate commitment to the promotion and implementation of initiatives and policies that reduce air quality impacts, or at the very least do not add to them, is vital for overall improvements to be made, therefore the existing Strategy is under constant review. North Somerset Council is thereby recommended to continue with its work programme on air quality management, and in so doing:

- Maintain, and where appropriate enhance, the air quality monitoring programme underway across the Authority;
- Maintain, and where appropriate improve upon, collaboration across Council departments within the Authority such that air quality is considered at the earliest stage possible in development, transport and other planning proposals and processes within the Authority;
- Consider emerging pollutants within the EU Daughter Directive, and which may require action on the part of local government;
- Consider any further reviews of the (National) Air Quality Strategy, with respect to implications for the air quality objectives, which may require action on the part of North Somerset Council; and
- Continue collaboration with air quality professionals within the other authorities of the former-Avon area to maximise opportunities for sharing resources, experience and information.

The existing area based strategy can be found at www.uwe.ac.uk/aqm/centre/region/cuba/index.html

5 Planning Applications

The only recent planning application, not yet approved, that may impact on local air quality is the proposed redevelopment and expansion of Bristol Airport, as reported in section 3.

Several other residential developments on the south side of Bristol, near the village of Long Ashton, have been through a 'scoping' stage across the council but as yet no formal planning applications have been received.

6 Air Quality Planning Policies

The North Somerset Development Plan provides the framework for local and regional planning and is made up of several statutory planning policy documents listed below. These documents are used to determine planning applications across North Somerset and any possible reductions in local air quality.

- The Regional Planning Guidance (RPG10) document outlines a future direction for planning for the entire South West and will superseded by the Regional Spatial Strategy(RSS)
- The Joint Replacement Structure Plan applies the RPG 10 to the former Avon area.
- The North Somerset Replacement Local Plan (RLP) is the most important local planning document as it sets out the local planning context up 2011. It applies and implements all national and regional planning policies including specific air quality guidance for North Somerset.
- The developing Local Development Framework (LDF) will provide local planning guidance to replace the North Somerset Local Plan.
- Also included as part of the Development Plan are the North Somerset Waste Local Plan and the Minerals Working in the former Avon Local Plan.

Further information can be found at:-

www.n-somerset.gov.uk/environment/planningpolicy/developmentplan/.htm

7 Local Transport Plans and Strategies

The Joint Local Transport Plan (JLTP) sets out how North Somerset Council plans to deliver better transport service. The current JLTP covers the period April 2006 to March 2011. It is a joint document with the former Avon authorities, known collectively as the West of England Partnership.

The Progress Review shows performance compared to policies and targets set out in the Plan.

North Somerset is currently making a number of bids to central government for significant transport investment as below:-

- Ashton Vale to Temple Meads Rapid Transport will link the Long Ashton Park and Ride to Bristol city centre.
- The Weston Package is a range of measures aimed at supporting sustainable development in the town and immediate area. This £11 million package of transport improvements was accepted by Government in March 2010 and will consist of
 1. improvements to junction 21 of the M5 to reduce queuing off the motorway
 2. improvements to the A370 including widening Marchfields Way to allow two-way traffic and improvements to the Drove Road roundabout.
 3. better facilities at Worle Station including a new car park on the south side, bus stops and bus priority measures on both sides, improved cycle and passenger facilities.
- The South Bristol Link is a project that will extend the Ashton Vale to Temple Meads Transit line from the Long Ashton P and R to Hengrove Park. There will also be parallel cycling and pedestrian facilities. Following approval by each local authority involved a bid is intended to be submitted at the end of March 2010.

Further information can be found at:-

www.n-somerset.gov.uk/transport/transportplanning/jointlocaltransportplan/htm

8 Climate Change Strategies

Sustainability is all about improving quality of life for everyone in North Somerset without damaging the environment whether it be local or global. The local strategy recognises the links between social, environmental and economic issues and long-term impacts that council decisions and actions may have beyond the districts boundaries.

The sustainable communities model adopted by the council embodies the following principles:

- Meeting the needs of existing and future generations
- Recognising the inner linked relationships affecting communities.
- Working in a coordinated manner with a wide range of interests and organisations
- Respecting the needs of other communities in the wider region or internationally.
- Recognising that sustainable communities are diverse and reflect their local circumstances. There is no standard template to fit all.

Further information is available from North Somerset's Sustainability Coordinator
Jessica Harper

jessica.harper@n-somerset.gov.uk

9 Implementation of Action Plans

North Somerset has no AQMA's or Action Plans currently in place.

10 Conclusions and Proposed Actions

10.1 Conclusions from New Monitoring Data

- Only one location in North Somerset has an annual mean value for nitrogen dioxide above the objective, this being on the roundabout of junction 21 of the M5 motorway at Weston-super-Mare. The nearest receptor to this site is in Willow Close which is over 150 metres away from the source, therefore no further assessment is required.
- Other heavily trafficked roads in Weston, mostly leading to the motorway, and irrespective of the pollutant have annual values all below the objectives.
- In Banwell village no receptor site exceeded the nitrogen dioxide annual objective.
- All locations measuring Benzene concentrations were, as in previous years, well within the objective.
- There is no requirement at present for an AQMA to be introduced in any part of the district.

10.2 Conclusions relating to New Local Developments

Any new developments currently underway in North Somerset only relate to very limited residential house building, however as this is still at such a low level compared to previous years local air quality is not being compromised at any location.

10.3 Other Conclusions

None.

10.4 Proposed Actions

- No Detailed Assessments are required.
- No AQMA's need to be put in place.
- The next course of action will be to submit a further Progress Report in 2011.

11 References

1. Entec UK Ltd, Bristol, 2009, Bristol International Airport Ltd , Development and Enhancement of Bristol International Airport, Environmental Statement. Volume 3 Air Quality.
2. North Somerset District Council, Updating and Screening Assessment 2008.
3. Regional Planning Guidance (RPG10)
4. Joint Replacement Structure Plan
5. North Somerset Replacement Local Plan
6. Joint Local Transport Plan

Appendices

Appendix A: QA/QC Data

Diffusion Tube Bias Adjustment Factors (Table 6)

Nitrogen dioxide tubes were supplied and analysed by Bristol Scientific Services (BSS), Tubes were prepared using 50ul of 20% triethanolamine in water. The tube preparation and subsequent analysis followed the procedures in the harmonised 'Practical Guidance' document.

Factor from Local Co-location Studies (if available)

No co-location study was undertaken in North Somerset.

Discussion of Choice of Factor to Use

The bias adjustment factor chosen was not the one listed in Appendix B, Table 6. This was because the factor was derived from only 2 field studies. As we have no automatic continuous monitoring in North Somerset (and also no co-location comparison) a more robust field comparison factor was used. Thus in these circumstances it was felt to be more appropriate to continue to apply the 2008 bias factor of 0.86 which was based on 5 field studies and also as Bristol Scientific Services has continued to use the same analytical procedures as in 2009 ².

QA/QC of diffusion tube monitoring

Bristol Scientific Services continued to participate in the WASP proficiency scheme throughout the year. The laboratories performance index is based on the standardised result (ug of NO₂) reported divided by the actual spiked amount from 4 tubes every quarter. The results from these tests gave the laboratory a minimum performance equal to 56.25 which classes the laboratory as good.

Appendix B: Bias Adjustment Factors 2009

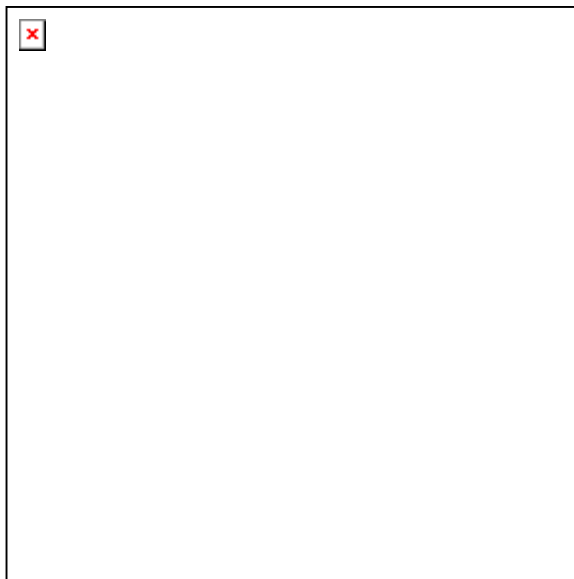


Table 6 Changes to Diffusion Tube Bias Adjustment Factors with 03/10 Issue of the Spreadsheet

Laboratory	Year	Previous (02/10) Factor		New (03/10) Factor	
		No. of Sites	Factor	No. of Sites	Factor
Aberdeen CC 20% TEA in Acetone	2009	-	-	1	0.84
Bristol Scientific Services 20% TEA in Water	2009	1	0.82	2	0.84
Cardiff Scientif Services 50% TEA in Acetone	2009	2	0.82	5	0.84
Edinburgh Scientific Services 50% TEA in Acetone	2009	1	0.93	2	0.95
Environmental Scientifics Groups 20% TEA in Water	2009	1	0.77	8	0.81
Glasgow Scientfic Services 20% TEA in Water	2009	3	1.25	4	1.23
Gradko 20% TEA in Water	2008	20	0.91	21	0.92
	2009	15	0.86	33	0.90
Gradko 50% TEA in Acetone	2009	7	0.92	15	0.99
Harwell Scientific Services 50% TEA in Acetone	2009	9	0.82	19	0.81
Kent Scientific Services 20% TEA in Water	2009	-	-	1	0.83
Kirklees Council Scientific Services 50% TEA in Acetone	2009	-	-	1	0.85
Lambeth Scientific Services 50% TEA in Acetone	2009	1	0.90	2	1.03
Lancashire CC 50% TEA in Acetone	2009	-	-	1	0.94
Milton Keynes Council 20% TEA in Water	2009	-	-	3	0.79
Northampton BC 20% TEA in Water	2009	2	0.71	3	0.72
South Yorkshire Labs 50% TEA in Acetone	2009	4 ^a	0.69 ^a	8 ^b	0.91 ^b
Staffordshire CC Scientfic Services 20% TEA in Water	2009	4	0.86	9	0.81
Tayside SS 20% TEA in Water	2009	2	0.77	3	0.77
Walsall MBC 50% TEA in Acetone	2009	-	-	6	1.17
West Yorkshire Analytical Services 50% TEA in	2009	9	0.87	12	0.86

Acetone					
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^a Two of these co-location studies have been removed in the 03/10 spreadsheet, due to uncertainties with the automatic data.

^b The spreadsheet now excludes two studies included in the 02/10 spreadsheet (see note (a)).

Note:

Care should be taken when choosing the bias adjustment factor to apply to your 2009 diffusion tube data. The factors provided in spreadsheet version 03/10 are, in some cases, based on a small number of studies. In these instances, the full data set should be examined before applying the new factors. It may in some circumstances be more appropriate to continue to apply the 2008 factor where this is based on a larger number of studies and the laboratory has not changed procedures (these may well have changed following the issuing of new guidance for preparation and analysis of diffusion tubes last year). If in doubt consult the Review and Assessment Helpdesk (details below).

The adjustment factor spreadsheet will be updated in late September 2010, when more co-location results should make the factors more robust.

Review and Assessment Helpdesk:

Helpdesk telephone: 0117 328 3668

Helpdesk email: aqm-review@uwe.ac.uk

Website: www.uwe.ac.uk/aqm/review

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