

Birmingham Friends of the Earth's evidence to Environmental Audit Committee Inquiry on Air Quality

1 Introduction

1.1 Birmingham Friends of the Earth are submitting evidence to the Environmental Audit Committee's Inquiry on Air Quality from the perspective of a Local Friends of the Earth group based in a city which is in breach of EU air quality levels. We will use local examples to demonstrate the need for greater funding and support for tackling air quality and demonstrate the particular problems that Birmingham faces.

1.2 Following the call for evidence announced by the Environmental Audit Committee on May 2, 2014, Birmingham Friends of the Earth (BFoE) would like to offer comment on the following areas:

- the priority and targets on air quality,
- support for local authorities in tackling air pollution,
- Low Emissions Zones, and
- public awareness campaigns.

1.3 The major cause of poor air quality in Birmingham, like many parts of the UK, is traffic emissions. A large part of our submission is therefore based around the need to increase modal shift to more sustainable forms of transport, in order to reduce traffic volume and therefore air pollution levels in Birmingham.

2 Background

2.1 BFoE is one of 200 local Friends of the Earth groups in the Friends of the Earth England, Wales and Northern Ireland network. We are the only environmental campaigning organisation in Birmingham working on air quality, biodiversity, climate change, energy, transport and waste.

2.2 BFoE is currently running the Let's Get Moving campaign (www.get-moving.org.uk). The campaign aims to combat air pollution in Birmingham by calling for greater investment in walking and cycling in order to reduce traffic, the greatest cause of poor air quality in the city, as it is in most of the UK. Let's Get Moving is calling for investment in active transport of £10 per person per year for 10 years in order to tackle poor air quality within Birmingham.

3 The Priority and Targets on Air Quality

3.1 It is undeniable that areas of the UK, particularly busy urban areas of which Birmingham is a prime example, continue to suffer with poor air quality which fails to meet the targets put in place by the UK Air Quality Strategy (AQS). Birmingham is in breach of EU limits for NO₂ and reports levels above WHO recommended limits for Particulate Matter¹. As the committee will no doubt be aware, Birmingham is also one of 16 cities for which the UK Government is facing legal proceedings due to the breach of NO₂ limits.

3.2 Despite the designation of the city of Birmingham as an Air Quality Management Area (AQMA), Birmingham City Council (BCC) have not made public information on air quality assessment and local monitoring data since 2011. Continuous monitoring in Birmingham is conducted at a limited number of locations – 6 in total; 3 as part of the AURN network. Data from these locations taken from www.wmair.org can be found in Appendix 1.

3.3 Although the trends in appendix 1 show some decline in NO₂ levels at some monitoring stations, some are still over EU legal limits. The data is also over a small number years, furthermore the most recent data for the Selly Oak station shows an increase in NO₂. This appendix also shows that PM₁₀ levels have stayed at similar levels, and while not in breach of EU limits, these are in breach or almost in breach of World Health Organisation recommended annual mean PM₁₀ levels (20 µg/m³). We believe the lack of further recent evidence for breaches is due to insufficient monitoring in the city. Our own Citizen Science monitoring (see points 6.4 – 6.6) shows potential problems in other areas.

3.4 While most areas including Birmingham are not in breach of EU limits for Particulate Matter we believe the UK should be aiming for the stricter World Health Organisation guidelines on Particulate Matter and other pollutants at the very least.

3.5 We note that Defra has recently been reviewing local air quality monitoring requirements². We are concerned this would mean removing local requirements to monitor air quality and an end to air quality monitoring in many areas. In Birmingham, with Birmingham City Council facing financial challenges and cuts to services, we believe there would be significant reductions to monitoring in the city. We feel the aim should be for greatly increased monitoring of air quality across Birmingham.

3.6 The current versions of both the Birmingham Development Plan (BDP) and the Core Strategy make little mention of air quality or have specific targets on improving air quality within the region³. Although policies addressing climate change and a Low Carbon Economy are included, the failure to adequately refer to air quality within these key planning documents is symptomatic of the low priority placed on air quality issues by government at local and national level.

3.7 Lessons should be learned from previous poor planning policy, which has led Birmingham to become over-reliant on cars as a means of transport; for example the building of road infrastructure such as ring roads, dual carriageways and the Aston Expressway. High capacity for traffic levels and therefore worsened air quality have also meant large numbers of roads are unappealing to cyclists and other non-motorised road users. Despite the failure to specifically refer to air quality within current planning documentation, it is reassuring to see active travel methods – walking and cycling – given consideration within both the BDP and Birmingham Mobility Action Plan, the latter consequently does mention air quality⁴. However, as historic planning decisions have made the city highly unattractive to cyclists, a significant level of investment in active travel infrastructure would be needed in order to address this existing problem.

4 Support for Local Authorities

4.1 As well as a legacy of poor planning contributing to Birmingham's poor air quality, there is also a history of insufficient funding for sustainable transport. Birmingham and the wider region has not seen nearly

² Defra, 2013: Local Air Quality Management Review

³ Birmingham City Council, 2014: Development Plan Draft, <http://www.birmingham.gov.uk/plan2031> accessed 13 May 2014

⁴ Birmingham City Council, 2013: Birmingham Mobility Action Plan, <http://www.birmingham.gov.uk/bmap> accessed 13 May 2014

enough investment in local rail. There exists an over-reliance on buses as a form of public transport in Birmingham and there is inadequate support from central government to put in more sustainable transport infrastructure. As already stated, Birmingham and the West Midlands are not cycle friendly and subsequently have low levels of cycling as a modal share, currently around 1-2% in Birmingham⁵. High levels of support for improvements in sustainable transport are needed to redress years of under investment and poor planning.

4.2 As there are a high number of short journeys by car – 25% of car journeys are under two miles in Birmingham⁶, 20% nationally⁷ – big improvements in air quality could be made by investing in active travel. Local authorities need support from central government in order to make these and other sustainable transport funding improvements.

4.3 Birmingham's successful bid for the Cycle City Ambition Grant (<http://www.birmingham.gov.uk/bcr>) will see some much needed investment in the cycling infrastructure of the city, in turn reducing associated air pollution from traffic by increasing the modal share of cycling in Birmingham. In order to achieve longterm effects, this level of investment in active transport needs to be maintained beyond the 2 years of the grant. Funds such as the Cycle City Ambition Grants should not be a one-off batch of funding but continuous support for local authorities in order to tackle poor air quality through greater investment in sustainable and active transport.

4.4 Funding for future improvements to road networks should consider their impact upon other road users and sustainable transport methods. Infrastructure for walking and cycling should be considered at the planning phase of any new road development, with funding subject to meeting these requirements.

5 Low Emission Zones

5.1 Low Emission Zones (LEZs) could significantly address the air quality problem in cities like Birmingham. Introducing a conurbation wide LEZ in the West Midlands would also counter any potential negative economic effects and avoid the pitfall of simply moving or increasing the air quality problem in another part of the conurbation. This could be particularly be a problem in a conurbation like the West Midlands, where Birmingham is not at the absolute centre, and other areas have good road links. For similar reasons we believe that there should be a national network of LEZs.

5.2 LEZs are one of many important tools in combating poor air quality within urban areas, however they should not be viewed as a stand alone solution. Support for and investment in more sustainable transport infrastructure, as well as better planning, are still necessary alongside LEZs. LEZs can also play an important part in investment in sustainable transport, by providing a source of income which can be a ring-fenced for sustainable transport, multiplying their benefit. This is particularly pertinent in the context of local authorities who are facing multiple cuts to their budgets.

6 Public Awareness Campaigns

6.1 Improvements have been made in public awareness of air quality issues, especially following the introduction of air quality reporting as part of wider weather reporting and media coverage following abnormal events such as the recent smog across many areas of the UK. There exist many opportunities

⁵ **CTC National, 2014** <http://www.ctc.org.uk> accessed 30 May 2014

⁶ **Birmingham City Council, 2013:** Birmingham Mobility Action Plan, <http://www.birmingham.gov.uk/bmap> accessed 13 May 2014

⁷ National Travel Survey 2012: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/243957/nts2012-01.pdf accessed 4th June 2014

for even greater improvements to be made in this area. The level of awareness of the problem of poor air quality is also relatively low outside of London.

- 6.2 Current government initiatives and public awareness campaigns focus upon the promotion of a healthy lifestyle and increase in activity levels in order to help reduce obesity levels. There is the opportunity to employ some joined-up thinking and use these existing public awareness campaigns to promote active travel such as walking and cycling. Not only are these activities associated with increased physical fitness, but the adoption of active travel methods for journeys which would have previously been made by car will have an impact on the quality of the air we breathe.
- 6.3 How air quality is displayed could be improved and made more accessible. Improvements can be seen in the layout of the UK-Air website. However these are not reflected in West Midlands Air (www.wmair.org) which contains dated information and is difficult for a non-specialist to navigate and comprehend.
- 6.4 Citizen Science projects can contribute to greater public understanding of air quality issues. Birmingham Friends of the Earth ran a Citizen Science project with a small number of schools. This involved teaching children about poor air quality and types of pollutants, NO₂ diffusion tube monitoring near the schools and discussion of results with the pupils. We found children were very interested and engaged in the issue and offered up their own solutions to poor air quality. These included short term solutions such as using different walking routes to school to avoid areas of poor air quality, medium term ideas around getting more pupils to walk and cycle to school, and longer term ideas around making cities more attractive to walk and cycle. We believe the positive reception and engagement with the issues and solutions, was due to being involved in monitoring of NO₂ in their area and so made the issue directly relevant to them. Results can be viewed in Appendix 2 and have been bias corrected using the Local Air Quality Management toolkit 03/14 released by Defra.
- 6.5 These results were of a mean of NO₂ levels from a monitoring period of two weeks, and although these will not be as accurate as a mean from year-long monitoring, there were some high concentrations detected during this study which may be of concern. This is particularly evident at locations near to the Birmingham middle ring road, the second table in appendix 2.
- 6.6 There are bigger citizen science projects particularly in London run by London Sustainability Exchange and Mapping for Change⁷. There are also projects looking to use new technology and offer citizens the chance to monitor air pollution in their own area and map it across a city. These projects have the potential to engage more people in the issue, especially is rolled out beyond the capital. However citizen science data should not be seen as a replacement for local air quality monitoring. By its nature it is dependent on the public's interest and level of engagement, and therefore there should continue to be monitoring run by local and national government to ensure consistent monitoring.
- 6.7 With 25% of car journeys in Birmingham are less than two miles (20% in the UK), there is massive potential for more journeys to be made by walking and cycling. Public awareness of air quality issues and the impact of choosing active travel, combined with greater investment in cycling and walking infrastructure making it easier for people to make that positive choice, has the potential to tackle poor air quality in traffic congested urban areas. Public awareness campaigns will remain ineffective without a significant improvement in infrastructure to allow people to make active travel choices. Again, central organisation and financial investment is needed in order for these improvements to be made.

7 Conclusion



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7.1 Birmingham suffers from poor air quality, but like many cities outside London also suffers from less engagement and awareness of the issue, something Birmingham Friends of the Earth's Let's Get Moving campaign has tried to redress. Local and national government needs to place greater emphasis on air quality in order to tackle the problem. More can be done at local authority level by prioritising transport funding towards sustainable and active transport, as well as using planning policy to help improve air quality. National government needs to give increased funding to local authorities for monitoring and for investment in sustainable transport. Public awareness campaigns aiming for lifestyle change to more sustainable modes of transport should be run once improved sustainable transport infrastructure is in place and accessible to all.

7.2 BFoE hope that the committee find this evidence useful and acts on our recommendations.

Appendix 1 2010 – 1013 Air Quality Data for Birmingham (Source: www.wmair.org)

Data range 01/01/2010 – 31/12/2010	Nitrogen dioxide			Sulphur dioxide		Ozone		PM10		
	Permitted concentration (ug/m3)			Permitted concentration (ug/m3)		Permitted concentration (ug/m3)		Permitted concentration (ug/m3)		
	Max hourly average	Permitted Exceedences pa	annual average	Max hourly amount	24hr average	Max 8 hour mean	Permitted Exceedences <i>25 days averaged over 3 years</i>	Max 24hr average	Permitted Exceedences pa	Annual average
Legal limits	200	18	40	350	125	120		50	35	40
Acocks Green	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
New Hall	147.80	0	22.51							
Selly Oak	256.51	1	37.21							
Stratford Road	185.63	0	41.59							
Tyburn	299.11	7	37.00							
Tyburn Roadside	228.68	1	51.00							
						140.08 123.74	3 in year 1 in year	56.61	1	20.07

Data range 01/01/2011 – 31/12/2011	Nitrogen dioxide			n/a	Ozone		PM10		
	Permitted concentration (ug/m3)				Permitted concentration (ug/m3)		Permitted concentration (ug/m3)		
	Max hourly average	Permitted Exceedences pa	annual average		Max 8 hour mean	Permitted Exceedences <i>25 days averaged over 3 years</i>	Max 24hr average	Permitted Exceedences pa	Annual average
Legal limits	200	18	40		120	50	35	40	
Acocks Green	117.89	0	23.00	n/a	n/a	n/a	n/a	n/a	
New Hall	104.37	0	19.03						
Selly Oak	131.15	0	32.70						
Stratford Road	168.31	0	35.81						
Tyburn	237.12	4	34.00						
Tyburn Roadside	207.93	1	45.00						
					120.13 108.10	1 in year 0 in year	77.27	18	23.66

Data range 01/01/2012 – 31/12/2012	Nitrogen dioxide			Sulphur dioxide		Ozone		PM10		
	Permitted concentration (ug/m3)			Permitted concentration (ug/m3)		Permitted concentration (ug/m3)		Permitted concentration (ug/m3)		
	Max hourly average	Permitted Exceedences pa	annual average	Max hourly amount	24hr average	Max 8 hour mean	Permitted Exceedences <i>25 days averaged over 3 years</i>	Max 24hr average	Permitted Exceedences pa	Annual average
Legal limits	200	18	40	350	125	120		50	35	40
Acocks Green	155.22	0	27.70	n/a	n/a	n/a	n/a	n/a	n/a	n/a
New Hall	139.54	0	18.98							
Selly Oak	140.02	0	29.65							
Stratford Road	132.26	0	35.25							
Tyburn	203.92	1	34.38							
Tyburn Roadside	215.91	2	44.05							
						139.44 125.30	3 in year 1 in year	81.93	16	22.08

Data range 01/01/2013 – 31/12/2013	Nitrogen dioxide			n/a	Ozone		PM10		
	Permitted concentration (ug/m3)				Permitted concentration (ug/m3)		Permitted concentration (ug/m3)		
	Max hourly average	Permitted Exceedences pa	annual average		Max 8 hour mean	Permitted Exceedences <i>25 days averaged over 3 years</i>	Max 24hr average	Permitted Exceedences pa	Annual average
Legal limits	200	18	40		120	50	35	40	
Acocks Green	116.95	0	28.79	n/a	n/a	n/a	n/a	n/a	
New Hall	310.94	14	17.18						
Selly Oak	134.59	0	30.33						
Stratford Road	134.59	0	31.39						
Tyburn	390.89	19	30.78						
Tyburn Roadside	180.08	0	41.70						
					141.90 95.96	4 in year 0 in year	153.1	10	19.94

Appendix 2
Citizen Science Data – Birmingham Friends of the Earth 2014

Sample Number	Site	Date and Time ON	Date and Time OFF	Exposure Time (Hours)	Days	Total µg	µg m ⁻³	ppb	Comments	Bias corrected - factor 0.8 (Defra 03/14)
FOEB/13A/NA1S3	The Worthings (No Ball Games Sign)	20/9/13 12:30	4/10/13 18:10	341.67	14	0.62	26.1	13.60		20.88
FOEB/13A/NA1S5	Outside Kitchen	20/9/13 11:53	4/10/13 16:18	340.42	14	0.51	21.6	11.30		17.28
FOEB/13A/NA1S6	Fordhouse Lane (98)	20/9/13 12:35	4/10/13 18:14	341.65	14	1.05	43.9	22.80		35.12
FOEB/13A/NA1S9	Front Of School	20/9/13 11:50	4/10/13 16:15	340.42	14	0.61	25.5	13.30		20.40
FOEB/13A/NA1S10	Front Road	20/9/13 11:48	4/10/13 16:16	340.47	14	0.7	29.5	15.40		23.60
FOEB/13A/NA1S11	Pershore Road (Household Recycling Sign)	20/9/13 12:56	4/10/13 18:19	341.38	14	0.09	4	2.10		3.20
FOEB/13A/NA1S12	Brandwood Park Road (Lamppost 4)	20/9/13 12:58	4/10/13 18:05	341.12	14	0.86	36.2	18.80		28.96
FOEB/13A/NA1S13	Reaside Road (Lamppost 3)	20/9/13 12:42	4/10/13 17:59	341.28	14	1.97	82.9	43.10	Attributed to local industry	66.32

Sample Number	Site	Date and Time ON	Date and Time OFF	Exposure Time (Hours)	Total µg	µg m ⁻³	ppb	Comments	Bias corrected - factor 0.8 (Defra 03/14)
FOEB/13A/NE1S1	Lawley Middleway A4540	27/1/14 13:00	11/2/14 16:07	363.12	1.95	77.1	40.1		61.68
FOEB/13A/NE1S2	Garrison Lane off Garrison circle roundabout	27/1/14 13:09	11/2/14 16:15	363.1	1.38	54.4	28.3		43.52
FOEB/13A/NE1S5	Vauxhall road B4132	27/1/14 13:50	11/2/14 16:00	362.17	1.39	55.2	28.7		44.16
FOEB/13A/NE1S6	Curzon roundabout, Lawley Middleway A4540	27/1/14 13:20	11/2/14 16:05	362.75	1.39	55	28.6		44.00
FOEB/13A/NE1S7	Lawley Middleway A4540	27/1/14 13:04	11/2/14 16:10	363.1	1.38	54.5	28.3		43.60
FOEB/13A/NE1S8	Garrison Lane off Garrison circle roundabout	27/1/14 13:10	11/2/14 16:15	363.08	1.18	46.4	24.1		37.12
FOEB/13A/NE1S9	Curzon roundabout, Lawley Middleway A4540	27/1/14 14:04	11/2/14 16:06	362.03	1.41	56	29.1		44.80
FOEB/13A/NE1S10	School sign	27/1/14 13:32	11/2/14 15:50	362.3	1.39	54.9	28.5		43.92
FOEB/13A/NE1S12	Grey school building	27/1/14 13:30	11/2/14 15:49	362.32	1.17	46.2	24		36.96

Notes: Results in **red** are above the legal limit of 40ugm-3 after correction.
Results shown in **purple** are within 10% of the 40ugm-3 limit after correctic
Results in **blue** were between 30 and 36 ug m-3 after correction