

*London Borough of Islington - England*



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# **2012 Air Quality Updating and Screening Assessment**

**In fulfilment of Part IV of the Environment Act 1995:  
Local Air Quality Management**

**July 2012**

London Borough of Islington - England

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### Executive Summary

This report finds that the existing AQMA for NO<sub>2</sub> and PM<sub>10</sub> concentrations should be retained throughout the borough. A slight increase in overall emissions of both pollutants has been observed; this is in line with the rest of London and not derived from a local source.

Roadside NO<sub>2</sub> concentrations remain the major cause for concern; it is assumed that the main source of this pollutant is diesel fuelled buses.

A detailed assessment is required to quantify emissions from biomass plant within the borough.

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Appendix 1

QA/QC data

# 1 Introduction

## 1.1 Description of Local Authority Area

The London Borough of Islington is an inner-city borough sharing borders with the City of London, Hackney and Camden. Densely populated with a culturally diverse community, Islington is recognised as having the least amount of green space per person out of all the London boroughs. The majority of parks and open spaces are located in the north of the borough, whereas the south is predominantly mixed use residential/commercial. The south-east corner of the borough is part of the London congestion charge zone. The main source of pollution is from road traffic as the A1 runs through the heart of the borough and is commonly used as a thoroughfare to travel through the city.

Islington is considered a desirable location for developers and is frequented by construction traffic. Planning policies have allowed the authority to place stringent criteria on development in order to ensure emissions to air are not increased.

The borough is serviced by 10 London Underground Stations and a number of over ground stations servicing, the North London line, Gospel Oak to Barking route, Hertford North to Kings Cross and the East London Line extension. Purpose of 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.

The objective of this Updating and Screening Assessment is to identify any matters that have changed which may lead to risk of an air quality objective being exceeded. A checklist approach and screening tools are used to identify significant new sources or changes and whether there is a need for a Detailed Assessment. The USA report should provide an update of any outstanding information requested previously in Review and Assessment reports.

## 1.2 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. 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 $\mu\text{g}/\text{m}^3$	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 $\text{mg}/\text{m}^3$	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 (PM <sub>10</sub> ) (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



### 1.3 Summary of Previous Review and Assessments

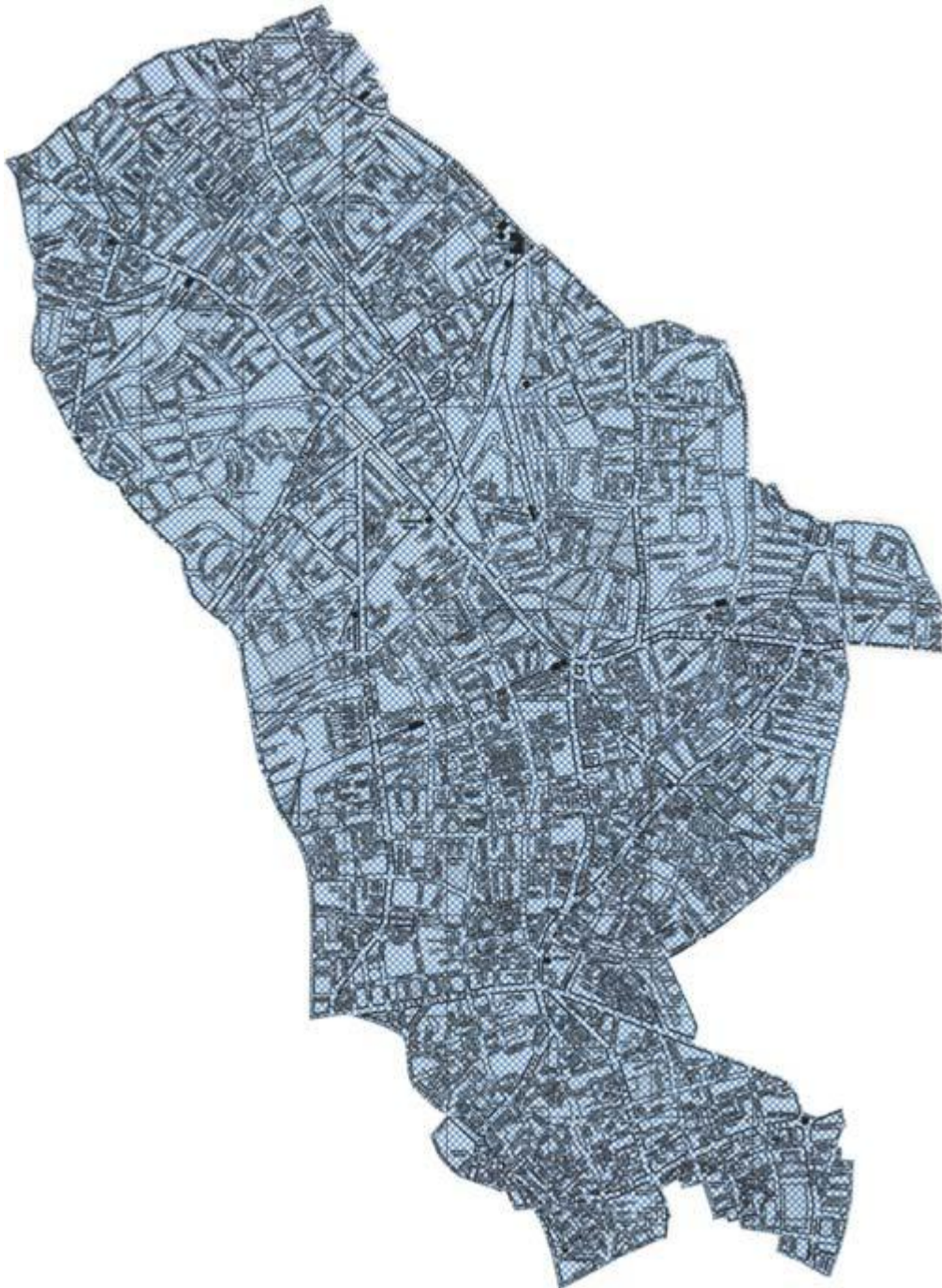
In August 2000 Islington council completed its third stage review and found that objectives for Nitrogen Dioxide and Particulate Matter were not going to be achieved. Consequentially, an Air Quality Management Area was declared covering a large part of the borough.

**Fig.1.1 AQMA declared 2001**



There were no detailed assessments required for any of the pollutants. After the further assessment conducted in 2003, the AQMA was extended to the whole of the borough.

Fig. 1.2 AQMA declared 2003



The USA 2009, showed continuing compliance with the objectives for carbon monoxide, benzene, 1,3-butadiene, lead and sulphur dioxide would not be exceeded. The annual mean objectives for PM<sub>10</sub> had been met, however, there was an exceedance of 24-hour PM<sub>10</sub> observed at the Duncan Terrace automatic station; unfortunately this station is no longer in operation due to financial constraints. It was decided to retain the AQMA for this PM<sub>10</sub> still as evidence showed that a repeat in the meteorological conditions of 2003 could result in further exceedances of this objective. The 2011 Progress Report detailed a provisional result for PM<sub>10</sub>, it was

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expected that the ratified data would show an exceedance, however this was not the case and the automatic monitoring results showed an annual mean concentration of  $27\mu\text{g}/\text{m}^3$  at the roadside and  $22\mu\text{g}/\text{m}^3$  at the background monitoring station.

Automatic monitoring data presented in the 2011 showed a slight increase of  $\text{NO}_2$  concentration at the background and no change at the roadside. The annual mean objective was being met at the background but continued to exceed at the roadside, whilst the hours exceeding  $200\mu\text{g}/\text{m}^3$  increased at the roadside but decreased at the background station. The diffusion tube monitoring showed an increase in concentrations since the previous year with most locations exceeding the annual mean objective limit.

**Table 1.2 Previous reviews**

Year	Report	Action
2000	3rd Stage Review	AQMA declared (part of borough)
2003	Further Assessment N02	AQMA extended (whole of borough)
2003	Action Plan	
2003	USA	No detailed assessment required, AQMA retained
2004	Progress Report	
2005	Progress Report	
2006	USA	No detailed assessment required, AQMA retained
2007	Progress Report	
2008	Action Plan	
2009	USA	No detailed assessment required, AQMA retained
2010	Progress Report	
2011	Progress Report	
2012	USA	

## 2 New Monitoring Data

### 2.1 Summary of Monitoring Undertaken

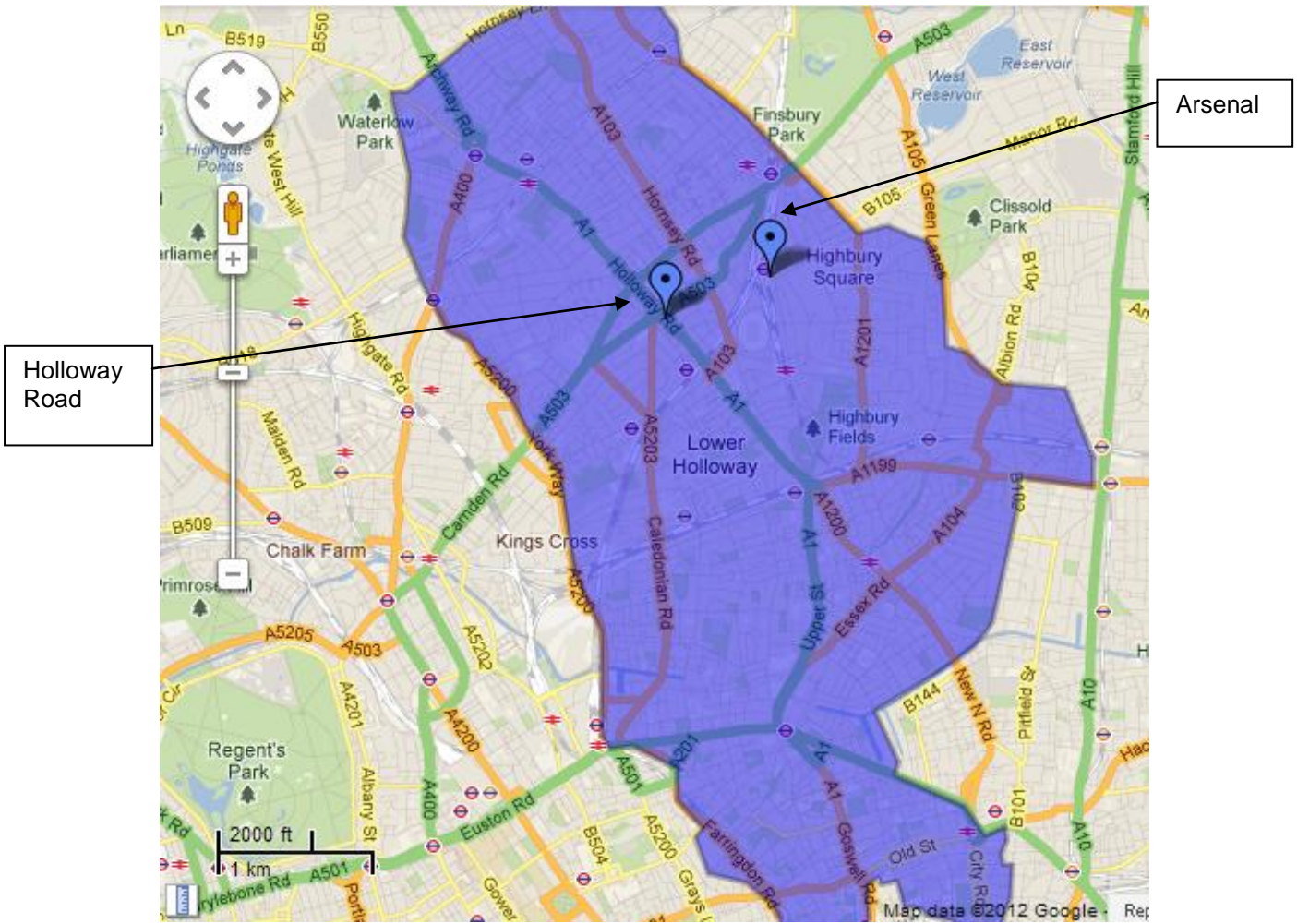
#### 2.1.1 Automatic Monitoring Sites

The automatic monitoring for 2011 was conducted as part of the wider London Air Quality Network; the QA/QC was LAQN standard. All calibration and routine maintenance is conducted by ERG at King's College London. All PM<sub>10</sub> results are converted to reference equivalent using the Volatile Correction Method (VCM).

**Table 2.1 Details of 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 ?
Arsenal	Urban Background	X 531328 Y 186067	NO <sub>2</sub> PM <sub>10</sub>	Y	Y (1m)	N/A	N
Holloway Road	Roadside	X 530650 Y 185750	CO NO <sub>2</sub> PM <sub>10</sub>	Y	Y (1m)	3m	Y

Figure 2.1 Map of Automatic Monitoring Sites



### 2.1.2 Non-Automatic Monitoring Sites

21 diffusion tubes are located around the borough for monitoring NO<sub>2</sub> there are 9 roadside locations and 10 background locations. In addition to this monitoring is conducted adjacent to the Metroline bus garage in the north of the borough using 2 tubes. One is placed near the entrance of the garage and another further away next to a children's playground. The monitoring at the garage will be discussed in more detail later in this report.

A co-location study is done using 3 diffusion tubes at the Holloway Road automatic monitoring station. From these results a bias adjustment factor of 1(0.92-1.1) has been applied, this figure has been derived from the co-location study. The tubes are analysed by Lambeth Scientific Services using the 50% TEA in acetone preparation method. They are listed in the Workplace Analysis Scheme for Proficiency (WASP) as having achieved "Good" and "Acceptable" performance. The diffusion tube adjustment is detailed in Appendix A.

Figure 2.2 Map of Non-Automatic Monitoring Sites



**Table 2.2 Details of Non-Automatic Monitoring Sites**

Site Name	Site Type	X OS Grid Ref	Y OS Grid Ref	Pollutants Monitored	In AQMA?	Is monitoring collocated with a Continuous Analyser (Y/N)	Relevant Exposure? (Y/N with distance (m) to relevant exposure)	Distance to kerb of nearest road (N/A if not applicable)	Does this location represent worst-case exposure?
Caledonian Road	Roadside	530721	183584	NO <sub>2</sub>	Y	N	Y (0.5m)	0.5m	N
Roseberry Avenue	Roadside	531336	182599	NO <sub>2</sub>	Y	N	Y (0.5m)	0.5m	N
City Road	Roadside	532566	182736	NO <sub>2</sub>	Y	N	Y (0.5m)	0.5m	N
Old Street	Roadside	532577	182429	NO <sub>2</sub>	Y	N	Y (0.5m)	0.5m	N
Highbury Corner	Roadside	531669	184743	NO <sub>2</sub>	Y	N	Y (0.5m)	0.5m	N
Balls Pond Road	Roadside	532820	184822	NO <sub>2</sub>	Y	N	Y (0.5m)	0.5m	N
Holloway Road	Roadside	531034	185349	NO <sub>2</sub>	Y	N	Y (0.5m)	0.5m	N
Junction Road	Roadside	529204	186093	NO <sub>2</sub>	Y	N	Y (0.5m)	0.5m	N
Archway Close	Roadside	529396	186848	NO <sub>2</sub>	Y	N	Y (0.5m)	0.5m	Y
Percy Circus	Urban Background	530901	182855	NO <sub>2</sub>	Y	N	Y (1m)	N/A	N
Myddleton Square	Urban Background	531317	182998	NO <sub>2</sub>	Y	N	Y (1m)	N/A	N
Arran Walk	Urban Background	532303	184460	NO <sub>2</sub>	Y	N	Y (1m)	N/A	N
Sotheby Road	Urban Background	532252	185983	NO <sub>2</sub>	Y	N	Y (1m)	N/A	N
Highbury Fields	Urban Background	531755	185454	NO <sub>2</sub>	Y	N	Y (1m)	N/A	N
Lady Margaret Road	Urban Background	529325	185813	NO <sub>2</sub>	Y	N	Y (1m)	N/A	N

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<b>Site Name</b>	<b>Site Type</b>	<b>X OS Grid Ref</b>	<b>Y OS Grid Ref</b>	<b>Pollutants Monitored</b>	<b>In AQMA?</b>	<b>Is monitoring collocated with a Continuous Analyser (Y/N)</b>	<b>Relevant Exposure? (Y/N with distance (m) to relevant exposure)</b>	<b>Distance to kerb of nearest road (N/A if not applicable)</b>	<b>Does this location represent worst-case exposure?</b>
Zoffany Park	Urban Background	529881	187022	NO <sub>2</sub>	Y	N	Y (1m)	N/A	N
Elthorne Park	Urban Background	529987	187342	NO <sub>2</sub>	Y	N	Y (1m)	N/A	N
Turle Road	Urban Background	530469	186891	NO <sub>2</sub>	Y	N	Y (1m)	N/A	N
Waterloo Terrace	Urban Background	531625	184100	NO <sub>2</sub>	Y	N	Y (1m)	N/A	N
Bus 1	Urban Background	529521	186443	NO <sub>2</sub>	Y	N	Y (1m)	N/A	N
Bus 2	Urban Background	529618	186558	NO <sub>2</sub>	Y	N	Y (1m)	N/A	N



## 2.2 Comparison of Monitoring Results with AQ Objectives

Table 2.3 Results of all automatic monitoring

Pollutant	Site ID/Location	Proportion of year with valid data 2011	AQ Objective Result
CO	IS2 Holloway Road	95%	0 occurrences of rolling 8hr mean >10mg/m <sup>3</sup>
NO <sub>2</sub>	IS2 Holloway Road	95%	<b>Annual Mean 60µg/m<sup>3</sup></b> 2 occurrences of hourly mean >200µg/m <sup>3</sup>
	IS6 Arsenal	95%	Annual Mean 37µg/m <sup>3</sup> 0 occurrences of hourly mean >200µg/m <sup>3</sup>
PM <sub>10</sub>	IS2 Holloway Road	95%	Annual Mean 29µg/m <sup>3</sup> 22 days where daily mean >50µg/m <sup>3</sup>
	IS6 Arsenal	95%	Annual Mean 22µg/m <sup>3</sup> 12 days where daily mean >50µg/m <sup>3</sup>

The annual mean objective for NO<sub>2</sub> was again exceeded at Holloway Road with a result of 60µg/m<sup>3</sup> this shows an increase of 1µg/m<sup>3</sup> from the previous year; with only 2 exceedances of the hourly mean this shows an improvement from the previous year's result of 8. At the background location the annual mean objective is being met although at 37µg/m<sup>3</sup> this is considered to be a borderline result. Monitored PM<sub>10</sub> concentrations show that the annual mean objective is being met quite comfortably however an increase from the previous year's daily mean has been observed at both roadside and background locations.

All monitoring locations are relevant for public exposure.

## 2.2.1 Nitrogen Dioxide

## Automatic Monitoring Data

Table 2.4 Results of Automatic Monitoring of Nitrogen Dioxide: Comparison with Annual Mean Objective

Site ID	Site Type	Within AQMA?	Valid Data Capture for period of monitoring % <sup>a</sup>	Annual Mean Concentration $\mu\text{g}/\text{m}^3$				
				2007	2008	2009	2010	2011
IS2	Roadside	Y	95	67	64	56	59	60*
IS6	Background	Y	95	N/A	37	36	37	37*

\*Data not yet fully ratified

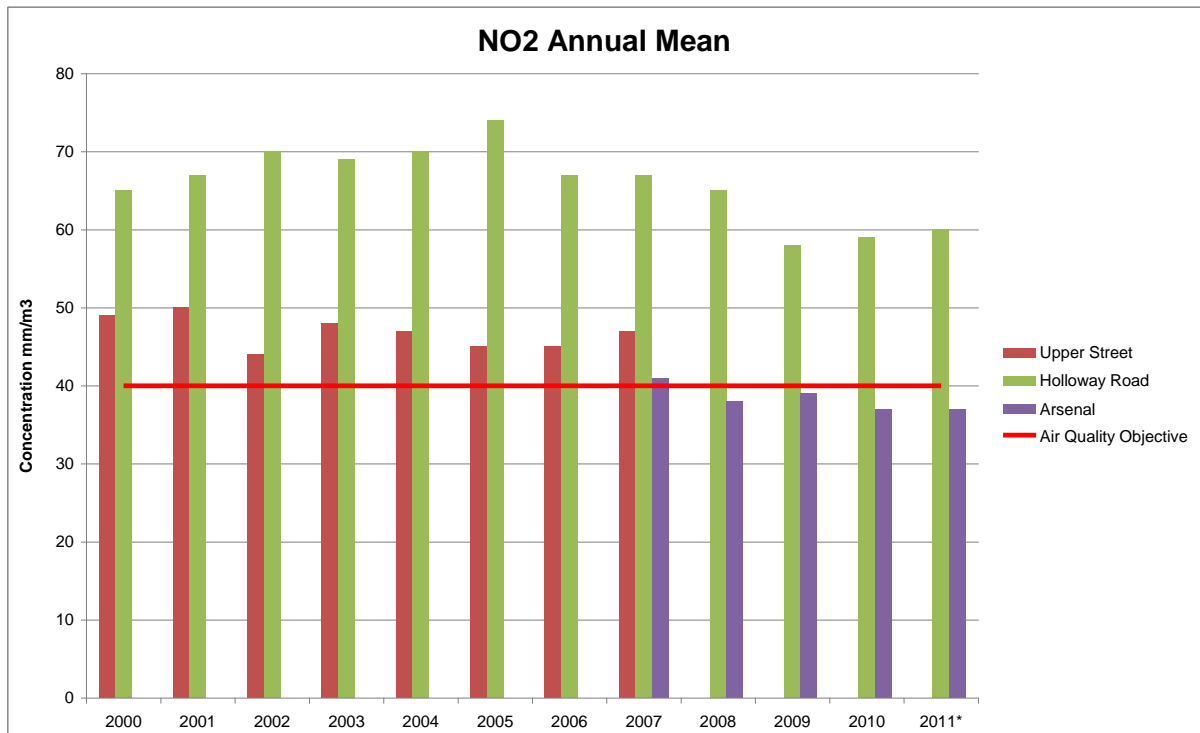
Table 2.5 Results of Automatic Monitoring for Nitrogen Dioxide: Comparison with 1-hour mean Objective

Site ID	Site Type	Within AQMA?	Valid Data Capture for period of monitoring % <sup>a</sup>	Number of Exceedances of Hourly Mean ( $200 \mu\text{g}/\text{m}^3$ )				
				2007	2008	2009	2010	2011
IS2	Roadside	Y	95	34	0	7	8	2
IS6	Background	Y	95	N/A	0	1	0	0

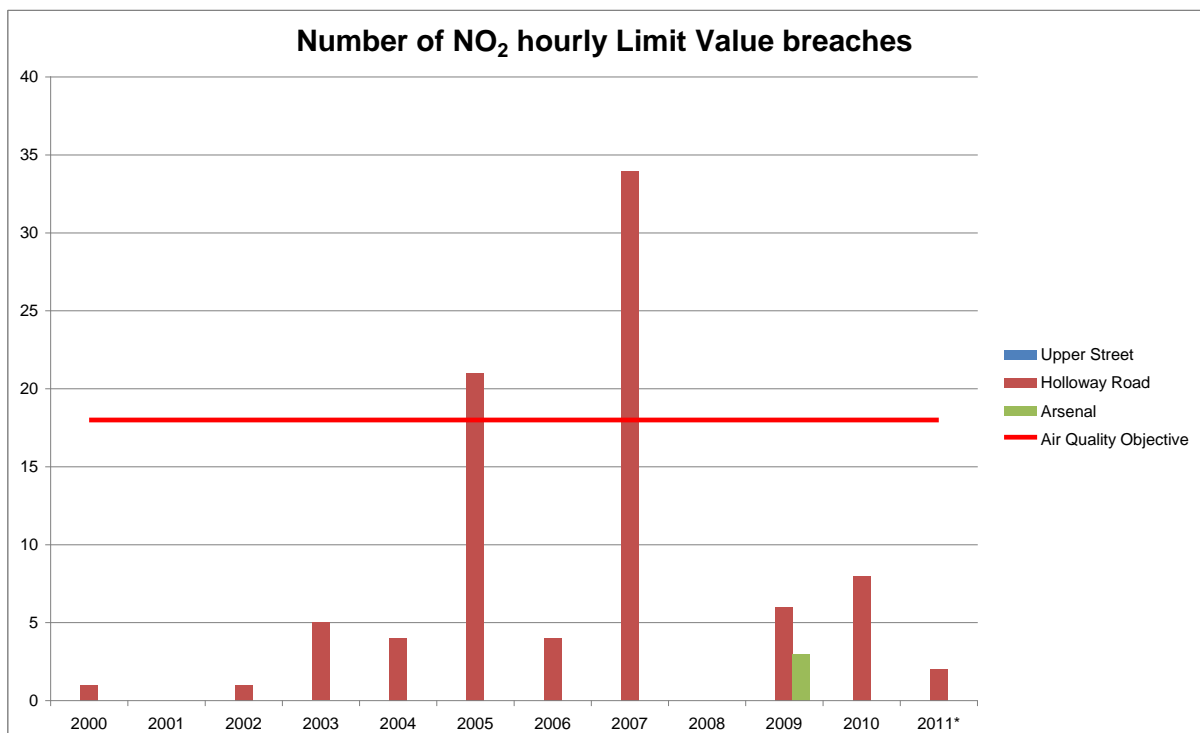
\*Data not yet fully ratified

**Figure 2.3 Trends in Annual Mean Nitrogen Dioxide Concentrations measures at Automatic Monitoring Sites**

**Fig. 2.3 Annual Mean NO<sub>2</sub> trend data**



**Fig 2.4 Hourly exceedances NO<sub>2</sub> trend data**



### Diffusion Tube Monitoring Data

NO<sub>2</sub> is monitored using diffusion tubes at 21 locations around the borough and a co-location study is carried out using 3 tubes at the Holloway Road automatic monitoring station.

The background monitoring data shows all locations to have reduced concentrations since 2010, the greatest reduction is observed at Arran Walk where a decrease of 9.5µg/m<sup>3</sup> whilst the smallest reduction was at Zoffany Park at 2.2µg/m<sup>3</sup>. The background data for 2011 shows all the locations except for Percy Circus to have met the annual mean air quality objective.

The Roadside location also show reduced concentrations since 2010, the greatest being at Caledonian Road where 13.1µg/m<sup>3</sup> was observed, however at Old Street there was an increase of 1µg/m<sup>3</sup>. All the roadside data shows the annual mean objective for NO<sub>2</sub> to have been exceeded.

The highest recorded levels of NO<sub>2</sub> monitored at roadside locations are Old Street, Roseberry Avenue and Highbury Corner. All of these locations are either near to a bus stop or on a junction frequented by a number of buses.

Table 2.6 Results of Nitrogen Dioxide Diffusion Tubes in 2011

Site ID	Location	Site Type	Within AQMA?	Triplicate or Collocated Tube	Data Capture 2011 (Number of Months or %)	Confirm if data has been distance corrected (Y/N)	Annual mean concentration (Bias Adjustment factor = 1(0.92-1.1))
							2011 ( $\mu\text{g}/\text{m}^3$ )
BIS/03	Caledonian Road	Roadside	Y	N	10	N	54 (50-60)
BIS/02	Rosebery Avenue	Roadside	Y	N	11	N	70 (64-77)
BIS/06	City Road	Roadside	Y	N	11	N	60 (55-66)
BIS/07	Old Street	Roadside	Y	N	10	N	72 (67-80)
BIS/08	Highbury Corner	Roadside	Y	N	11	N	69 (63-76)
BIS/09	Balls Pond Road	Roadside	Y	N	10	N	61 (56-68)
BIS/11	Holloway Road	Roadside	Y	N	9	N	58 (53-64)
BIS/13	Junction Road	Roadside	Y	N	10	N	52 (48-57)
BIS/01	Archway Close	Roadside	Y	N	11	N	57 (52-63)
BIS/04	Percy Circus	Urban Background	Y	N	11	N	42 (39-46)
BIS/05	Myddleton Square	Urban Background	Y	N	11	N	39 (36-43)
BIS/01	Arran Walk	Urban Background	Y	N	11	N	33 (31-37)

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Site ID	Location	Site Type	Within AQMA?	Triplicate or Collocated Tube	Data Capture 2011 (Number of Months or %)	Confirm if data has been distance corrected (Y/N)	Annual mean concentration (Bias Adjustment factor = 1(0.92-1.1))
							2011 ( $\mu\text{g}/\text{m}^3$ )
BIS/03	Sotheby Road	Urban Background	Y	N	11	N	30 (27-33)
BIS/10	Highbury Fields	Urban Background	Y	N	11	N	36 (33-40)
BIS/12	Lady Margaret Road	Urban Background	Y	N	9	N	35 (32-38)
BIS/02	Zoffany Park	Urban Background	Y	N	10	N	35 (32-38)
BIS/14	Elthorne Road	Urban Background	Y	N	10	N	34 (31-37)
BIS/15	Turle Road	Urban Background	Y	N	9	N	33 (31-37)
BIS/04	Upper Street	Urban Background	Y	N	11	N	40 (37-44)
Bus 1	Bus Garage entrance	Urban Background	Y	N	10	N	<b>52 (48-57)</b>
Bus 2	Bus Garage playground	Urban Background	Y	N	11	N	<b>41 (38-46)</b>

Table 2.7 Results of Nitrogen Dioxide Diffusion Tubes (2007 to 2011)

Site ID	Site Type	Within AQMA?	Annual mean concentration (adjusted for bias) $\mu\text{g}/\text{m}^3$				
			2007* (Bias Adjustment Factor = 1.447 +/- 0.212)	2008* (Bias Adjustment Factor = 0.99)	2009* (Bias Adjustment Factor = 0.86)	2010* (Bias Adjustment Factor = 0.86)	2011 (Bias Adjustment Factor = 1)
BIS/03	Roadside	Y	83	75	53	46	54
BIS/02	Roadside	Y	99	82	71	61	70
BIS/06	Roadside	Y	88	71	64	55	60
BIS/07	Roadside	Y	92	79	72	62	72
BIS/08	Roadside	Y	96	70	74	63	69
BIS/09	Roadside	Y	87	70	68	59	61
BIS/11	Roadside	Y	80	65	61	53	58
BIS/13	Roadside	Y	53	61	58	50	52
BIS/01	Roadside	Y	79	73	60	52	57
BIS/04	Urban Background	Y	58	45	45	38	42
BIS/05	Urban Background	Y	52	38	39	34	39
BIS/01	Urban Background	Y	53	46	35	30	33
BIS/03	Urban Background	Y	53	35	36	31	30
BIS/10	Urban Background	Y	44	33	35	30	36
BIS/12	Urban Background	Y	57	39	46	39	35
BIS/02	Urban Background	Y	51	37	36	31	35
BIS/14	Urban Background	Y	47	36	37	32	34

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Site ID	Site Type	Within AQMA?	Annual mean concentration (adjusted for bias) $\mu\text{g}/\text{m}^3$				
			2007* (Bias Adjustment Factor = 1.447 +/- 0.212)	2008* (Bias Adjustment Factor = 0.99)	2009* (Bias Adjustment Factor = 0.86)	2010* (Bias Adjustment Factor = 0.86)	2011 (Bias Adjustment Factor = 1)
BIS/15	Urban Background	Y	49	36	35	30	33
BIS/04	Urban Background	Y	45	48	35	30	40
Bus 1	Urban Background	Y	N/A	N/A	N/A	50	52
Bus 2	Urban Background	Y	N/A	N/A	N/A	36	41

\*Optional



Figure 2.4 Trends in Annual Mean Nitrogen Dioxide Concentrations for Diffusion Tube Monitoring Sites (Roadside)

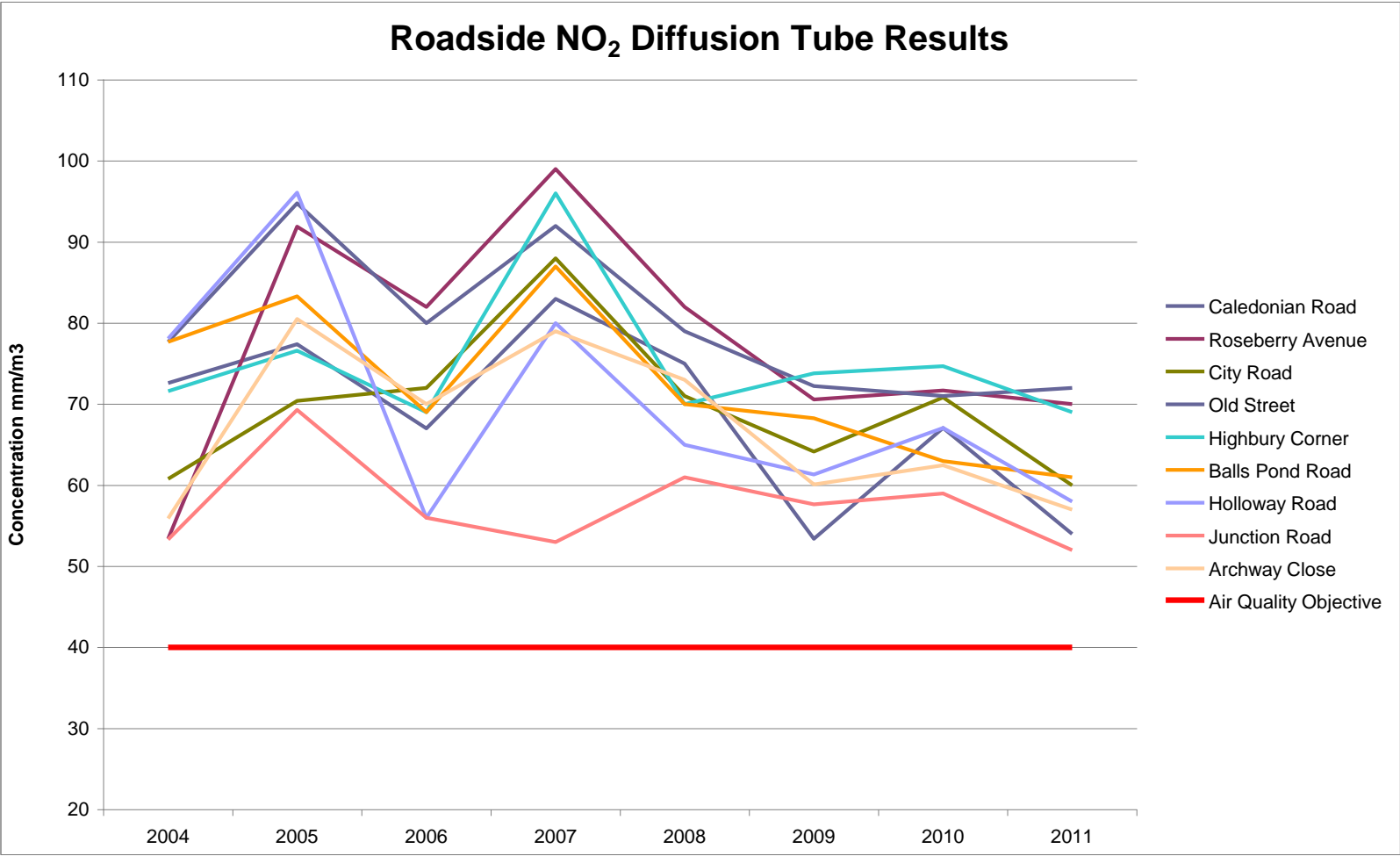
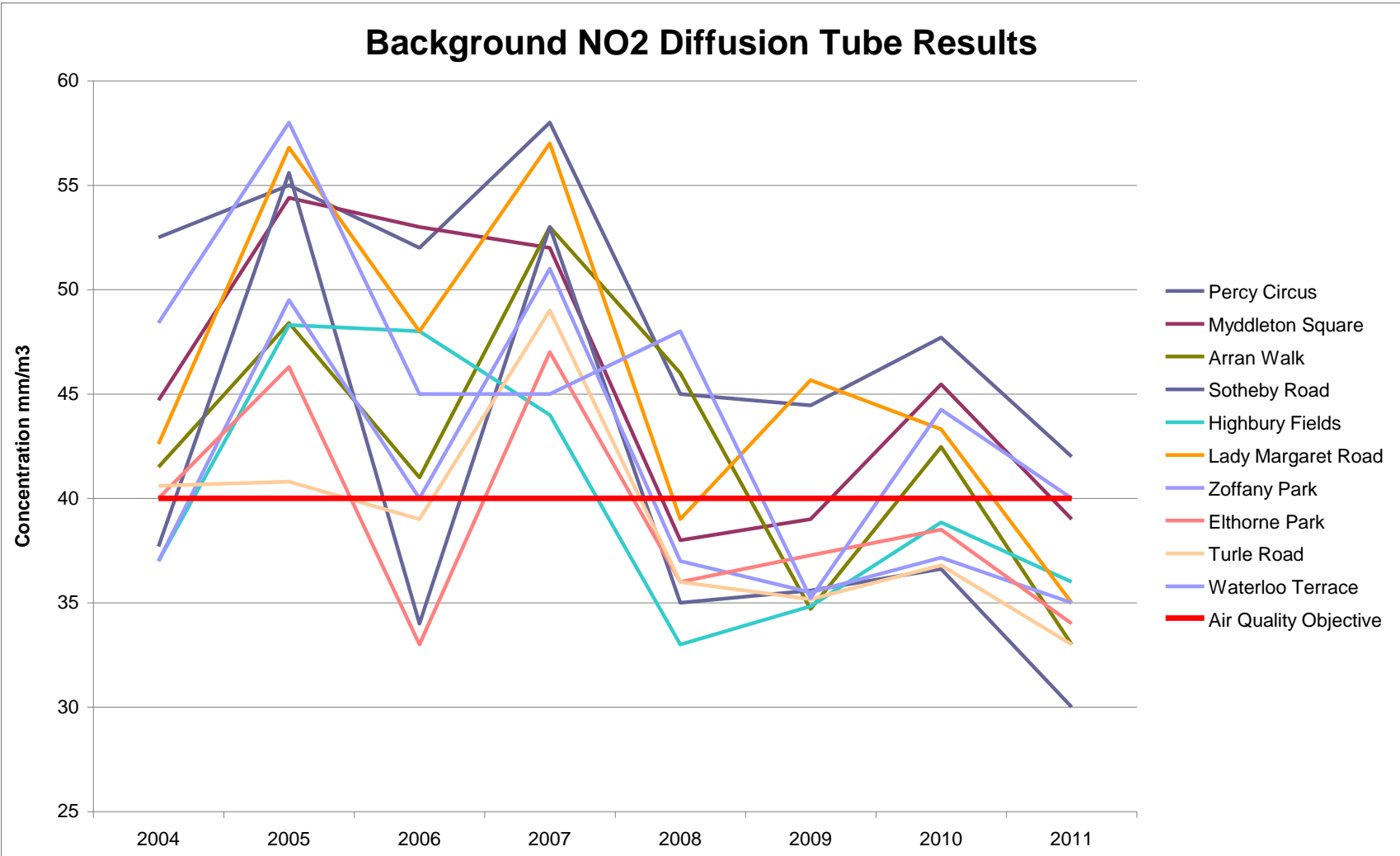


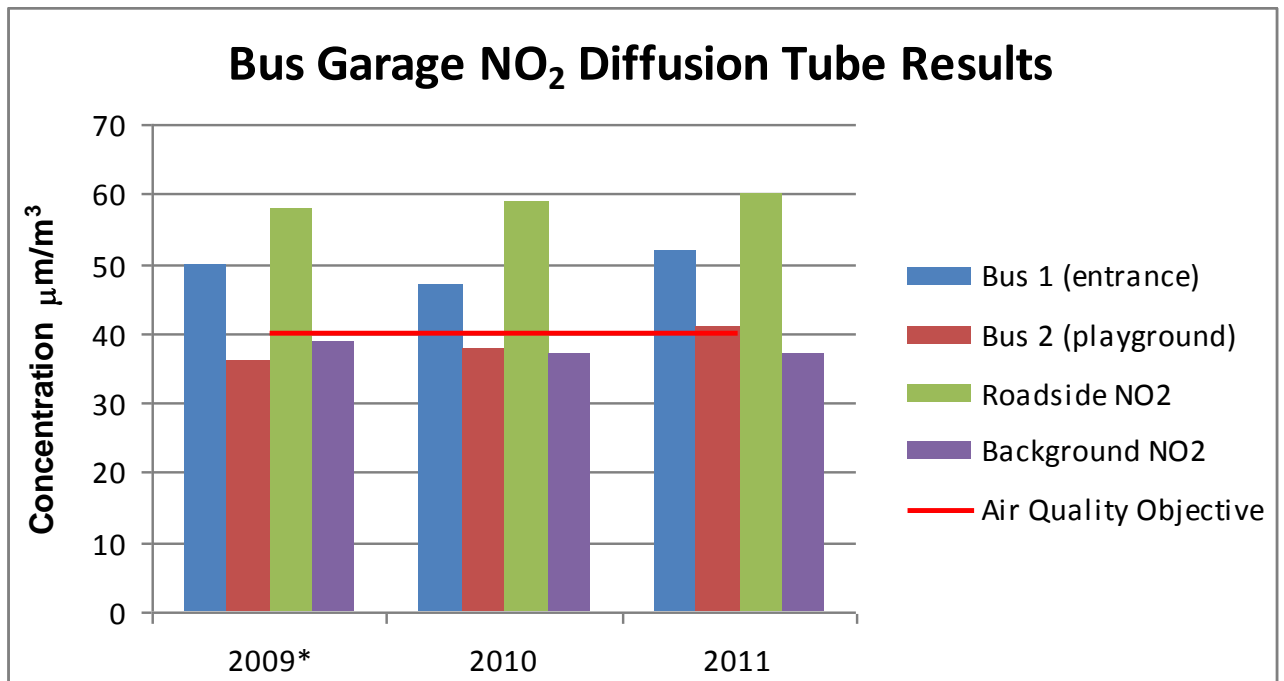
Figure 2.5 Trends in Annual Mean Nitrogen Dioxide Concentrations for Diffusion Tube Monitoring Sites (Background)



**Holloway Bus Garage**

Two diffusion tubes have been placed in the vicinity of the Holloway Bus Garage one at the entrance and the other further away adjacent to a playground for small children. The monitored data shows the concentrations near to the entrance of the garage to be well in excess of the air quality objective and despite the garage being located in an intensely residential area the results are indicative of a roadside location. The results of the monitor at the playground are much lower than that at the entrance. Comparison with the data from the roadside automatic monitoring station suggests that the concentrations at the entrance of the garage are very similar to those on the road. We conclude therefore that the bulk of NO<sub>2</sub> emissions are derived from buses and other diesel fuelled vehicles.

**Fig.2.6 Holloway Bus Garage NO<sub>2</sub> Diffusion tube results**



### 2.2.2 PM<sub>10</sub>

PM<sub>10</sub> monitored in Islington uses the TEOM method; results are converted using the volatile correction method (VCM). All data is provided by the London Air Quality Network (LAQN). The roadside annual mean data shows an increase of 2µg/m<sup>3</sup> since 2010 whilst the background results remained the same. The 24-hour mean results increased significantly at both locations. The Holloway Road monitor showed an increase from 8 exceedances in 2010 to 22 exceedances in 2011; The Drayton Park data shows 5 exceedances in 2010 and 12 in 2011. This can be attributed to the London wide pollution episodes that occurred during 2011. Despite the increases, the data still shows compliance with the 24-hour mean objective.

**Table 2.8 Results of Automatic Monitoring of PM<sub>10</sub>: Comparison with Annual Mean Objective**

Site ID	Site Type	Within AQMA?	Valid Data Capture for monitoring Period % <sup>a</sup>	Valid Data Capture 2011 % <sup>b</sup>	Confirm Gravimetric Equivalent (Y or NA)	Annual Mean Concentration µg/m <sup>3</sup>				
						2007	2008	2009	2010	2011
IS2	Roadside	Y	95	100	Y	28	30	27	27	29
IS6	Urban Background	Y	95	100	Y	22	21	20	22	22

**Table 2.9 Results of Automatic Monitoring for PM<sub>10</sub>: Comparison with 24-hour mean Objective**

Site ID	Site Type	Within AQMA?	Valid Data Capture for monitoring Period %	Valid Data Capture 2011 %	Confirm Gravimetric Equivalent	Number of Exceedences of 24-Hour Mean (50 µg/m <sup>3</sup> )				
						2007	2008	2009	2010	2011
IS2	Roadside	Y	95	100	Y	28	21	7	8	22
IS6	Urban Background	Y	95	100	Y	16	11	3	5	12

Figure 2.7 Trends in Annual Mean PM<sub>10</sub> Concentrations

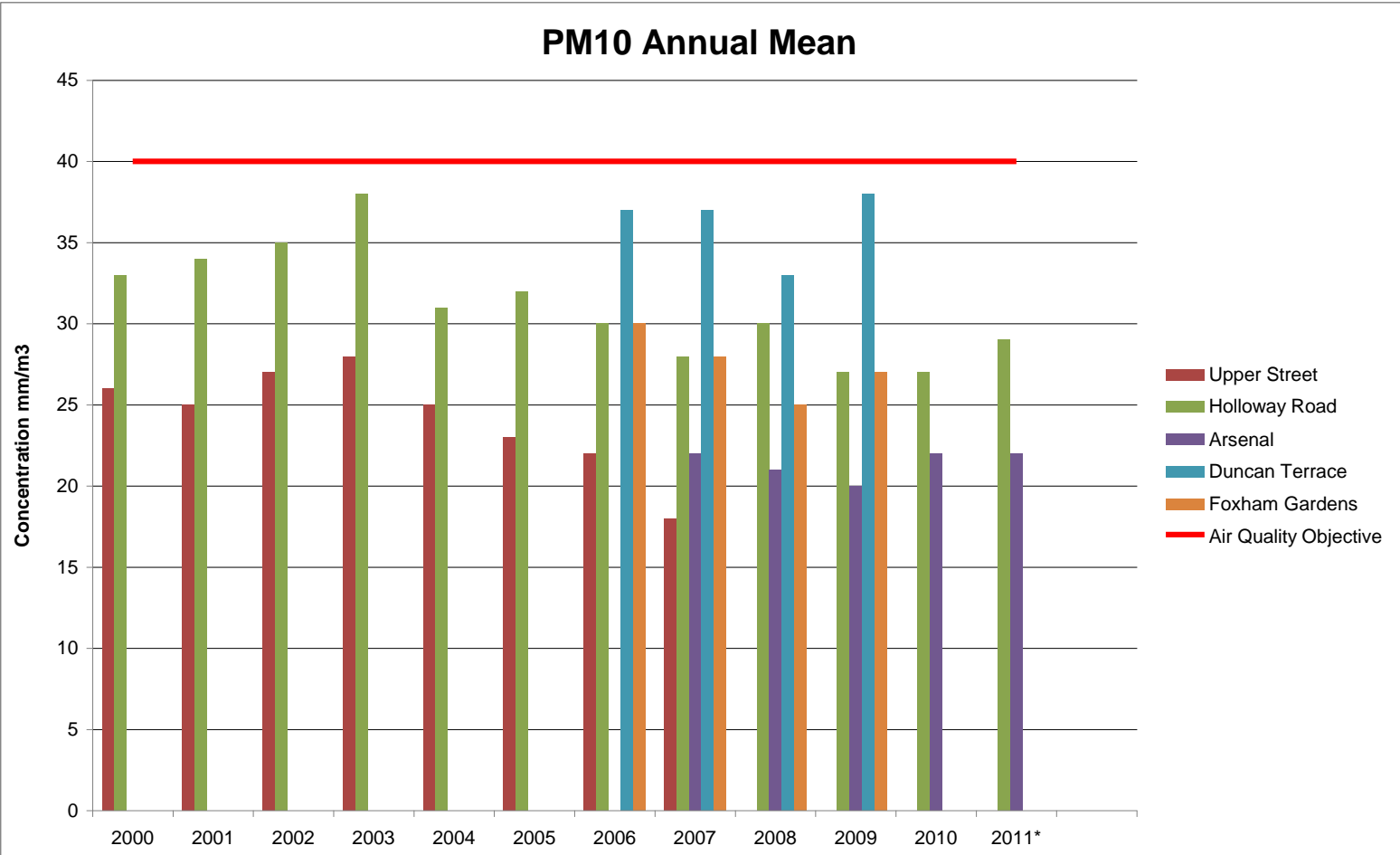
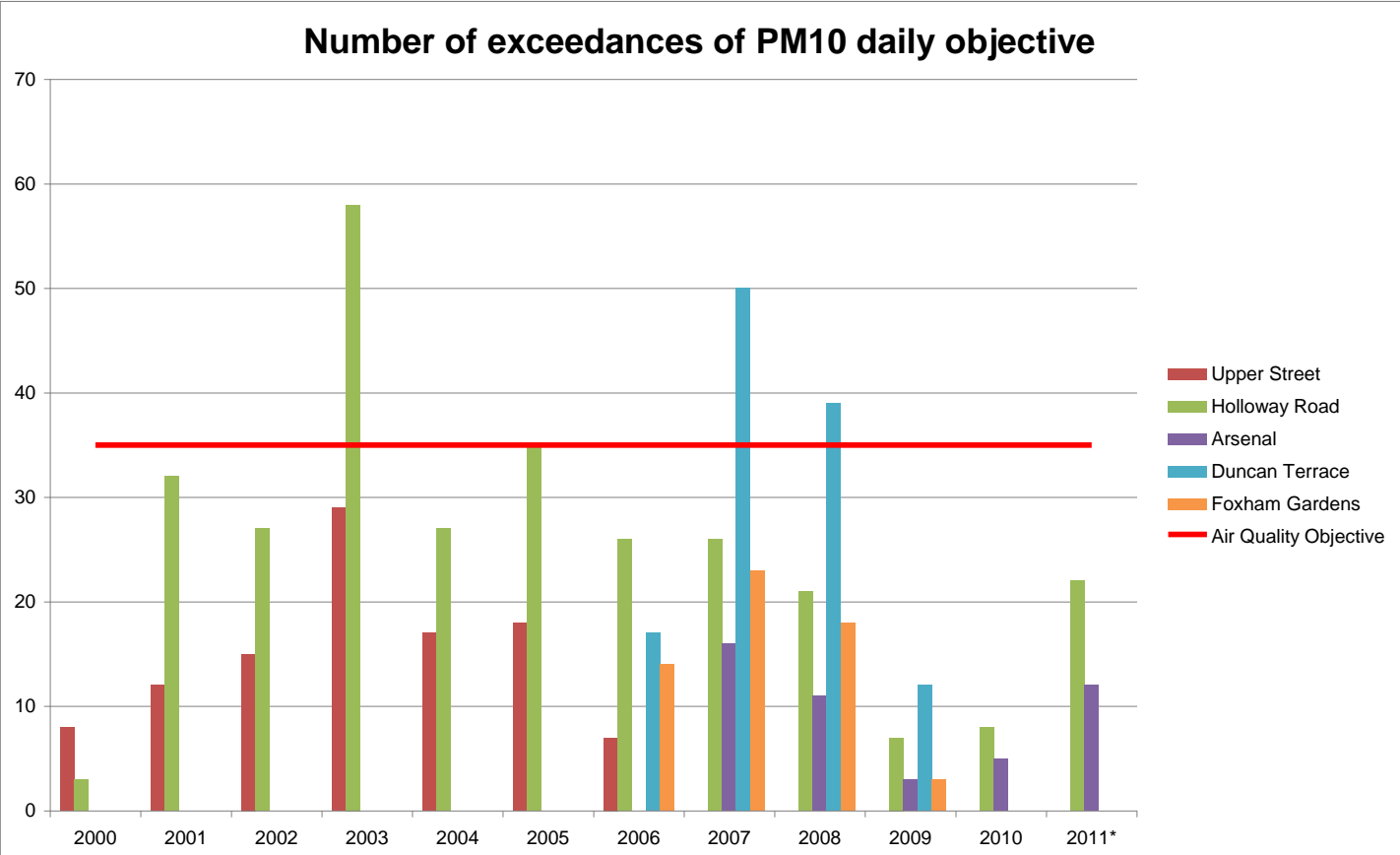


Figure 2.8 Trends in 24-hour Mean PM<sub>10</sub> Concentrations



### 2.2.3 Summary of Compliance with AQS Objectives

The London Borough of Islington has examined the results from monitoring in the borough. Concentrations of PM<sub>10</sub> are all below the objectives, therefore there is no need to proceed to a Detailed Assessment.

Concentrations of NO<sub>2</sub> remain above the objective level at the roadside, however we do not consider it necessary to proceed to a detailed assessment.



### **3 Road Traffic Sources**

#### **3.1 Narrow Congested Streets with Residential Properties Close to the Kerb**

The London Borough of Islington confirms that there are no new/newly identified congested streets with a flow above 5,000 vehicles per day and residential properties close to the kerb, that have not been adequately considered in previous rounds of Review and Assessment.

#### **3.2 Busy Streets Where People May Spend 1-hour or More Close to Traffic**

The London Borough of Islington confirms that there are no new/newly identified busy streets where people may spend 1 hour or more close to traffic.

#### **3.3 Roads with a High Flow of Buses and/or HGVs.**

The London Borough of Islington confirms that there are no new/newly identified roads with high flows of buses/HGVs.

#### **3.4 Junctions**

The London Borough of Islington confirms that there are no new/newly identified busy junctions/busy roads.

### **3.5 New Roads Constructed or Proposed Since the Last Round of Review and Assessment**

The London Borough of Islington confirms that there are no new/proposed roads.

### **3.6 Roads with Significantly Changed Traffic Flows**

The London Borough of Islington confirms that there are no new/newly identified roads with significantly changed traffic flows.

### **3.7 Bus and Coach Stations**

The London Borough of Islington confirms that there are no relevant bus stations in the Local Authority area.

## 4 Other Transport Sources

### 4.1 Airports

The London Borough of Islington confirms that there are no airports in the Local Authority area.

### 4.2 Railways (Diesel and Steam Trains)

#### 4.2.1 Stationary Trains

The London Borough of Islington confirms that there are no locations where diesel or steam trains are regularly stationary for periods of 15 minutes or more, with potential for relevant exposure within 15m.

#### 4.2.2 Moving Trains

The London Borough of Islington confirms that there are no locations with a large number of movements of diesel locomotives, and potential long-term relevant exposure within 30m.

### 4.3 Ports (Shipping)

The London Borough of Islington confirms that there are no ports or shipping that meet the specified criteria within the Local Authority area.

## **5 Industrial Sources**

### **5.1 Industrial Installations**

#### **5.1.1 New or Proposed Installations for which an Air Quality Assessment has been Carried Out**

The London Borough of Islington confirms that there are no new or proposed industrial installations for which planning approval has been granted within its area or nearby in a neighbouring authority.

#### **5.1.2 Existing Installations where Emissions have Increased Substantially or New Relevant Exposure has been Introduced**

The London Borough of Islington confirms that there are no industrial installations with substantially increased emissions or new relevant exposure in their vicinity within its area or nearby in a neighbouring authority.

#### **5.1.3 New or Significantly Changed Installations with No Previous Air Quality Assessment**

The London Borough of Islington confirms that there are no new or proposed industrial installations for which planning approval has been granted within its area or nearby in a neighbouring authority.

### **5.2 Major Fuel (Petrol) Storage Depots**

There are no major fuel (petrol) storage depots within the Local Authority area.

### **5.3 Petrol Stations**

The London Borough of Islington confirms that there are no petrol stations meeting the specified criteria.

### **5.4 Poultry Farms**

The London Borough of Islington confirms that there are no poultry farms meeting the specified criteria.

## 6 Commercial and Domestic Sources

### 6.1 Biomass Combustion – Individual Installations

Islington has approximately 19 known biomass installations in the borough. Relevant information is not available for all of them, in addition it is believed that not all of them are in use.

The potential for emissions to contribute significantly to local air quality concentrations is high but this cannot be verified without further detailed information. We will conduct an detailed assessment for this source and report the findings in due course.

The London Borough of Islington has assessed biomass combustion plant, and concluded that **it will be necessary to proceed to a Detailed Assessment for NO<sub>x</sub> and PM<sub>10</sub>**.

### 6.2 Biomass Combustion – Combined Impacts

A detailed assessment will be conducted for this source.

The London Borough of Islington has assessed biomass combustion plant, and concluded that **it will be necessary to proceed to a Detailed Assessment for PM<sub>10</sub>**.

### 6.3 Domestic Solid-Fuel Burning

The London Borough of Islington confirms that there are no areas of significant domestic fuel use in the Local Authority area.

## 7 Fugitive or Uncontrolled Sources

The London Borough of Islington confirms that there are no potential sources of fugitive particulate matter emissions in the Local Authority area.

## **8 Conclusions and Proposed Actions**

### **8.1 Conclusions from New Monitoring Data**

New monitoring data shows levels of NO<sub>2</sub> to have worsened marginally from the previous year. The objective is still being exceeded at the roadside and borderline at the background automatic monitoring station. The diffusion tube results show exceedances of the annual mean objective at some background locations also.

Due to the pollution episodes experienced across London in 2011 it was feared that the objectives for PM<sub>10</sub> may be exceeded, however, whilst a significant increase in daily mean was observed Islington remains in compliance with both long and short term objectives for PM<sub>10</sub>.

### **8.2 Conclusions from Assessment of Sources**

There are no new or changes to existing sources that have contributed significantly to local concentrations of either NO<sub>2</sub> or PM<sub>10</sub>. The contribution made from biomass installations in the borough are unclear

### **8.3 Proposed Actions**

The USA shows the objectives that are not being met in the borough have not changed since the previous round of assessments. There are no new sources that will have made a significant contribution to concentrations. The AQMA will remain in place for the pollutants of NO<sub>2</sub> and PM<sub>10</sub>, the reasons for this remain the same in that a change in meteorology could cause an exceedance of the PM<sub>10</sub> objective; this is evident by the dramatic increase in the daily mean levels observed at both of the automatic monitoring stations.

The authority plans to publish a revised action plan before the 2013 progress report submission, and submit a detailed assessment for biomass in the borough.



## 9 References

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## Appendix A: QA:QC Data

### Factor from Local Co-location Studies