

London Borough of Haringey

London Borough Of Haringey



Air Quality Updating and Screening Assessment 2009

Part IV of the Environment Act 1995

Local Air Quality Management

April 2010

London Borough of Haringey

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Executive Summary

This Updating and Screening Assessment is a requirement under the Environment Act 1995, Part IV, for local authorities to periodically review and assess current and future air quality. This report also serves to:

- Retain the profile of LAQM within the local authority
- Provide a means of communicating air quality information to members and the public
- Maximise the usefulness and interpretation of the monitoring carried out by the local authority
- Make the next stage of review and assessment easier, as the report provides a readily available up-to-date source of information
- Help local authorities respond to enquires for information on air quality
- Provide information to help other policy areas, such as transport and land use planning
- Provide a source of information for developers carrying out air quality assessments of new schemes

The review of monitoring data, detailed in the LAQM Technical Guidance (09), has shown that the conclusions and predictions from the first round of review and assessment are still valid and that the Council was correct in its decision to declare an Air Quality Management Area for the pollutants of nitrogen dioxide and PM₁₀.

There have been no significant sources or changes since the 2006 Review and Assessment that may lead to risk of an air quality objective being exceeded in a previously unidentified location. A borough wide air quality modelling study (August 2009) identified hotspots of air pollution concern. Development of residential dwellings adjacent these hotspots may effect an increase in exposure to the hourly and annual NO₂ objective. An indicative monitoring programme is planned. Whilst there has been no significant change in the source of emissions of NO₂ and PM₁₀, exceedences of the NO₂ annual mean objective at roadside locations are attributed to the increase in primary NO₂

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from vehicle emissions and vehicle technology, a result of Central Government policy.

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The results of this latest data collation support the findings of the last round of review and assessment, that all pollutants except nitrogen dioxide and fine particles will meet the Governments air quality objectives and also that the council was correct in its decision to declare the entire borough an Air Quality Management Area for these two pollutants. The nitrogen dioxide annual mean objective of $40\mu\text{g}/\text{m}^3$ has not been achieved adjacent the borough's main road network. Sulphur dioxide objectives have been achieved.

In January 2010 the monitoring of PM_{2.5} began at the HGY1 site, via FDMS.

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1 Introduction

1.1 Description of Haringey Area

The London Borough of Haringey is one of the 33 London boroughs and made up of the town centres of Wood Green, Tottenham, Muswell Hill and Highgate.

Geographically located to the North of London, Haringey is classified as an outer London Borough is more than 11 square miles in area. It consists of the former boroughs of Hornsey, Wood Green and Tottenham, which were amalgamated in 1965. It shares borders with six other London boroughs. Clockwise from the north, they are: Enfield, Waltham Forest, Hackney, Islington, Camden and Barnet. Along the Eastern side is the Lea Valley, historically the home to heavy industry.

Today the borough of Haringey is predominantly residential with some light industry, mostly located along the eastern edge of the borough. According to the Office for National Statistics (ONS) estimates, Haringey's population in 2006 was 225,700. The GLA projections estimate Haringey's population to grow by 10.6% that is 23,800 residents over the next 25 years. Haringey has a tradition of diversity and within the borough there are more than 100 languages spoken.

A combination of the shopping areas, housing and the main road, rail and tube transport networks have all contributed to the development of different identities of Haringey. The transport networks connect the borough to the rest of London but also serve as borders within the borough, especially the north / south road, the A105 (Green Lanes) which divides the East and the West in the middle of the borough. The eastern part of the borough is urban residential with the western side of the A105 being more affluent and having more green open spaces. Major roads that traverse the borough include the A1, A10, A105, A406, A503, A1010 & A1055. Tottenham is also home to Tottenham Hotspurs Football Club; other well known landmarks include Alexandra Palace and Alexandra Park, Bruce Castle and Finsbury Park. The river Lee (Lea) follows the eastern boundary from North to South. The river is navigable but is little used.

25% of Haringey's total area consists of parks, recreation grounds and open spaces. There are also 5 distinct ancient woodlands which are Highgate Wood, Queens Wood, Coldfall Wood, Bluebell Wood and North Wood. Highgate Woods is one of the eight Green Heritage sites in London.

Much of Haringey, including some of its deprived neighbourhoods, has relatively good public transport. This means that employment opportunities in the City and West End are fairly easily accessible, as are the opportunities of the London-Cambridge corridor and Stansted Airport. In common with many London boroughs, Haringey suffers the effects of large amounts of through road traffic. The East Coast main line (London to Edinburgh) traverses the borough North to South. This line carries electric, diesel and occasionally coal fired engines on "special trips". The East London line from Shoeburyness to London crosses the borough East-West. This line carries mainly electric trains with occasional diesel freight.

Whilst there are no Part A and A2 processes in the borough there are a limited number of Part B processes. There are some key regeneration projects within the borough including Tottenham and Haringey Heartlands, Tottenham High Road regeneration corridor, the Upper Lea Valley and Wood Green.

1.2 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.

1.3 Air Quality Objectives

The air quality objectives applicable to LAQM in England are set out in the Air Quality (England) Regulations 2000 (SI 928), The Air Quality (England) (Amendment) Regulations 2002 (SI 3043), and are shown in Table 1.1. This table shows the objectives in units of microgrammes per cubic metre $\mu\text{g}/\text{m}^3$ (milligrammes per cubic metre, mg/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 Local Air Quality Management 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 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 (PM ₁₀) (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

There are new obligations for Particles (PM_{2.5}) which have not yet been adopted into UK legislation.

1.4 Summary of Previous Review and Assessments

The London Borough of Haringey completed the first round of Review and Assessment (Stages 1 – 4) in January 2003. This first round concluded that of the seven key pollutants, the objective levels for both nitrogen dioxide (NO₂) and fine particulates (PM₁₀) are likely to exceed national objectives. The whole of the borough of Haringey is designated an Air Quality Management Area (AQMA) for NO₂ and PM₁₀. The Council has produced the following documents to fulfil the requirements of Part IV of the Environment Act 2005:

- Following on from the declaration of the AQMA, an Air Quality Action Plan;
- an Updating and Screening Assessment (2003)
- an Action Plan Progress Report (2004),
- an Air Quality progress report and review and assessment report (2005)
- an Updating and screening assessment (2006) & Air Quality Progress Report (2006),
- an Air Quality Progress Report and Review and Assessment Report (2007)
- and a Review and Assessment Report and Air Quality Action Plan Progress Report (2008).

This Updating and Screening Assessment follows the latest Technical Guidance LAQM.TG (09) and is a prescriptive approach to report on new monitoring data, new pollutant objectives, new sources or significant changes to existing sources and other changes that might affect air quality.

The previous report, the Review and Assessment Report 2007 & Air Quality Action Plan Progress Report 2007 concluded that predictions from the first round of review and assessment remain valid and that the Council was correct in its decision to declare an Air Quality Management Area for the pollutants of nitrogen dioxide and PM₁₀”.

2 New Monitoring Data

2.1 Summary of Monitoring Undertaken

2.1.1 Automatic Monitoring Sites

Haringey Council has been automatically monitoring air pollution since 1994. To date there are two automatic monitoring sites in operation within the borough; one roadside and one urban background. There have been no new sites or sites that have closed down since the previous report. Appendix 1 shows a map of the locations of all monitoring sites, automatic and non-automatic, in the borough as at December 2009. Table 2.1 gives details of the automatic monitoring sites within the borough.

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	Worst-case Location?
HGY1	Roadside	X 533890 Y 190710	NO2, PM10 & PM2.5 & SO2	Yes	Yes (0m – residential).	4m	Yes
HGY2	Urban Background	X 529895 Y 189125	NO2, PM10 & O3	Yes	No	N/A	No

Data

Monitoring data is imperative to the requirement under the Environment Act 1995 for local authorities to periodically review and assess the air quality in their area.

Monitoring data provides:

- A measure of actual concentrations and exceedences of objectives
- Information on trends in air pollution
- Provides the basis for verifying the results of air quality models used to predict future air pollution.

For this reason, data from both sites are included in the London Air Quality Network (LAQN), which is managed by the Environmental Research Group (ERG), Kings College London. ERG manages the data collected, validates and ratifies it in order for it to be 'fit for purpose'. In addition, both sites are 'split LAQN/AURN'

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sites. AURN (Automatic Urban & Rural Network) sites are funded by defra and the data has traceability to national standards. Split sites are partly funded by defra and partly funded by the local authority.

Routine calibrations for each analyser type are undertaken fortnightly. Each site is audited bi-annually following a full service. The calibrations support the quality assurance and quality control (QA/QC) checks that are carried out on the raw data to the LAQN/AURN network standard. This is to ensure that:

- Data is representative of ambient concentrations in the area
- Measurements are accurate and precise in order to meet monitoring requirements
- Data can be consistently compared with data from national and international standard sites
- Measurements are consistent over time

PM10 levels are measured by Tapered Element Oscillating Microbalance (TEOM) and the data converted to gravimetric measurement by multiplication by the conversion factor of 1.3. In January 2010, a Filter Dynamics Measurement System (FDMS monitor) was installed at the HGY1 station to measure PM2.5 levels.

Further information on data validation and ratification is available on the ERG website: www.londonair.org.uk

2.1.2 Non-Automatic Monitoring

For monitoring locations of diffusion tubes throughout the borough see Appendix 1.

The non-automatic sites are diffusion tube sites and all monitor for nitrogen dioxide. Diffusion tubes provide an indicative measure of the pollutant being monitored. The advantage of using diffusion tubes is that they are inexpensive and provide useful information on pollutant variations across the borough, to identify pollution hotspots and long-term trends.

The diffusion tubes are prepared and analysed by Lambeth Scientific Services who are a UKAS accredited laboratory. This laboratory participates in the WASP

scheme (Workplace Analysis Scheme for Proficiency) to meet European standards and is involved in the network field inter-comparison exercise operated by NETCEN, which assesses the sampling and analytical performance of the tubes.

The Council monitors for nitrogen dioxide by diffusion tube at ten locations throughout the borough since 2004. Nitrogen dioxide diffusion tubes are prepared using the 50% triethanolamine (TEA) in acetone method. The results of four sites are fed into the UK Nitrogen Dioxide Diffusion Tube Network. The locations are a mixture of roadside and background sites. Table 2.2 bestows individual site details. Whilst no co-location study has taken place, diffusion tube ref: HR14 is co-located with HGY1 automatic monitoring site.

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	Worst-case Location?
HR06	Roadside	528940 187660	NO2	Y	Y (2m)	0m	N
HR07	Urban Background	534400 190160	NO2	Y	N	N/A	N
HR08	Urban Background	530440 189450	NO2	Y	Y	0m	Y
HR10	Roadside	530860 190690	NO2	Y	N	8m	N
HR13	Roadside	531460 189670	NO2	Y	N (6m)	3m	Y
HR14	Roadside	533890 190710	NO2	Y	Y (0m – residential)	4m	Y
HR15	Roadside	528810 189690	NO2	Y	Y (3m)	0m	Y
HR16	Roadside	534370 189460	NO2	Y	N	2m	Y
HR17	Roadside	531060 190270	NO2	Y	Y	3m	Y

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HR18	Roadside	530990 190420	NO2	Y	N (8m)	3m	Y
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Table 2.2 Details of Non- Automatic Monitoring Sites

2.2 Comparison of Monitoring Results with AQ Objectives

2.2.1 Nitrogen Dioxide

The borough of Haringey has been designated a whole borough Air Quality Management Area (AQMA) for NO₂, as have neighbouring boroughs. The principal source of nitrogen dioxide (NO₂) in Haringey is from road transport; increases in which are attributed to the increase of diesel fuelled vehicles. Other releases are from combustion processes such as boiler plant and industrial emissions. It is nitrogen dioxide that is associated with adverse effects on human health and is one of the pollutants of concern within the London area. Road traffic emissions are currently the dominant source of NO_x in Haringey.

Automatic Monitoring Data

Tables 2.3a and b illustrate the annual mean and 1-hour mean monitored data from the two automatic monitoring sites operating within the borough. Exceedences of the objectives are in red.

Both automatic monitoring locations are representative of public exposure. As can be seen from the table, the roadside site, HGY 1 again measured exceedences of the annual objective for NO₂. For this site, the nearest relevant exposure are residential properties <4m from the kerb; the sample inlet is in line with the building façades. This demonstrates relevant exposure and that the Council was correct in its decision to declare an AQMA for the whole borough for NO₂.

HGY2 is located in a local park and is classified as an urban background site. At this location the annual objective of 40µg/m³ has been achieved. The overall NO₂ trend remains steady with levels parallel to those measured at the roadside site. This site is not representative of relevant exposure with the London area, as it is located in an open park.

The hourly NO₂ objective was achieved at all monitoring locations, except in 2007 at the HGY 1 site. However this uncharacteristic exceedence could have been as a result of local building or road works taking place.

Table 2.3a Results of Automatic Monitoring for Nitrogen Dioxide: Comparison with Annual Mean Objective

Site ID	Location	Annual mean concentrations (µg/m ³)									
		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009*
HGY1	High Road, N17	51	48	46	52	46	42	43	42	37 (99%)	42 (91%)
HGY2	Priory Park N8	37	38	35	37	34	34	33	32	32 (98%)	34 (98%)

*Data for 2009 not fully ratified.
(%) valid data capture rate for NO₂ for that year.

Table 2.3b Results of Automatic Monitoring for Nitrogen Dioxide: Comparison with 1-hour Mean Objective

Site ID	Location	Number of exceedences of hourly mean (200 µg/m ³)									
		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009*
HGY1	High Road, N17	0	0	0	0	0	1	0	21	0 (99%)	0(91%)
HGY2	Priory Park N8	0	0	0	0	0	0	0	3	0 (98%)	4 (98%)

*Data for 2009 not fully ratified.
(%) valid data capture rate for NO₂ for that year.

Diffusion Tube Monitoring Data

The results have been appropriately bias adjusted, using the analytical laboratory adjustment factors. These are highlighted in bold, in red. Data is for a 12 month period, with tubes exposure in accordance with the UK Nitrogen Dioxide diffusion tube network.

As diffusion tubes are considered to have limitations and have poor accuracy; in 2000, the government recommended that tubes should be co-located with an automatic analyser to determine a bias adjustment factor, which is then applied to

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the raw data for the particular year. Haringey co-locates a tube at HGY1 (High Road monitoring station) and submits the data annually. The average adjustment factor for the correct laboratory and analytical method is then applied to the raw annual average concentrations for the correct year to obtain bias adjusted results. The bias adjustment factor used for 2008 is 0.98 and for 2009 is 1.03. The bias adjustment factors are on the website;

<http://www.uwe.ac.uk/aqm/review/R&Asupport/diffusiontube310310.xls>

Tables 2.4a and b illustrate the annual mean measured data from the non-automatic monitoring sites, diffusion tube sites within the borough.

Table 2.4a Results of Nitrogen Dioxide Diffusion Tubes

Location	Annual mean concentrations	
	2008 ($\mu\text{g}/\text{m}^3$) Adjusted for bias (0.98)	2009($\mu\text{g}/\text{m}^3$) Adjusted for bias (1.03)
HR06	73.17 (71.70)	70.25 (72.4)
HR07	33.17 (32.50)	32.5 (33.5)
HR08	34.75 (34.06)	34 (35)
HR10	39.67 (38.87)	32.42 (33.4)
HR13	75.33 (73.83)	73.08 (75.3)
HR14	46.58 (45.65)	46.70 (48.1)
HR15	45.00 (44.10)	57.80 (59.5)
HR16	61.50 (60.27)	67.20 (69.2)
HR17	74.58 (73.09)	91 (93.7)
HR18	70.42 (69.01)	64 (65.9)

The sites which have measured an exceedence of the NO₂ annual objective are highlighted in red. All of these are roadside sites and all represent relevant exposure indicating the NO₂ levels at residential façades.

Table 2.4b Historical Results of Nitrogen Dioxide Diffusion Tubes Monitoring

Annual Mean Concentrations ($\mu\text{g}/\text{m}^3$) – adjusted for bias.				
	2004	2005	2006	2007
Bias adjustment Factor	1.19	1.24	1.28	1.07
HR06	74	70	69	67
HR07	37	35	34	36
HR08	36	36	38	27
HR10	56	34	30	27
HR13	77	77	85	75
HR14	39	47	55	36
HR15	60	52	62	50
HR16	57	60	62	49
HR17	70	85	96	69
HR18	70	57	65	59

2.2.2 PM_{10}

The London Borough of Haringey is designated an AQMA for PM_{10} , as have neighbouring boroughs. The principal source of PM_{10} in Haringey is attributed to diesel fuelled vehicles, in particular HGVs, LGVs and buses. This was illustrated at the Stage IV Review and Assessment. These small particles (<10 μm diameter) can be breathed into the deepest parts of the lung, carrying with them a range of both natural and man made substances and are associated with both respiratory and cardio-vascular health problems.

The principal sources of fine particulates (PM_{10}) can be divided into three main categories; *Primary Sources* - from combustion sources including road traffic, power generation and industrial combustion, *Secondary sources* - formed from chemical reactions in the atmosphere and *Coarse Sources* – all other sources

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including resuspended dusts, construction work dust, mineral extraction works, wind-blown dusts and soils, including sea salt and biological particles.

See section 2.1.1 for an explanation of data management and validation. Tables 2.5a and b illustrates the annual mean and 24hour means monitored data from the automatic monitoring sites operating within the borough. All results from TEOM PM₁₀ analysers from 2004 onward have been converted to reference equivalence using the volatile correction method from the ERG website.

In June 2009 an FDMS (Filter Dynamics Measurement System) was installed at the HGY1 site to measure concentrations of PM_{2.5}. As can be seen from the tables, there has been no exceedences of either the annual mean PM₁₀ or the 24 hour mean objective. For HGY1 the nearest relevant exposure is residential properties which are within 4m from the kerbside. HGY2 is located in a park and is classified as an urban background site. This site is unrepresentative of relevant exposure with the London area.

Table 2.5a Results of PM₁₀ Automatic Monitoring: Comparison with Annual Mean Objective

Site ID	Location	Within AQMA?	Annual mean concentrations (µg/m ³)									
			2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
HGY1	High Road, N17	Y	26	27	27	29	23	24	24	26 (72%)	21 (66%)	21
HGY2	Priory Park N8	Y	22	25	26	29	30	23	26	26 (68%)	20	18*

(%) Data capture rate – where below 75%
Data for year is not fully ratified.

Table 2.5b Results of PM₁₀ Automatic Monitoring: Comparison with 24-hour Mean Objective

Site ID	Location	Within AQMA?	Number of Exceedences of daily mean objective (50 µg/m ³)									
			<i>If data capture < 90%, include the 90th %ile of daily means in brackets.</i>									
			2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
HGY1	High Road, N17	Y	12	14	15	34	7	16	11	22 (72%)	6 (66%)	5
HGY2	Priory Park N8	Y	11	12	11	34	17	13	10	13 (68%)	8	1*

(%) Data capture rate – where below 75%
Data for year is not fully ratified.

2.2.3 Sulphur Dioxide

The principal source of sulphur dioxide (SO₂) is from power stations and industrial combustion sources. Other sources include domestic and commercial heating.

Concentrations of sulphur dioxide have seen to be continually declining as a result of industries switching from oil or coal-fired heating to gas-fired heating and reductions in the sulphur content of vehicle fuel.

See section 2.1.1 for an explanation of data management and validation. Tables 2.6a and 2.6b illustrate the measured exceedences of the 15 minute, hourly and 24 hour means. Sulphur dioxide is monitored for at HGY1 (High Road, N17) only and is representative of public exposure. As can be seen from the table, there were no exceedences of any of the averaging means for SO₂. Sulphur Dioxide is not a pollutant of concern in Haringey and the monitoring of sulphur dioxide will be reviewed.

Table 2.6a: Sulphur dioxide (µg/m₃) concentrations measured at HGY1

Year	Exceedences of 15 Minute Means	Exceedences of hourly Mean	Exceedences of 24 hour Mean	Data Capture rate
2000	None	None	None	91%
2001	None	None	None	94%
2002	None	None	None	95%
2003	None	None	None	91%
2004	None	None	None	98%
2005	None	None	None	99%
2006	None	None	None	97%

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2007	None	None	None	98%
2008	None	None	None	97%
2009*	None	None	None	98%

* Data from year is not fully ratified

2.2.4 Benzene

Monitoring Data

The first round of review and assessment identified no exceedences of the benzene objective in the borough of Haringey. This pollutant is not monitored

2.2.5 Other pollutants monitored

Ozone is monitored at HGY 2 site and is funded by defra. Ozone is not a pollutant of concern for Local Authorities and so is not reported on in this assessment.

3 Road Traffic Sources

3.1 Narrow Congested Streets with Residential Properties Close to the Kerb

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

3.4 Junctions

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

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

Since the last round of review and assessment a new link road has been constructed; Mary Neuner Way. An air quality assessment was carried out at the planning application stage. There were no receptors affected.

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

3.6 Roads with Significantly Changed Traffic Flows

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

3.7 Bus and Coach Stations

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

4 Other Transport Sources

4.1 Airports

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

4.2 Railways (Diesel and Steam Trains)

The London Borough of Haringey 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.

4.2.1 Stationary Trains

The London Borough of Haringey 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 Haringey 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 Haringey confirms that there are no ports or shipping that meets 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 Haringey 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 Haringey 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 Haringey 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 Haringey confirms that there are no petrol stations meeting the specified criteria.

5.4 Poultry Farms

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

6 Commercial and Domestic Sources

6.1 Biomass Combustion – Individual Installations

The table below identifies known biomass boilers in operation within the London Borough of Haringey area. As can be seen from the table, information regarding these is vague

Location	Biomass Plant	Assessment Information
Tottenham Hale Village	Unknown - 1MW	An air quality assessment was carried out as part of the planning application and the biomass was assessed as not having a significant impact on the nearest residential receptors. Planning application not yet approved.
Woodside High School	Borag-Gilles 240Kw.	This plant is not yet installed – work planned during summer 2010. An air quality assessment will be submitted with the planning application.

The London Borough of Haringey confirms that there is no such biomass combustion plant in the Local Authority area.

6.2 Biomass Combustion – Combined Impacts

The council holds no records of small domestic and commercial solid-fuel burners that may be operating within the borough.

The London Borough of Haringey confirms that there is no such biomass combustion plant in the Local Authority area.

6.3 Domestic Solid-Fuel Burning

The London Borough of Haringey 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 Haringey 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 that there have been no exceedences of the PM10 annual mean and 24 hour objective but that the NO₂ annual mean objective has been exceeded at monitoring locations adjacent busy roads and is close to the annual mean objective at background locations. There has been no exceedence of the hourly NO₂ objective monitored. Diffusion tube data confirms that there are likely to be exceedences of the hourly objective at roadside locations, such as HR17 where the annual measurement is above the 60mg/m³.

These results continue to demonstrate that the London Borough of Haringey was correct in its decision to declare an Air Quality Management Area for the pollutants of PM10 and NO₂. Although the monitoring results for PM10 show no exceedences, monitoring for this pollutant will continue for the foreseeable future. The high levels of NO₂ are likely to be as a result of the increase in diesel fuelled vehicles and also as a direct result of the diesel particulate filters fitted to London buses and HGV's. These filters deliberately produce NO₂ to help oxidise particles.

The London Borough of Haringey has no intention at this stage to revoke the AQMA declared for PM10. This will be reviewed at the next evaluation of data.

The sulphur dioxide objectives have been achieved.

8.2 Conclusions from Assessment of Sources

There are no new local sources that might affect local air quality, such as.

- New industrial processes
- New retail or mixed use developments that could significantly change traffic flows
- New landfills sites, quarries etc with nearby public exposure

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- **New road schemes or significant changes to existing road schemes**

There are no landfills, quarries or Part A/A1 industrial processes in Haringey. With respect to 'Part B' permitted installations, in December 2009 there were a total of 7 industrial premises, 16 service stations and 46 dry cleaner premises permitted.

The majority of new or planned developments over the last year have been residential or mixed-use developments, but few are large enough to have a significant impact on local traffic flows. Haringey uses the planning process to minimise the impact on local traffic to prevent increases in congestion and worsening air quality. There have been car-free residential dwellings and the council's UDP has parking standards to limit residential parking. Most major developments are required to implement measures such as travel plans and local improvements to reduce traffic as part of Section 106 agreements. Air quality is recognized as a major planning consideration and all developments in areas adjacent the boroughs main road networks are evaluated for air pollution. Not all planning applications require a detailed air quality assessment to be carried out, but each major application is considered with a regard to air quality.

There have been no new road schemes or significant changes to existing road schemes which will impact on air quality.

Notwithstanding the above, biomass boilers may have an impact on local air quality, particularly for NO₂ emissions. As noted earlier, detailed information is being sought from the interested parties with respect to biomass boiler installations, when assessments of individual biomass combustion can be carried out.

8.3 Proposed Actions

The updating and screening assessment has not identified the need for any detailed assessments.

Air quality dispersion modelling for the whole borough was carried out June 2009. This was to update the previous modelling which was carried out in 2001. Updated emissions inventories, refinement in modelling technology, advances in vehicle technology and changes in traffic types flows due to recent changes in London, such as the low Emissions Zone and Congestion Charge and the requirement to report on NI 194, influenced the need for a more up to date picture of air quality in the borough. This modelling has identified 'hotspots' of air pollution concern and further diffusion tube monitoring is planned at these locations.

In January a new FDMS PM10 analyser replaced the TEOM together with the addition of a PM2.5 analyser at the HGY1 site.

Due to the continuing meeting of the SO₂ objectives the continuous monitoring of this pollutant will be reviewed.

9 References

- **The Increasing Importance of Primary NO₂ emissions**
David Carslaw, University of Leeds, 2007.
- **Local Air Quality Management Technical Guidance**
LAQM.TG(09)
- **www.LondonAir.Org**
- **LB Haringey Borough Profile 2008**
- **Haringey's Community Strategy 2007 - 2016**

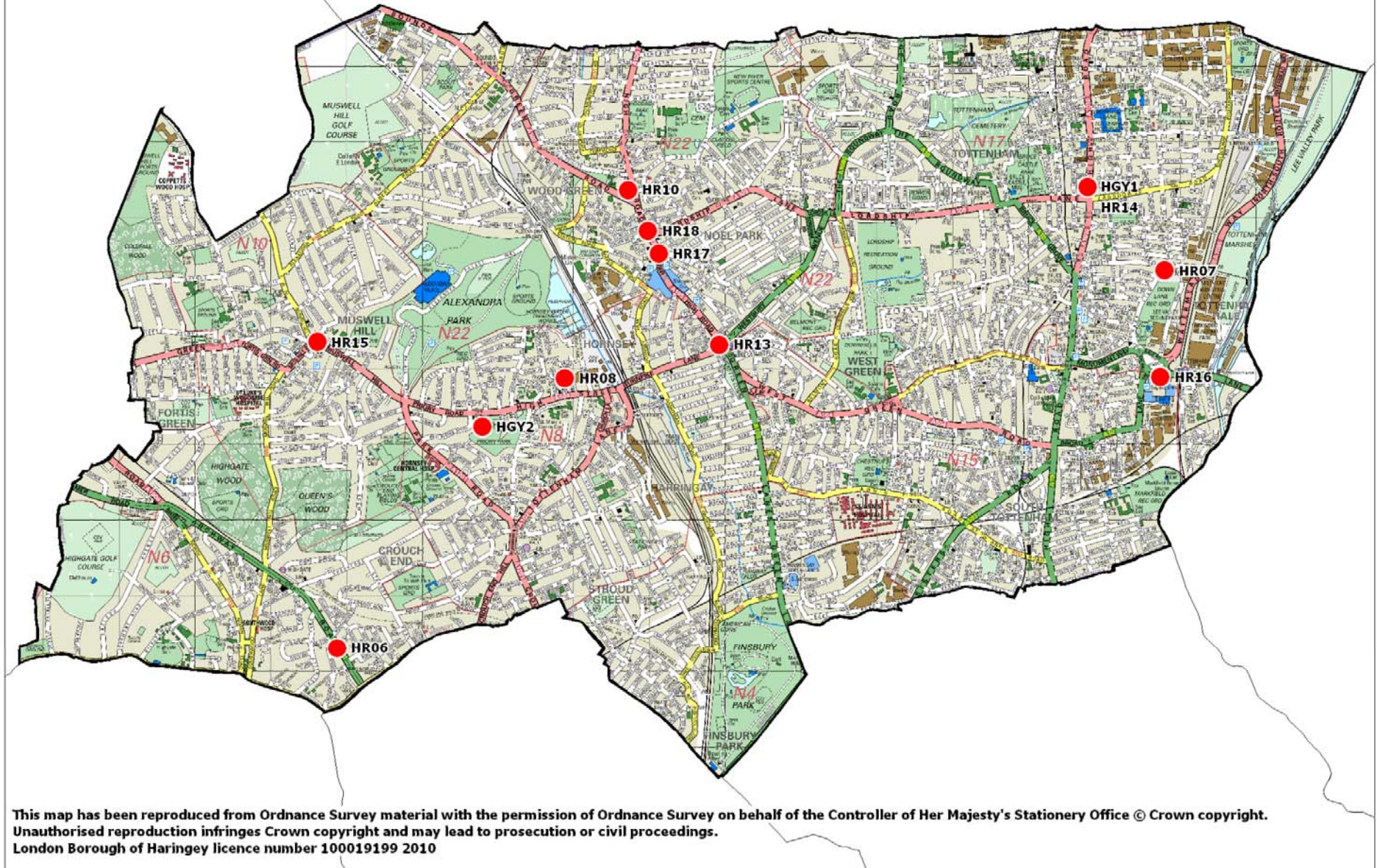
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Appendices

Appendix 1: Monitoring Station locations.

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Air Monitoring Sites



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Appendix A: QA:QC Data

Diffusion Tube Bias Adjustment Factors

The diffusion tubes are prepared and analysed by Lambeth Scientific Services who are a UKAS accredited laboratory. This laboratory participates in the WASP scheme (Workplace Analysis Scheme for Proficiency) to meet European standards and is involved in the network field inter-comparison exercise operated by NETCEN, which assesses the sampling and analytical performance of the tubes.

Nitrogen dioxide diffusion tubes are prepared using a 50% triethanolamine (TEA) in acetone. Results of 4 of the 10 sites are fed into the UK Nitrogen Dioxide Diffusion Tube Network.

Factor from Local Co-location Studies (if available)

One diffusion tube is co-located with an automatic analyser for NO₂. This is at the High Road monitoring site (HGY1). All diffusion tube results have been appropriately bias adjusted, using the analytical laboratory adjustment factors; as only one diffusion tube is co-located.

For all diffusion tube results, both raw and bias adjusted measured data, see Tables 2.4a and 2.4b

PM Monitoring Adjustment

All TEOM data reported in this report is ratified and validated by (Environmental Research Group) ERG, Kings College, London and included in the London Air Quality Monitoring Network. ERG ratifies TEOM data using the 1.3 conversion factor.

Results taken from the londonair.org.uk website are supplied already modified.

Short-term to Long-term Data adjustment

Not applicable as none carried out.

QA/QC of automatic monitoring

As mentioned previously, all automatic monitoring data is validated and ratified by the Environmental Research Group (ERG). Fortnightly calibrations are carried out by the LSO.

QA/QC of diffusion tube monitoring

Co-ordination of a quality assurance/quality control (QA/QC) framework, aimed at the analytical laboratories that supply and analyse the diffusion tubes currently comprises

- **Promotion of the independent Workplace Analysis Scheme for Proficiency (WASP), operated by the Health and Safety Laboratory, with yearly assessment against agreed performance criteria.**
- **Operation of a field intercomparison exercise, in which diffusion tubes are co-located with an automatic analyser: from January 2006 this is at a roadside site.**
- **Operation of a QC solution testing scheme. Participation is recommended for any laboratory that prepares or analyses NO₂ diffusion tubes used by Local Authorities for LAQM purposes.**

Quarterly summaries of participating laboratories' performance in the WASP scheme over the preceding 12 months, prepared by AEA, are available by clicking on the links below:

<http://www.laqmsupport.org.uk/no2qaqc.php>