

# The London Borough of Hillingdon



Progress Report, 2013



# ***London Borough of Hillingdon LAQM Progress Report 2013***

*Bureau Veritas Air Quality and EMRC*





*June 2013*



***Move Forward with Confidence***



## Document Control Sheet

Issue/Revision	Issue 1	Issue 2
Remarks	Draft	Final
Date	June 13	June 13
Submitted to	Val Beale	Val Beale
Prepared by	James Bellinger (BV) and Mike Holland (EMRC)	James Bellinger (BV) and Mike Holland (EMRC)
Signature		
Approved by	Erwan Corfa	Erwan Corfa
Signature		
Project number	AGGX7351442	AGGX7351442
File reference	2873	2873

### Disclaimer

This Report was completed by Bureau Veritas on the basis of a defined programme of work and terms and conditions agreed with the Client. Bureau Veritas' confirms that in preparing this Report it has exercised all reasonable skill and care taking into account the project objectives, the agreed scope of works, prevailing site conditions and the degree of manpower and resources allocated to the project.

Bureau Veritas accepts no responsibility to any parties whatsoever, following the issue of the Report, for any matters arising outside the agreed scope of the works.

This Report is issued in confidence to the Client and Bureau Veritas has no responsibility to any third parties to whom this Report may be circulated, in part or in full, and any such parties rely on the contents of the report solely at their own risk.

Unless specifically assigned or transferred within the terms of the agreement, the consultant asserts and retains all Copyright, and other Intellectual Property Rights, in and over the Report and its contents.

Any questions or matters arising from this Report should be addressed in the first instance to the report author.

<b>Local Authority Officer</b>	<b>London Borough of Hillingdon</b>
<b>Department</b>	<b>Environmental Protection Unit</b>
<b>Address</b>	<b>3S02, Civic Centre High Street Uxbridge UB8 1UW</b>
<b>Telephone</b>	<b>01895 277454</b>
<b>e-mail</b>	<b>vbeale@hillingdon.gov.uk</b>
<b>Report Reference number</b>	<b>APR_LBH_13</b>
<b>Date</b>	<b>June 13</b>

## Executive Summary

Part IV of the Environment Act 1995 places a statutory duty on local authorities to review and assess the air quality within their area and take account of Government Guidance when undertaking such work. This Annual Progress Report is a requirement of the Fifth Round of Review and Assessment and is a requirement for all local authorities. The Report has been undertaken in accordance with the Technical Guidance LAQM.TG (09) and associated tools.

This Annual Progress Report considers all new monitoring data and assesses the data against the Air Quality Strategy objectives. It also considers any changes that may have an impact on air quality.

The results from both monitoring and assessment of sources in the Borough indicate that outside of the existing AQMA air quality objectives at locations of relevant exposure are being met.

There is no need to carry out any detailed assessments at this time. Recommended actions are:

- Continue to monitor air pollution across the Borough;
- Investigate what caused the  $10\mu\text{g}/\text{m}^3$  increase in concentrations at Hillingdon South Ruislip continuous monitor;
- Continue to implement action plan measures; and
- Proceed to the Annual Progress Report 2014.

# Table of Contents

<b>1</b>	<b>Introduction</b>	<b>5</b>
1.1	Description of Local Authority Area	5
1.2	Purpose of Progress Report	5
1.3	Air Quality Objectives	6
1.4	Summary of Previous Review and Assessments	8
<b>2</b>	<b>New Monitoring Data</b>	<b>11</b>
2.1	Summary of Monitoring Undertaken	11
2.2	Comparison of Monitoring Results with Air Quality Objectives	26
<b>3</b>	<b>New Local Developments</b>	<b>42</b>
3.1	Road Traffic Sources	42
3.2	Other Transport Sources	42
3.3	Industrial Sources	42
3.4	Commercial and Domestic Sources	43
3.5	New Developments with Fugitive or Uncontrolled Sources	43
<b>4</b>	<b>Local / Regional Air Quality Strategy</b>	<b>44</b>
<b>5</b>	<b>Planning Applications</b>	<b>46</b>
<b>6</b>	<b>Air Quality Planning Policies</b>	<b>47</b>
<b>7</b>	<b>Local Transport Plans and Strategies</b>	<b>48</b>
<b>8</b>	<b>Climate Change Strategies</b>	<b>49</b>
<b>9</b>	<b>Implementation of Action Plans</b>	<b>50</b>
9.1	Overview of progress: analysis of situation, opportunities, faults and threats	53
9.2	Progress with the action plan	59
9.3	Conclusions from the audit (Holland, 2012)	66
<b>10</b>	<b>Conclusions and Proposed Actions</b>	<b>164</b>
10.1	Conclusions from New Monitoring Data	164
10.2	Conclusions relating to New Local Developments	164
10.3	Other Conclusions	165
10.4	Proposed Actions	165

**List of Tables**

Table 1 - Air Quality Objectives included in Regulations for the purpose of LAQM in England	7
Table 2 - Summary of past review and assessment	8
Table 3 - Details of Automatic Monitoring Sites	13
Table 4 - Details of Non- Automatic Monitoring Sites	19
Table 5 - Results of Automatic Monitoring for NO <sub>2</sub> : Comparison with Annual Mean Objective	27
Table 6 - Results of Automatic Monitoring for NO <sub>2</sub> : Comparison with 1-hour Mean Objective	29
Table 7 - Results of NO <sub>2</sub> Diffusion Tubes 2008-2012	31
Table 8 - Results of Automatic Monitoring for PM <sub>10</sub> : Comparison with Annual Mean Objective	37
Table 9 - Results of Automatic Monitoring for PM <sub>10</sub> : Comparison with 24-hour Mean Objective	38
Table 10 - Results of Automatic Monitoring for Ozone: Comparison with Objectives	39
Table 11 - Results of Automatic Monitoring for Particulates (PM <sub>2.5</sub> )	40
Table 12 - Action Plan Progress	74
Table 13 - Co-loction study Hillingdon Sipson	167
Table 14 - VCM Correction Data Heathrow Green Gates	168
Table 15 - VCM Correction Data Heathrow LR2	169
Table 16 - VCM Correction Data Heathrow Oakes Road	169
Table 17 - VCM Correction Data Hillingdon Oxford Avenue	169
Table 18 - VCM Correction Data Hillingdon South Ruislip	170
Table 19 - Short-Term to Long-Term Monitoring Data Adjustment	171

**List of Figures**

Figure 1 - Hillingdon AQMA	10
Figure 2 - Map of Automatic Monitoring Sites	12
Figure 3 - Map of Non-Automatic Monitoring Sites North Hillingdon Borough	17
Figure 4 - Map of Non-Automatic Monitoring Sites South Hillingdon Borough	18
Figure 5 - Trends in Annual Mean NO <sub>2</sub> Concentrations Measured at Automatic Monitoring Sites	28
Figure 6 - % of Measures in Each Package that were Fully in Place by the End of 2012	51
Figure 7 - % of Actions Listed in the Various Packages of the Action Plan in Each Stage of Implementation. Rings from inside to out represent progress for 2004/5 and then for each year to 2012/13.	54
Figure 8 - Progress of Actions in Each Package in the Action Plan, showing the Number of Measures at each of the Five Stages Listed (at end April 2013).	55
Figure 9 - Annual mean NO <sub>2</sub> concentrations at LHR2. Blue Line = Measured Data; Red Line = Modelled Information for 2010 to 2030 Reported in Support of Heathrow Expansion.	59

**Appendices**

Appendix A: Quality Assurance / Quality Control (QA/QC) Data

Appendix B: Monitoring Results

Appendix C: Planning Applications during 2012



# **1 Introduction**

## **1.1 Description of Local Authority Area**

Hillingdon is, geographically, the second largest local authority in London and has approximately 250,000 residents. Parts of the Borough to the north of the A40 are semi-rural, with Ruislip as the district centre. The south of the Borough is more densely populated, urban in character, and contains the metropolitan centre of Uxbridge and the towns of Hayes and West Drayton. It also contains numerous important transport links. As well as being home to Heathrow Airport the Borough is crossed by the M4 and the A40 and bordered to the west by the M25 and to the east by the A312, attracting traffic into the Borough and encouraging traffic to pass through it. They therefore generate a significant air pollution burden for residents.

## **1.2 Purpose of Progress Report**

This report fulfils the requirements of the Local Air Quality Management (LAQM) process as set out in Part IV of the Environment Act (1995), the Air Quality Strategy (AQS) 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.

Progress Reports are required in the intervening years between the three-yearly Updating and Screening Assessment (USA) reports. Their purpose is to maintain continuity in the LAQM process.

They are not intended to be as detailed as USA Reports, or to require as much effort. However, if the Progress Report identifies the risk of exceedence of an AQS 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 AQS objectives applicable to 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), and are shown in Table 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 - 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 µg/m <sup>3</sup>	Running annual mean	31.12.2003
	5.00 µg/m <sup>3</sup>	Annual mean	31.12.2010
1,3-Butadiene	2.25 µg/m <sup>3</sup>	Running annual mean	31.12.2003
Carbon Monoxide	10 mg/m <sup>3</sup>	Running 8-hour mean	31.12.2003
Lead	0.50 µg/m <sup>3</sup>	Annual mean	31.12.2004
	0.25 µg/m <sup>3</sup>	Annual mean	31.12.2008
Nitrogen Dioxide	200 µg/m <sup>3</sup> not to be exceeded more than 18 times a year	1-hour mean	31.12.2005
	40 µg/m <sup>3</sup>	Annual mean	31.12.2005
Particulate Matter (PM <sub>10</sub> ) (gravimetric)	50 µg/m <sup>3</sup> , not to be exceeded more than 35 times a year	24-hour mean	31.12.2004
	40 µg/m <sup>3</sup>	Annual mean	31.12.2004
Sulphur Dioxide	350 µg/m <sup>3</sup> , not to be exceeded more than 24 times a year	1-hour mean	31.12.2004
	125 µg/m <sup>3</sup> , not to be exceeded more than 3 times a year	24-hour mean	31.12.2004
	266 µg/m <sup>3</sup> , not to be exceeded more than 35 times a year	15-minute mean	31.12.2005

## 1.4 Summary of Previous Review and Assessments

Detailed assessment of air quality in Hillingdon has been undertaken for over 10 years following guidance from National Government.

In summary, an AQMA was declared in 2003 due to exceedences of the NO<sub>2</sub> annual mean AQS objective. The AQMA covers the A40 corridor, the Chiltern-Marylebone railway line and all parts of the Borough south of them. Problems are most severe around Heathrow Airport and the major road network that goes through the Borough, reflecting the largest sources of NO<sub>x</sub> emissions within the AQMA. An Action Plan, showing how Hillingdon London Borough Council (the Council) intended to tackle these problems, was issued in 2004. This contains a series of 8 packages that address emissions from traffic, Heathrow Airport, industry, existing housing, new developments, and so on.

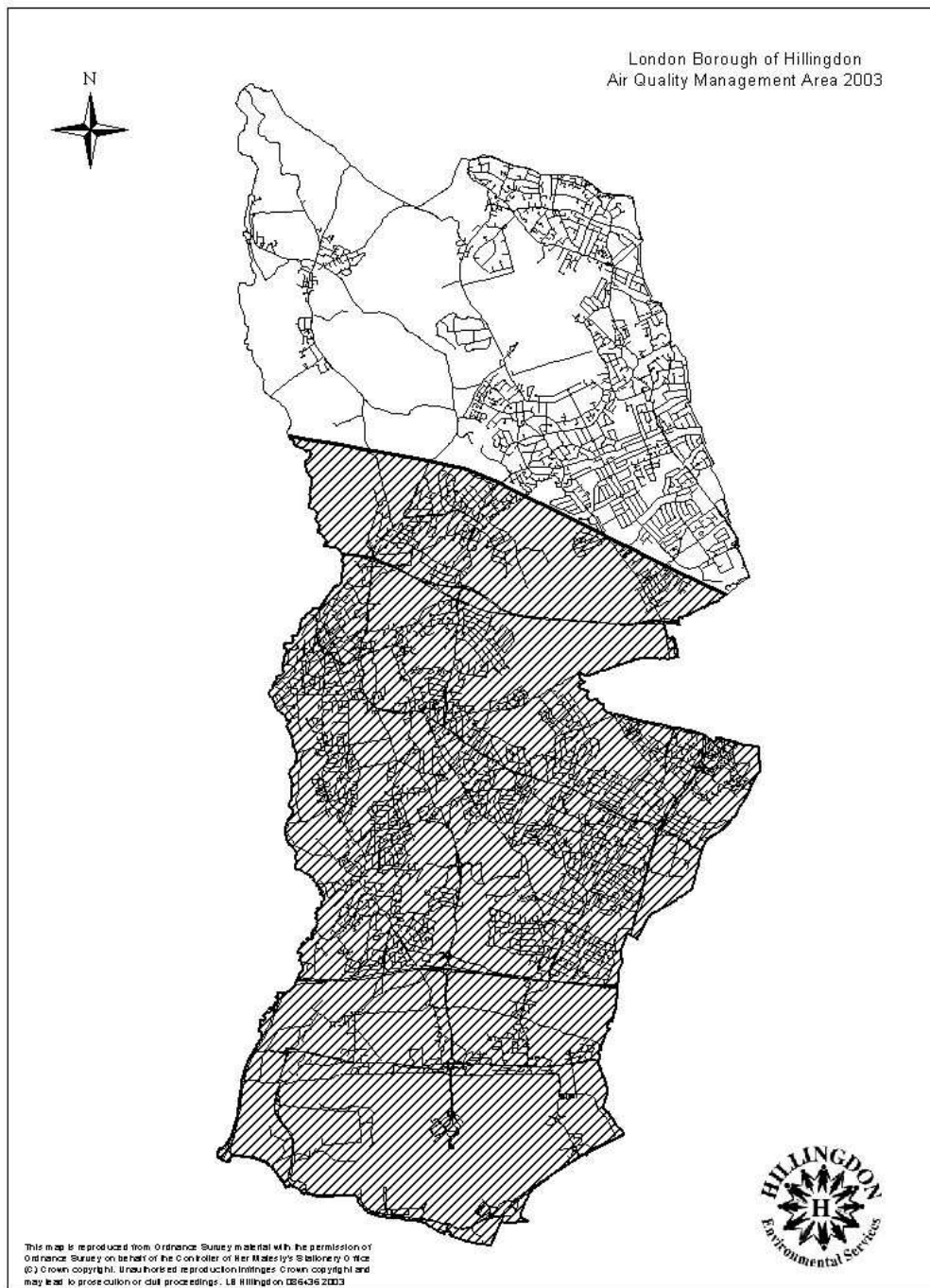
Annual reviews of air quality have shown that levels of NO<sub>2</sub> have not changed significantly over recent years. There is however a good record of implementation of the Action Plan measures in areas for which the Council has control. An obvious problem arises because the most important sources in the Borough (the airport and the major road network) are not under the Council's control.

**Table 2 - Summary of Past Review and Assessment**

<b>Round of Assessment</b>	<b>Conclusions</b>
Round 1	Modelling and monitoring indicated that the annual mean NO <sub>2</sub> and 24-hour mean PM <sub>10</sub> would exceed the objectives. In May 2001, an AQMA was declared for these two objectives. However, further modelling indicated that the objectives for PM <sub>10</sub> were being met. Therefore, the original AMQA was revoked and a new AQMA declared only for NO <sub>2</sub> . This AQMA was extended to cover all of the A40 corridor and the Chiltern- Marylebone Railway line.

<b>Round of Assessment</b>	<b>Conclusions</b>
Round 2	<p>The 2003 USA concluded that exceedences of the NO<sub>2</sub> annual mean AQS objective were still occurring and high concentrations of PM<sub>10</sub> were confined to busy traffic corridors where there was no exposure so there was no requirement for a Detailed Assessment.</p> <p>In 2004 the Council published the final version of the Air Quality Action Plan.</p>
Round 3	<p>Reporting concluded exceedences of the NO<sub>2</sub> annual mean AQS objective were still occurring within the existing AQMA. Outside of the AQMA no exceedences for any pollutants were recorded. No Detailed Assessments were required.</p>
Round 4	<p>Reporting concluded exceedences of the NO<sub>2</sub> annual mean AQS objective were still occurring within the existing AQMA. Outside of the AQMA no exceedences for any pollutants were recorded. No Detailed Assessments were required.</p> <p>A study of pollutants around Heathrow indicated little or no improvement in concentrations over the past few years.</p>
Round 5	<p>The USA 2012 concluded exceedences of the NO<sub>2</sub> annual mean AQS objective were still occurring within the existing AQMA. Outside of the AQMA no exceedences for any pollutants were recorded. No Detailed Assessments were required.</p>

**Figure 1 - Hillingdon AQMA**



## **2 New Monitoring Data**

### **2.1 Summary of Monitoring Undertaken**

#### **2.1.1 Automatic Monitoring Sites**

There were 10 operational automatic continuous monitoring sites in the London Borough of Hillingdon in 2012.

Hillingdon 1 and Hillingdon 3 are part of the London Air Quality Network (LAQN). London Heathrow, Heathrow Oaks Road and Heathrow Green Gates sites are part of the Heathrow airport monitoring network. London Sipson, Hillingdon Hayes and London Harmondsworth are part of the Council's own monitoring network; London Harlington and London Hillingdon are managed by the AURN. Details of QA/QC of the monitoring stations can be found in Appendix A.

**Figure 2 - Map of Automatic Monitoring Sites**





**Table 3 - Details of Automatic Monitoring Sites**

Site Name	Site Type	OS Grid Ref (X,Y)		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)	Does this Location represent Worst-case Exposure?
London Heathrow LHR2	Airport	508600	176700	NO <sub>2</sub> , PM <sub>10</sub> , PM <sub>2.5</sub> (TEOM)	Yes	N	N/A (inside the airport)	No
London Hillingdon	Suburban	506951	178605	NO <sub>2</sub> , O <sub>3</sub>	Yes	Y	3m (30m from M4)	Yes
Hillingdon 1 – South Ruislip	Roadside	510857	184917	NO <sub>2</sub> , PM <sub>10</sub> (TEOM)	Yes	Yes  (14m)	2.5m	Representative of exposure on this road
Hillingdon 3 – Oxford Avenue	Roadside	509557	176994	NO <sub>2</sub> , PM <sub>10</sub> (TEOM)	Yes	Yes  (8m)	18m to A4 Bath Road (5m to Oxford Avenue)	Yes (for emissions from Bath Rd and Airport)
London Harlington	Airport	508295	177800	CO, NO <sub>2</sub> , O <sub>3</sub> , PM <sub>10</sub> , PM <sub>2.5</sub> (TEOM)	Yes	No	8m	Background

Site Name	Site Type	OS Grid Ref (X,Y)		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)	Does this Location represent Worst-case Exposure?
Hillingdon Sipson	Urban background	507325	177282	NO <sub>2</sub>	Yes	Yes	9m from nearest residential facade	Yes
London Harmondsworth	Roadside	505561	177661	NO <sub>2</sub> , PM <sub>10</sub> (BAM)	Yes	Y(20m)	1m	Yes
Heathrow Green Gates	Airport	505207	177072	NO <sub>2</sub> , PM <sub>10</sub> , PM <sub>2.5</sub> (TEOM)	Yes	N	N/A (background for the airport)  62m from airport boundary)	No  (Background location)
Heathrow Oaks Road	Airport	505729	174496	NO <sub>2</sub> , PM <sub>10</sub> , PM <sub>2.5</sub> (TEOM)	Yes	N	5m	No
Hillingdon Hayes	Roadside	510303	178882	NO <sub>2</sub> , PM <sub>10</sub> (BAM)	Yes	Y(15m)	5m	Yes

## 2.1.2 Non-Automatic Monitoring Sites

Passive diffusion tube monitoring of NO<sub>2</sub> is carried out at a number of locations across the Borough. During 2012 NO<sub>2</sub> monitoring was undertaken using diffusion tubes at 37 sites.

During the year a review of site locations was undertaken. Several sites were removed and 16 new sites were added. Sites removed were due to either low monitored concentrations in the locality, or a lack of relevant exposure in the vicinity. All new sites were placed at locations of relevant exposure where possible.

Sites removed in 2012 were:

- HD42 - Uxbridge Technical College, Hayes
- HD46 - South Ruislip Monitoring Station (one tube from a triplicate)
- HD48 - Citizens Advice Bureau, Eastcote Road, Ruislip
- HD64 - 34 Hatch Lane, Sipson
- HD66 - 486 Sipson Road, Sipson
- HD68 - Ratcliffe Close, Uxbridge
- HD69 - Hillingdon Health Centre, Freezeland Way
- HD72 - 2 Vineries Close
- HD76 - Kaduna Close, Eastcote
- HD77 - Chamberlain Way, Eastcote
- HD78 - Gateway Close, Northwood
- HD79 - Corner of Swallowfield Way and Kestrel Way
- HD80 - Corner of Swallowfield Way and Kestrel Way

Sites added during 2012 were:

- HD50A - Location nearby previous Hillingdon Hospital monitoring station
- HD200 - 49 Zealand Avenue
- HD201 - Near 3 Hercies Road
- HD202 - 49 Silverdale Gardens, Hayes
- HD203 - Blyth Road, Hayes
- HD204 - Side of 104 Yiewsley High Street
- HD205 - 1 Porters Way

- HD206 - 5-7 Mulberry Crescent, West Drayton
- HD207 - 35 Emden Close, West Drayton
- HD208 - Side of 50 St. Christopher's Drive
- HD209 - 29 Pendula Drive, Hayes
- HD210 - 340 Long Lane, Uxbridge
- HD211 - 198 Harefield Road, Uxbridge
- HD212 - 59 Hillingdon Road, Uxbridge
- HD213 - 10 West End Lane, Harlington
- HD214 - R/O 130 Cleave Avenue, Hayes

Locations and details of passive monitoring sites in 2012 are presented in the figures and tables below.

A bias adjustment factor of 1.01 reported in the latest version (v03\_13) of the national database of co-location studies<sup>1</sup> conducted for tubes prepared (50% TEA in acetone) and analysed by Gradko during 2012 has been used to adjust the diffusion tube results.

Full details of the diffusion tube QA/QC including justification for the choice of bias adjustment factor are presented in Appendix A. Monthly NO<sub>2</sub> diffusion tube data are also provided in Appendix B.

---

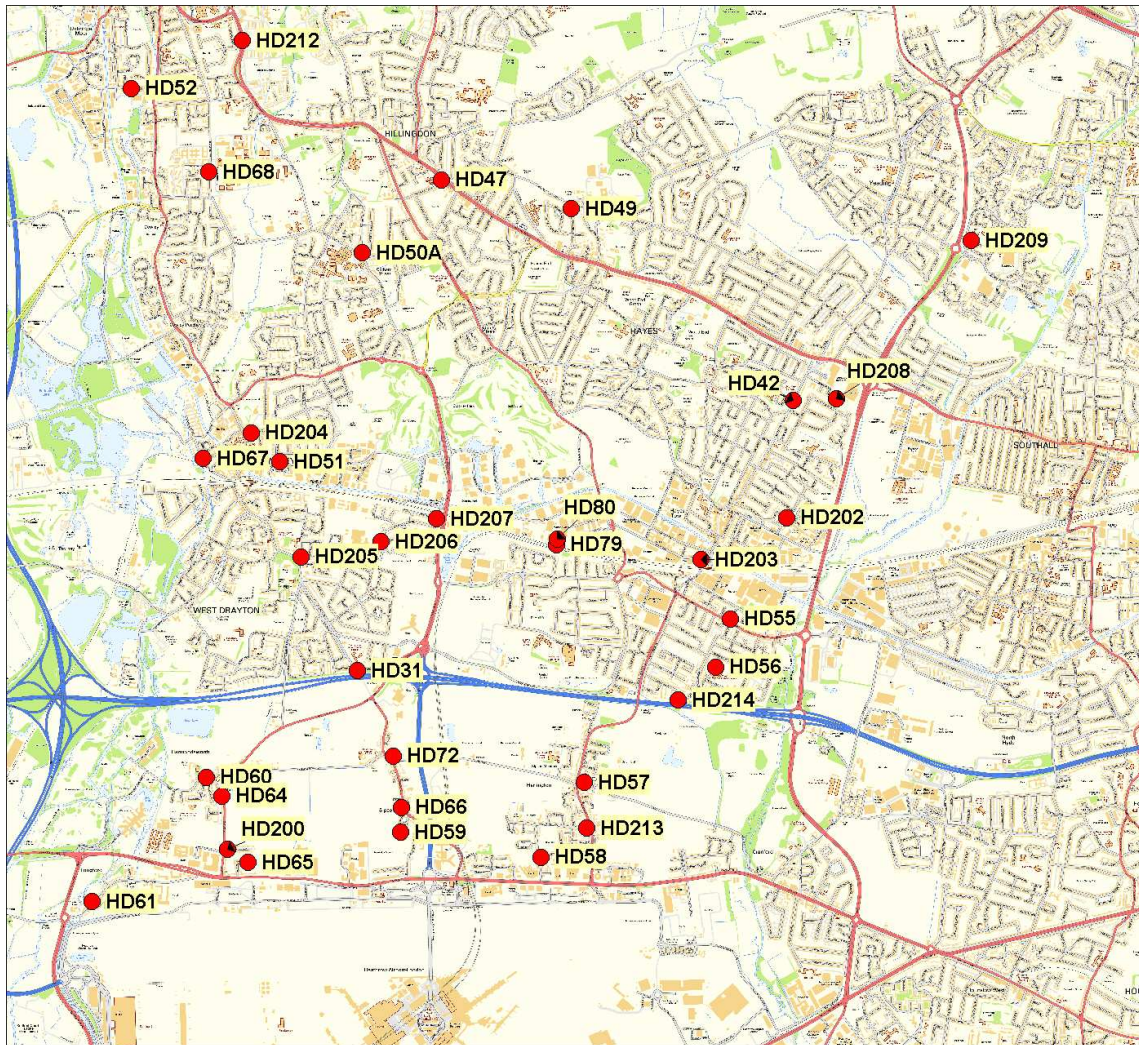
<sup>1</sup> <http://laqm.defra.gov.uk/bias-adjustment-factors/bias-adjustment.html>

**Figure 3 - Map of Non-Automatic Monitoring Sites North Hillingdon Borough**





**Figure 4 - Map of Non-Automatic Monitoring Sites South Hillingdon Borough**



**Table 4 - Details of Non- Automatic Monitoring Sites**

Site ID	Site Name	Site Type	X OS Grid Reference	Y OS Grid Reference	Site Height (m)	In AQMA?	Relevant Exposure? (Y/N with distance (m) from monitoring site to relevant exposure)	Distance to Kerb of Nearest Road (m) (N/A if not applicable)	Does this Location Represent Worst-Case Exposure?
HD31	AURN Monitoring Station, Sipson	Roadside	506951	178605	2.5	Yes	Y(0m)	30m from M4	Co-location site
HD31	AURN Monitoring Station, Sipson	Roadside	506951	178605	2.5	Yes	Y(0m)	30m from M4	Co-location site
HD31	AURN Monitoring Station, Sipson	Roadside	506951	178605	2.5	Yes	Y(0m)	30m from M4	Co-location site
HD42	Uxbridge Technical College, Hayes Annex, Coldharbour Lane, Hayes (on fence)	Roadside	510417	180752	2.5	Yes	Y(4m)	2m	Representative of a road
HD43	Uxbridge Day Nursery, Park Road, Uxbridge (on wire Fence)	Roadside	505995	184057	2.5	Yes	Y(0m)	4m	Yes
HD46	South Ruislip Monitoring Station, West End Road	Suburban	510837	184917	2.5	Yes	Y(14m)	2.5m	Representative of a road
HD46	South Ruislip Monitoring Station, West End Road	Suburban	510837	184917	2.5	Yes	Y(14m)	2.5m	Representative of a road
HD47	Hillingdon Primary School, Uxbridge Road, Hillingdon (on wire fence)	Roadside	507617	182506	2.5	Yes	Y(0m)	5m	Representative of a road

Site ID	Site Name	Site Type	X OS Grid Reference	Y OS Grid Reference	Site Height (m)	In AQMA?	Relevant Exposure? (Y/N with distance (m) from monitoring site to relevant exposure)	Distance to Kerb of Nearest Road (m) (N/A if not applicable)	Does this Location Represent Worst-Case Exposure?
HD48	Citizens Advice Bureau, Eastcote Road, Ruislip (above main Entrance)	Background	509117	187665	2.5	No	N	7m	No
HD49	83 Hayes End Drive, Hayes End, Middlesex (on drain pipe)	Background	508650	182274	2.5	Yes	Y(7m)	7m	No - background
HD50A	Hillingdon Hospital Monitoring Station, Colham Road (Near John Rich House on former junction to Pield Heath Road)	Roadside	506990	181925	2.5	Yes	Y(7m)	2m	Representative of a street
HD51	Top of Colham Avenue (4), Yiewsley (lamp post at end of road)	Background	506334	180266	2.5	Yes	Y(0m)	4m	Yes- Nearest residential to busy road
HD52	Lamp post near 101 Cowley Mill Road, Uxbridge	Background	505157	183231	2.5	Yes	Y95m)	1m	Representative of a road
HD53	Warren Road, Ickenham, Uxbridge (1st lamp post on left)	Background	506241	185652	2.5	Yes	Y(1m)	23m	Yes -nearest residential to busy road
HD55	Harold Avenue, (first lamp post on left)	Background	509917	179015	2.5	Yes	Y(4m)	30m	Yes - nearest residential to busy road



Site ID	Site Name	Site Type	X OS Grid Reference	Y OS Grid Reference	Site Height (m)	In AQMA?	Relevant Exposure? (Y/N with distance (m) from monitoring site to relevant exposure)	Distance to Kerb of Nearest Road (m) (N/A if not applicable)	Does this Location Represent Worst-Case Exposure?
HD56	15 Phelps Way, Hayes (lamp post outside of)	Background	509796	178633	2.5	Yes	Y(7m)	1.5m	Representative of a road
HD57	25 Cranford Lane, Harlington (lamp post on the left afyer car park)	Background	508756	177717	2.5	Yes	Y(7m)	1m	Yes -nearest residential to busy road
HD58	Brendan Close, Harlington (1st lamp post on the left)	Background	508412	177124	2.5	Yes	Y(0m)	1m	Representative of a road
HD59	Bomber Close (7), Sipson (1st lamp post on left)	Background	507294	177322	2.5	Yes	Y(8m)	1m	Representative of a road
HD60	Harmonsworth Green, Harmondsworth (lamp post outside nursery)	Background	505753	177760	2.5	Yes	Y(0m)	1m	Representative of a street
HD61	Heathrow Close, Longford (1st lamp post on the right)	Background	504848	176770	2.5	Yes	Y(0m)	2m	Representative of a street
HD64	34 Hatch Lane, Sipson, Middlesex (on drainpipe)	Roadside	505875	177610	2.5	Yes	Y(0m)	17m	Representative of a street
HD65	28 Pinglestone Close, Sipson, Middlesex (on drainpipe)	Background	506082	177081	2.5	Yes	Y(0m)	4m	Representative of a street
HD66	486 Sipson Road, Sipson, Middlesex (on drainpipe)	Background	507305	177518	2.5	Yes	Y (0m)	12m	Representative of a street
HD67	31 Tavistock Road (on lamp-post outside house)	Background	505729	180290	2.5	Yes	Y(3m)	1m	Representative of a street

Site ID	Site Name	Site Type	X OS Grid Reference	Y OS Grid Reference	Site Height (m)	In AQMA?	Relevant Exposure? (Y/N with distance (m) from monitoring site to relevant exposure)	Distance to Kerb of Nearest Road (m) (N/A if not applicable)	Does this Location Represent Worst-Case Exposure?
HD68	Ratcliffe Close, Uxbridge (1st lamp-post on the left)	Background	505775	182565	2.5	Yes	Y(0m)	1m	Yes - nearest residential to road
HD69	Hillingdon Health Centre, Freezeland Way (on drain-pipe)	Roadside	507699	184786	2.5	Yes	Y(0m)	2m	Yes
HD70	Harefield Hospital, Hill End Road (lamp-post outside entrance)	Background	505291	190935	2.5	No	Y(0m)	5m	Representative of a street
HD72	2 Vineries Close (drainpipe on building façade, front of)	Background	507236	177927	2.5	Yes	Y(0m)	9m	Representative of a street
HD73	Queensmead School, South Ruislip. (lamp-post opposite Jubilee Drive) (outside AQMA)	Background	511825	185655	2.5	No	Y(0m)	1m	Representative of a street
HD74	Field End Road/Field End School, S.Ruislip. 3rd Lamp-post south of school entrance (outside AQMA)	Roadside	511887	186565	2.5	No	Y(8m)	1m	Yes
HD75	Sidmouth Drive, South Ruislip (2nd lamp-post from West End Road outside Nursery) (outside AQMA)	Background	510103	186133	2.5	No	Y(4m)	2m	Yes - nearest receptor to busy road

Site ID	Site Name	Site Type	X OS Grid Reference	Y OS Grid Reference	Site Height (m)	In AQMA?	Relevant Exposure? (Y/N with distance (m) from monitoring site to relevant exposure)	Distance to Kerb of Nearest Road (m) (N/A if not applicable)	Does this Location Represent Worst-Case Exposure?
HD76	Kaduna Close, Eastcote (lamp-post outside No. 1 Kaduna Close corner to Joel Street) (outside AQMA)	Roadside	510536	188787	2.5	No	Y(4m)	1m	Yes - nearest residential to busy road
HD77	Chamberlain Way, Eastcote (1st lamp-post left in Chamberlain Way corner to Monitoring Cuckoo Hill) (outside AQMA)	Background	511108	189742	2.5	No	Y(12m)	1m	Representative of a street
HD78	Gateway Close, Northwood (1st lamp-post on left of Gateway Close corner to Rickmansworth Road) (outside AQMA)	Roadside	508212	191833	2.5	No	Y(24m)	1m	Representative of a street
HD79	Corner of Swallowfield Way and Kestrel Way (Raiside on fence)	Roadside	508537	179606	2.5	Yes	Y(0m)	36m (from railway)	South of railway so not worse-case. North would be worse-case due to prevailing wind
HD80	Corner of Swallowfield Way and Kestrel Way (Roadside on first lamp-post to the west)	Background	508542	179650	2.5	Yes	Y	44m	No

Site ID	Site Name	Site Type	X OS Grid Reference	Y OS Grid Reference	Site Height (m)	In AQMA?	Relevant Exposure? (Y/N with distance (m) from monitoring site to relevant exposure)	Distance to Kerb of Nearest Road (m) (N/A if not applicable)	Does this Location Represent Worst-Case Exposure?
HD200	49 Zealand Avenue Lamp Post (1)	Roadside	505920	177188	2.5	Yes	Y(8m)	13m	Yes
HD201	Near 3 Hercies Road, Lamp Post (1)	Roadside	507568	184830	2.5	Yes	Y(3m)	1m	Yes
HD202	49 Silverdale Gardens, Hayes Lamp Post (8)	Background	510361	179820	2.5	Yes	Y(9m)	14m	Yes
HD203	Blyth Road, Hayes Lamp Post (4)	Roadside	509683	79486	2.5	Yes	Y(6m)	2m	No
HD204	Side of 104 Yiewsley High Street (front of 1A Fairfield Road) Lamp Post (2)	Background	506108	180493	2.5	Yes	Y(9m)	37m	No
HD205	1 Porters Way (corner with Kingston Lane) Lamp Post (1)	Background	506503	179510	2.5	Yes	Y(12m)	9m	No
HD206	5-7 Mulberry Crescent, West Drayton Lamp Post (18)	Background	507141	179628	2.5	Yes	Y(10m)	2m	No
HD207	35 Emden Close, West Drayton Lamp Post (14)	Background	507580	179812	2.5	Yes	Y(7m)	60m	No
HD208	Side of 50 St. Christopher's Drive Lamp Post (13)	Background	510761	180766	2.5	Yes	Y(5m)	180m	No
HD209	29 Pendula Drive, Hayes Lamp Post (2)	Background	511828	182023	2.5	Yes	Y(10m)	79m	No
HD210	340 Long Lane, Uxbridge Lamp Post (71)	Roadside	507649	184611	2.5	Yes	Y (18m)	2m	Yes

<b>Site ID</b>	<b>Site Name</b>	<b>Site Type</b>	<b>X OS Grid Reference</b>	<b>Y OS Grid Reference</b>	<b>Site Height (m)</b>	<b>In AQMA?</b>	<b>Relevant Exposure? (Y/N with distance (m) from monitoring site to relevant exposure)</b>	<b>Distance to Kerb of Nearest Road (m) (N/A if not applicable)</b>	<b>Does this Location Represent Worst-Case Exposure?</b>
<b>HD211</b>	198 Harefield Road, Uxbridge Lamp Post (2)	Background	506143	185395	2.5	Yes	Y(9m)	33m	No
<b>HD212</b>	59 Hillingdon Road, Uxbridge Lamp Post (56)	Roadside	506035	183611	2.5	Yes	Y(12m)	1.5m	Yes
<b>HD213</b>	10 West End Lane, Harlington Lamp Post (2)	Background	508773	177352	2.5	Yes	Y(11m)	33m	No
<b>HD214</b>	R/O 130 Cleave Avenue, Hayes Lamp Post (33)	Background	509499	178370	2.5	Yes	Y(18m)	27m	No

## 2.2 Comparison of Monitoring Results with Air Quality Objectives

### 2.2.1 Nitrogen Dioxide (NO<sub>2</sub>)

#### Automatic Monitoring Data

The annual mean NO<sub>2</sub> concentrations measured at the automatic monitoring locations from 2008 to 2012 are presented in Table 5 below. Concentrations in excess of the 40µg/m<sup>3</sup> objective are highlighted in bold. Results of the NO<sub>2</sub> 1-Hour mean over the same period are provided in Table 6.

A bar chart showing the trends in annual mean NO<sub>2</sub> concentrations over the last five years is presented in Figure 5. From the available monitoring data and trends the following observations have been made:

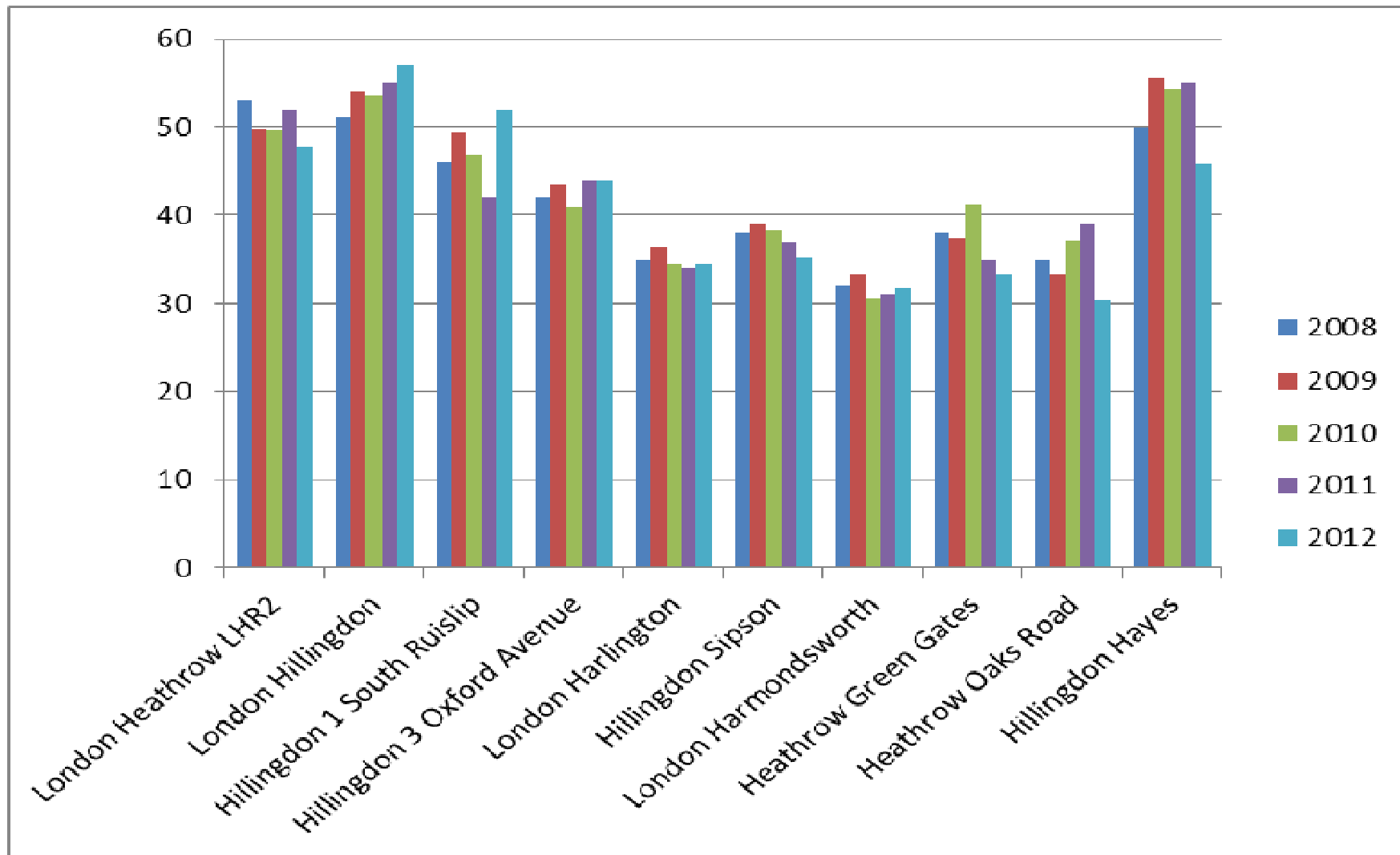
- Concentrations at London Hillingdon have continued to increase as the trend over the last four years has continued in 2012. This site is representative of relevant exposure as it is a similar distance from the M4 motorway as the nearby housing. This site is already within the Hillingdon AQMA.
- Concentrations at Hillingdon South Ruislip have increase by 10µg/m<sup>3</sup>, which is a significant increase given that the site was already exceeding the annual mean AQS objective for NO<sub>2</sub>. The site recorded 52µg/m<sup>3</sup> in 2012 compared with 42µg/m<sup>3</sup> in 2011. It is recommended that the Council investigate what caused this increase in 2012.
- Concentrations at other monitoring sites remained the same or decreased in 2012 compared to results over recent years. No exceedences of the 1-hour mean AQS objective for NO<sub>2</sub> were recorded in 2012, although the South Ruislip site was close to the objective (14 hourly means > 200µg/m<sup>3</sup>, whilst 18 exceedences per year are allowed). Although the annual mean NO<sub>2</sub> at London Hillingdon site was close to 60µg/m<sup>3</sup>, there was no hourly mean > 200µg/m<sup>3</sup> recorded in 2012.

**Table 5 - Results of Automatic Monitoring for NO<sub>2</sub>: Comparison with Annual Mean Objective**

Site ID	Location	Within AQMA?	Data Capture for Full Calendar Year 2012 %	Annual Mean Concentrations (µg/m <sup>3</sup> )				
				2008	2009	2010	2011	2012
London Heathrow LHR2	Airport	Yes	97	<b>53</b>	<b>49.8</b>	<b>49.6</b>	<b>52</b>	<b>47.7</b>
London Hillingdon	Suburban	Yes	97	<b>51</b>	<b>54.0</b>	<b>53.6</b>	<b>55</b>	<b>57.1</b>
Hillingdon 1 South Ruislip	Roadside	Yes	100	<b>46</b>	<b>49.3</b>	<b>46.9</b>	<b>42</b>	<b>52.0</b>
Hillingdon 3 Oxford Avenue	Roadside	Yes	77	<b>42</b>	<b>43.4</b>	<b>41.0</b>	<b>44</b>	<b>44.0</b>
London Harlington	Airport	Yes	98	35	36.3	34.5	34	34.5
Hillingdon Sipson	Urban background	Yes	100	38	39.0	38.3	37	35.2
London Harmondsworth	Airport	Yes	75	32	33.4	30.5	31	31.8
Heathrow Green Gates	Airport	Yes	98	38	37.5	<b>41.2</b>	35	33.4
Heathrow Oaks Road	Airport	Yes	93	35	33.4	37.2	39	30.3
Hillingdon Hayes	Roadside	Yes	91	<b>50</b>	<b>55.6</b>	<b>54.3</b>	<b>55</b>	<b>45.9</b>

In bold, exceedence of the NO<sub>2</sub> annual mean AQS objective of 40µg/m<sup>3</sup>

Figure 5 - Trends in Annual Mean NO<sub>2</sub> Concentrations Measured at Automatic Monitoring Sites





**Table 6 - Results of Automatic Monitoring for NO<sub>2</sub>: Comparison with 1-Hour Mean Objective**

Site ID	Location	Within AQMA?	Data Capture for Full Calendar Year 2012 %	Number of 1-Hour Means > 200µg/m <sup>3</sup> (1)				
				2008	2009	2010	2011	2012
London Heathrow LHR2	Airport	Yes	97	0	0	2 (154)	0	0
London Hillingdon	Suburban	Yes	97	1 (159)	0	0	0	0
Hillingdon 1 South Ruislip	Roadside	Yes	100	5	2	7	0	14
Hillingdon 3 Oxford Avenue	Roadside	Yes	77	1	0 (97.9)	1 (142)	0	0 (124)
London Harlington	Airport	Yes	98	0	0 (82.5)	0	0	0
Hillingdon Sipson	Urban background	Yes	100	2	7	0	0	0
London Harmondsworth	Airport	Yes	75	0	0	0 (101)	0	0 (123)
Heathrow Green Gates	Airport	Yes	98	0 (141)	0	0	0	0
Heathrow Oaks Road	Airport	Yes	93	2 (168)	4	0	0	0
Hillingdon Hayes	Roadside	Yes	91	0	7	15	15	2

(1) If data capture less than 90%, the 99.8<sup>th</sup> percentile is shown in brackets

## Diffusion Tube Monitoring Data

Results of annual mean NO<sub>2</sub> concentrations measured at diffusion tubes in 2012 have been reported in Table 7. Monthly results are also provided in Appendix B. Results at sites with less than 75% (9 months) data capture have been annualised in line with Technical Guidance LAQM.TG(09) Box 3.2 (see Appendix A). There were 29 tubes which required annualisation in 2012 due to the number of changes made to the tube network during the year. There is always a degree of uncertainty regarding annualisation and results which have been annualised should be viewed with a level of caution.

Annual mean NO<sub>2</sub> concentrations in excess of the 40µg/m<sup>3</sup> objective were measured at the following diffusion tube sites in 2012:

- HD31 – AURN monitoring station, Sipson;
- HD42 – Uxbridge Technical College;
- HD43 – Uxbridge Day Nursery;
- HD46 – South Ruislip monitoring station;
- HD50a – Hillingdon Hospital;
- HD53 – Warren Road, Ickenham;
- HD58 – Brendan Close, Harlington;
- HD201 – 3 Hercies Road;
- HD203 – Blyth Road;
- HD205 – Porters Way;
- HD210 – Long Lane;
- HD213 – West End Lane; and
- HD214 – Cleave Avenue.

Exceedences recorded in 2012 all occurred within the existing AQMA. The exceedence recorded at HD42 is an annualised result based on 3 months of data (as this site was removed in March 2012) and therefore should be viewed with caution. Concentrations at most sites showed an increase in NO<sub>2</sub> during 2012 compared to 2011 results. This will have been caused in part by the higher bias adjustment factor in 2012 (1.01) compared to that in 2011 (0.93).

It is recommended that the Council continue to monitor at all existing locations.

**Table 7 - Results of NO<sub>2</sub> Diffusion Tubes 2008-2012**

Site ID	Location	In AQMA	Data Capture 2012 (Months)	Annual Mean Concentrations (µg/m <sup>3</sup> )				
				2008	2009	2010	2011	2012
HD31	AURN Monitoring Station, Sipson	Yes	11	45.0	45.9	44.9	44.7	46.3**
HD42	Uxbridge Technical College, Hayes Annex, Coldharbour Lane, Hayes (on fence)	Yes	3	35.8	35.6	34.7	36.9	41.1
HD43	Uxbridge Day Nursery, Park Road, Uxbridge (on wire Fence)	Yes	11	45.0	45.5	49.7	43.4	45.2
HD46	South Ruislip Monitoring Station, West End Road	Yes	11	47.3	47.5	47.3	42.4	46.5*
HD47	Hillingdon Primary School, Uxbridge Road, Hillingdon (on wire fence)	Yes	10	32.2	32.3	34.3	30.0	31.1
HD48	Citizens Advice Bureau, Eastcote Road, Ruislip (above main Entrance)	No	3	30.7	30.1	27.8	27.7	30.8
HD49	83 Hayes End Drive, Hayes End, Middlesex (on drain pipe)	Yes	11	27.0	27.1	27.0	25.6	25.8
HD50A	Hillingdon Hospital, Colham Road (Near John Rich House on former junction to Field Heath Road)	Yes	8	-	-	-	-	40.7

Site ID	Location	In AQMA	Data Capture 2012 (Months)	Annual Mean Concentrations ( $\mu\text{g}/\text{m}^3$ )				
				2008	2009	2010	2011	2012
HD51	Top of Colham Avenue (4), Yiewsley (lamp post at end of road)	Yes	11	36.2	34.3	34.2	33.1	36.2
HD52	Lamp post near 101 Cowley Mill Road, Uxbridge	Yes	11	38.4	38.6	36.2	33.3	37.0
HD53	Warren Road, Ickenham, Uxbridge (1st lamp post on left)	Yes	10	<b>45.5</b>	<b>44.1</b>	<b>41.0</b>	<b>40.5</b>	<b>44.6</b>
HD55	Harold Avenue, (first lamp post on left)	Yes	8	<b>41.7</b>	<b>40.5</b>	<b>40.2</b>	37.8	38.0
HD56	15 Phelps Way, Hayes (lamp post outside of)	Yes	11	38.5	35.2	35.8	35.2	36.7
HD57	25 Cranford Lane, Harlington (lamp post on the left afyer car park)	Yes	10	38.3	37.2	38.4	36.5	39.3
HD58	Brendan Close, Harlington (1st lamp post on the left)	Yes	10	<b>41.6</b>	<b>43.2</b>	39.8	39.4	<b>40.0</b>
HD59	Bomber Close (7), Sipson (1st lamp post on left)	Yes	11	36.0	36.6	33.8	34.4	35.8
HD60	Harmonsworth Green, Harmondsworth (lamp post outside nursery)	Yes	10	32.9	31.0	31.1	29.4	32.1
HD61	Heathrow Close, Longford (1st lamp post on the right)	Yes	11	36.7	36.3	37.3	34.9	34.1
HD64	34 Hatch Lane, Sipson, Middlesex (on drainpipe)	Yes	3	-	32.8	32.6	31.7	35.7
HD65	28 Pinglestone Close, Sipson, Middlesex (on drainpipe)	Yes	10	31.8	33.0	32.4	32.5	38.2

Site ID	Location	In AQMA	Data Capture 2012 (Months)	Annual Mean Concentrations ( $\mu\text{g}/\text{m}^3$ )				
				2008	2009	2010	2011	2012
HD66	486 Sipson Road, Sipson, Middlesex (on drainpipe)	Yes	3	34.1	32.9	33.7	30.7	35.5
HD67	31 Tavistock Road (on lamp-post outside house)	Yes	11	31.8	29.8	31.6	30.1	29.2
HD68	Ratcliffe Close, Uxbridge (1st lamp-post on the left)	Yes	2	29.0	28.5	29.4	27.3	29.8
HD69	Hillingdon Health Centre, Freezeland Way (on drain-pipe)	Yes	3	35.4	36.2	35.6	33.5	38.2
HD70	Harefield Hospital, Hill End Road (lamp-post outside entrance)	No	11	26.0	25.9	25.5	23.9	25.4
HD72	2 Vineries Close (drainpipe on building façade, front of)	Yes	3	30.5	29.9	31.9	31.9	34.6
HD73	Queensmead School, South Ruislip. (lamp-post opposite Jubilee Drive) (outside AQMA)	No	10	31.1	29.3	27.4	26.3	27.8
HD74	Field End Road/Field End School, S.Ruislip. 3rd Lamp-post south of school entrance (outside AQMA)	No	11	32.3	28.9	31.3	28.4	28.5
HD75	Sidmouth Drive, South Ruislip (2nd lamp-post from West End Road outside Nursery) (outside AQMA)	No	11	29.3	30.8	29.0	27.7	29.0

Site ID	Location	In AQMA	Data Capture 2012 (Months)	Annual Mean Concentrations ( $\mu\text{g}/\text{m}^3$ )				
				2008	2009	2010	2011	2012
HD76	Kaduna Close, Eastcote (lamp-post outside No. 1 Kaduna Close corner to Joel Street) (outside AQMA)	No	3	29.3	27.5	28.9	25.0	29.7
HD77	Chamberlain Way, Eastcote (1st lamp-post left in Chamberlain Way corner to Monitoring Cuckoo Hill) (outside AQMA)	No	3	26.3	26.2	27.6	25.0	29.1
HD78	Gateway Close, Northwood (1st lamp-post on left of Gateway Close corner to Rickmansworth Road) (outside AQMA)	No	3	32.5	32.8	30.6	31.4	33.4
HD79	Corner of Swallowfield Way and Kestrel Way (Railside on fence)	Yes	3	-	32.1	-	32.8	35.7
HD80	Corner of Swallowfield Way and Kestrel Way (Roadside on first lamp-post to the west)	Yes	3	-	34.2	35.3	33.0	39.6
HD200	49 Zealand Avenue Lamp Post (1)	Yes	8	-	-	-	-	37.6
HD201	Near 3 Hercies Road, Lamp Post (1)	Yes	8	-	-	-	-	<b>42.8</b>
HD202	49 Silverdale Gardens, Hayes Lamp Post (8)	Yes	8	-	-	-	-	33.3
HD203	Blyth Road, Hayes Lamp Post (4)	Yes	7	-	-	-	-	<b>48.1</b>

Site ID	Location	In AQMA	Data Capture 2012 (Months)	Annual Mean Concentrations ( $\mu\text{g}/\text{m}^3$ )				
				2008	2009	2010	2011	2012
HD204	Side of 104 Yiewsley High Street (front of 1A Fairfield Road) Lamp Post (2)	Yes	6	-	-	-	-	38.7
HD205	1 Porters Way (corner with Kingston Lane) Lamp Post (1)	Yes	7	-	-	-	-	<b>41.9</b>
HD206	5-7 Mulberry Crescent, West Drayton Lamp Post (18)	Yes	7	-	-	-	-	29.4
HD207	35 Emden Close, West Drayton Lamp Post (14)	Yes	7	-	-	-	-	30.5
HD208	Side of 50 St. Christopher's Drive Lamp Post (13)	Yes	5	-	-	-	-	29.6
HD209	29 Pendula Drive, Hayes Lamp Post (2)	Yes	8	-	-	-	-	34.5
HD210	340 Long Lane, Uxbridge Lamp Post (71)	Yes	8	-	-	-	-	<b>49.9</b>
HD211	198 Harefield Road, Uxbridge Lamp Post (2)	Yes	7	-	-	-	-	33.5
HD212	59 Hillingdon Road, Uxbridge Lamp Post (56)	Yes	4	-	-	-	-	38.4
HD213	10 West End Lane, Harlington Lamp Post (2)	Yes	7	-	-	-	-	<b>40.2</b>
HD214	R/O 130 Cleave Avenue, Hayes Lamp Post (33)	Yes	8	-	-	-	-	<b>49.5</b>
** Triplicate average * Duplicate average In bold, exceedence of the NO <sub>2</sub> annual mean AQS objective of 40 $\mu\text{g}/\text{m}^3$								

## 2.2.2 Particulate Matter (PM<sub>10</sub>)

Annual mean concentrations from 2008 to 2012 have been presented in Table 8. Data measured using TEOM has been VCM (Volatile Correction Model) corrected using the VCM website<sup>2</sup>, a summary of the VCM corrections is provided in Appendix A. The data capture at London Harmondsworth was below the recommended 75%, however as the annual mean was well below the objective (19.7µg/m<sup>3</sup> with 70% data capture) it has not been deemed necessary to annualise the data.

Results across the Borough have remained relatively stable compared to 2011 with a maximum variance of -4.3µg/m<sup>3</sup> being recorded at London Harlington. The average variance across the Borough recorded was a reduction of concentrations by 1.1µg/m<sup>3</sup>.

Results of the PM<sub>10</sub> 24-Hour mean over the same period are provided in Table 9. Where data capture was below 90% the 90.4<sup>th</sup> percentile has been calculated to indicate if there is a potential to exceed the 24-Hour mean PM<sub>10</sub> objective in excess of 50µg/m<sup>3</sup>, 35 times per year. No sites indicated an exceedence of this objective in 2012.

---

<sup>2</sup> <http://www.volatile-correction-model.info/Default.aspx>



**Table 8 - Results of Automatic Monitoring for PM<sub>10</sub>: Comparison with Annual Mean Objective**

Site ID	Site Type	Within AQMA?	Valid Data Capture 2012 %	Confirm Gravimetric Equivalent (Y or N/A)	Annual Mean Concentration (µg/m <sup>3</sup> )				
					2008	2009	2010	2011	2012
LHR2	Airport	Yes	99	Y	23.4	25.3	23.8	25.0	24.8
Hillingdon 1 – South Ruislip	Roadside	Yes	97	Y	22.9	35.4	22.4	24.0	24.1
Hillingdon 3 – Oxford Avenue	Roadside	Yes	97	Y	21.4	21.1	20.4	23.0	22.4
London Harlington	Airport	Yes	84	Y	20.9	16.2	19.7	22.0	17.7
London Harmondsworth	Airport	Yes	70	Y	29.7	27.9	17.8	21.0	19.7
Heathrow Green Gates	Airport	Yes	99	Y	17.2	17.6	20.0	21.0	20.8
Hillingdon Hayes	Roadside	Yes	88	Y	21.6	16.3	23.5	25.0	25.4
Heathrow Oakes Road	Airport	Yes	96	Y	19.8	21.3	21.8	24.0	21.3

**Table 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 %	Confirm Gravimetric Equivalent (Y or N/A)	Number of 24-Hour Means > 50µg/m <sup>3</sup> <sup>(1)</sup>				
					2008	2009	2010	2011	2012
LHR2	Airport	Yes	99	Y	15	7	4	19	18
Hillingdon 1 – South Ruislip	Roadside	Yes	97	Y	12	7	5	21	16
Hillingdon 3 – Oxford Avenue	Roadside	Yes	97	Y	10	2	2	16	10
London Harlington	Airport	Yes	84	Y	10	5	12	1	8 (37)
London Harmondsworth	Airport	Yes	70	Y	33	25	25	10	5 (37)
Heathrow Green Gates	Airport	Yes	99	Y	2	0	0	16	8
Hillingdon Hayes	Roadside	Yes	88	Y	2	6	7	18	15 (47)
Heathrow Oakes Road	Airport	Yes	96	Y	9	1	2	16	11

(1) If data capture less than 90%, the 90.4<sup>th</sup> percentile is shown in brackets

### 2.2.3 Sulphur Dioxide (SO<sub>2</sub>)

No monitoring of sulphur dioxide was carried out in 2012 as previous rounds of air quality Review and Assessment have shown that there is no risk of exceeding the AQS objectives for this pollutant.

### 2.2.4 Benzene

No monitoring of benzene was carried out in 2012 as previous rounds of air quality Review and Assessment have shown that there is no risk of exceeding the AQS objectives for this pollutant.

### 2.2.5 Ozone

Continuous monitoring of O<sub>3</sub> is undertaken at the London Hillingdon AURN monitoring site and the London Harlington monitoring site. O<sub>3</sub> is a transboundary pollutant; the sources of O<sub>3</sub> are frequently spatially distant from the measured site of the concentrations. This pollutant is not a prescribed air quality objective for LAQM purposes; however, it has been reported as recommended by Technical Guidance LAQM TG(09).

The results from 2012 indicate that the AQS objective for O<sub>3</sub>, of 10 8-Hour running mean exceedences of 100µg/m<sup>3</sup> per year is being exceeded at both monitoring locations.

**Table 10 - Results of Automatic Monitoring for Ozone: Comparison with Objectives**

Location	Within AQMA?	Description	% Data capture 2012	Number of Exceedences in 2012
London Hillingdon	Yes	Maximum 8-hour running mean > 100 µg/m <sup>3</sup>	97	<b>49</b>
London Harlington	Yes		92	<b>36</b>

In bold, exceedence of the ozone AQS objective (100µg/m<sup>3</sup> - 10 exceedences allowed per year)

## 2.2.6 PM<sub>2.5</sub>

PM<sub>2.5</sub> is monitored at three monitoring sites in the Borough. PM<sub>2.5</sub> objectives have been set out in the UK Air Quality Regulations. Although there is no requirement for local authorities to review and assess PM<sub>2.5</sub> against these objectives as part of the LAQM regime, results have been reported as recommended by Technical Guidance LAQM.TG(09).

The PM<sub>2.5</sub> results indicate that levels are well below the target value of 25µg/m<sup>3</sup> in 2012.

**Table 11 - Results of Automatic Monitoring for Particulates (PM<sub>2.5</sub>)**

Location	Within AQMA?	Data capture 2012 %	PM <sub>2.5</sub> Annual Mean 2012 *
Heathrow Green Gates	Y	96	9.9
LHR2	Y	99	10.6
Heathrow Oakes Road	Y	96	9.7
London Harlington	Y	91	13.4

\* As a comparison, the UK AQS objective for PM<sub>2.5</sub> is 25µg/m<sup>3</sup> (target value) for England

## 2.2.7 Summary of Compliance with AQS Objectives

The Council has examined the results from monitoring in the Borough.

Concentrations within the AQMA still exceed the objective for NO<sub>2</sub> and the AQMA should remain.

Concentrations outside of the AQMA are all below the objectives at relevant locations, therefore there is no need to proceed to a Detailed Assessment.

## **3 New Local Developments**

### **3.1 Road Traffic Sources**

Since the previous Review and Assessment report, there have been none of the following new or newly identified developments:

- Narrow congested streets with residential properties close to the kerb;
- Busy streets where people may spend one hour or more close to traffic;
- Roads with a high flow of buses and/or HGVs;
- Junctions;
- New roads constructed or proposed;
- Roads with significantly changed traffic flows; or
- Bus or coach stations.

### **3.2 Other Transport Sources**

Since the previous Review and Assessment report, there have been none of the following new or newly identified developments:

- Airports;
- Locations where diesel or steam trains are regularly stationary for periods of 15 minutes or more, with potential for relevant exposure within 15m;
- Locations with a large number of movements of diesel locomotives, and potential long-term relevant exposure within 30m; or
- Ports for shipping.

### **3.3 Industrial Sources**

Since the previous Review and Assessment report, there have been none of the following new or newly identified developments:

- Industrial installations;
- Major fuel storage depots;
- Petrol stations; or
- Poultry farms.

### 3.4 Commercial and Domestic Sources

Since the previous Review and Assessment report, there have been none of the following new or newly identified developments:

- Biomass combustion plant – individual installations;
- Areas where the combined impact of several biomass combustion sources may be relevant; or
- Areas where domestic solid fuel burning may be relevant.

### 3.5 New Developments with Fugitive or Uncontrolled Sources

Since the previous Review and Assessment report, there have been none of the following new developments:

- Landfill sites;
- Quarries;
- Unmade haulage roads on industrial sites;
- Waste transfer stations etc; or
- Other potential sources of fugitive particulate emissions.

The Council confirms that there are no new or newly identified local developments which may have an impact on air quality within the Local Authority area.

The Council confirms that all the following have been considered:

- **Road traffic sources**
- **Other transport sources**
- **Industrial sources**
- **Commercial and domestic sources**
- **New developments with fugitive or uncontrolled sources.**

## 4 Local / Regional Air Quality Strategy

The Council is part of the Greater London Authorities who are helping to implement the London Plan. The London Plan<sup>3</sup> is the statutory strategic plan produced by the Mayor of London outlining the spatial development strategy for Greater London. All London Boroughs are required to have regard of the London Plan in their own development plans, planning decisions and spatial strategies. The London Plan consists of a number of policies to employ land-use and traffic planning to reduce air pollution and exposure. It requires local authorities to ensure that new developments are sustainable, safe, secure, well designed and improve the environment (particularly the air quality).

London Plan's Policy 7.14, "Improving Air Quality" deals with air pollution and states that:

*"A The Mayor will work with strategic partners to ensure that the spatial, climate change, transport and design policies of this plan support implementation of his Air Quality Strategy to achieve reductions in pollutant emissions and public exposure to pollution".*

Policy 7.14 also states that:

- "B Development proposals should:*
- a minimise increased exposure to existing poor air quality and make provision to address local problems of air quality (particularly within AQMAs).*
  - b promote sustainable design and construction to reduce emissions from the demolition and construction of buildings, following the best practice guidance in the Greater London Authority (GLA) and London Councils "The control of dust and emissions from construction and demolition – Best Practice Guidance"<sup>4</sup>.*
  - c aim to be "air quality neutral" and not lead to further deterioration of existing poor air quality (such as in AQMAs). Offsetting should be used to ameliorate negative impacts associated with development*

<sup>3</sup> Mayor of London, The London Plan: Spatial Development Strategy for Greater London, (Consultation draft replacement plan), October 2009

<sup>4</sup> Mayor of London (Nov 2006), The control of dust and emissions from construction and demolition - Best Practice Guidance, Produced in partnership by the Greater London Authority and London Councils



*proposals. Increased exposure to existing poor air quality should be minimised.*

- d ensure that, where provision needs to be made to reduce emissions from a development, this is usually made onsite. Where it can be demonstrated that onsite provision is impractical or inappropriate, and that it is possible to put in place measures having clearly demonstrated equivalent air quality benefits, planning obligations or planning conditions should be used as appropriate to ensure this, whether on a scheme by scheme basis or through joint area-based approaches.*
- e where the development requires a detailed air quality assessment and biomass boilers are included, the assessment should forecast pollutant concentrations. Permission should only be granted if no adverse air quality impacts from the biomass boiler are identified.”*

The Council has made no changes to any local or regional strategies since the previous Round of Review and Assessment.

## **5 Planning Applications**

The Council has set up a weekly meeting where each new planning application is assessed to determine if an air quality assessment is required. If an air quality assessment is required, the planning application will only be validated once the air quality assessment has been received and appraised by the Environmental Protection Unit.

A list of all planning applications which could have an impact upon air quality is provided in Appendix C.

## **6 Air Quality Planning Policies**

The policies set out in local authority planning documents determine the authority's approach to the relationship between planning and air quality. They are important as new developments are judged against these policies.

The London Borough of Hillingdon has developed a Local Development Framework (LDF), with the Core Strategy. This has identified where significant growth or change is proposed, providing information to help address air quality matters. Air quality planning guidance has been integrated into the new LDF "folder" through Supplementary Planning Guidance.

Currently the London Borough of Hillingdon Unitary Development Plan (UDP) (2007) Saved Policies lays out the air quality planning policies. This document updates the policies from the previous UDP, in doing so uses the policies from the London Plan Policies. In 2002 the Council published the Supplementary Planning Guidance to the Unitary Development Plan – Air Quality SPG.

The Hillingdon Public Health Annual Report 'Health in a Cold Climate' and the Joint Strategic Needs Assessment (JSNA), both recognise the need for improved air quality.

## **7 Local Transport Plans and Strategies**

Hillingdon's Local Implementation Plan (LIP) sets out how the Council proposes to implement the Mayor's Transport Strategy (MTS) and provides details on projects, proposals and programmes from 2011. In the LIP, the Council has presented a range of transport policies, initiatives and projects with the aim to improve air quality. These can be found in Chapter 4 – LIP Proposal Delivery Forms where each option is discussed in detail. Status of the Local Implementation Plan

There is strong synergy between the AQAP and the LIP, with most of the surface transport actions listed shared between the two.

## **8 Climate Change Strategies**

The Council adopted a climate change strategy in 2009. The strategy links with the AQAP and recognises the joint impacts of the air quality improvements and improvements and reduction in climate change.

## 9 Implementation of Action Plans

### Overall progress with Hillingdon's Air Quality Action Plan

Hillingdon's Action Plan contains a large number of measures (more than 100) split across the following eight packages:

Package 1: Switching to cleaner transport options, for example, shifting freight from road to rail and promoting cycling and walking

Package 2: Tackling through traffic

Package 3: Promotion of cleaner vehicle technology

Package 4: Measures specific to Heathrow Airport

Package 5: Measures concerning local industries and other businesses

Package 6: Improving the eco-efficiency of current and future developments, including those owned or operated by the Council

Package 7: Actions to be taken corporately, regionally, and in liaison with the Mayor

Package 8: Plan management

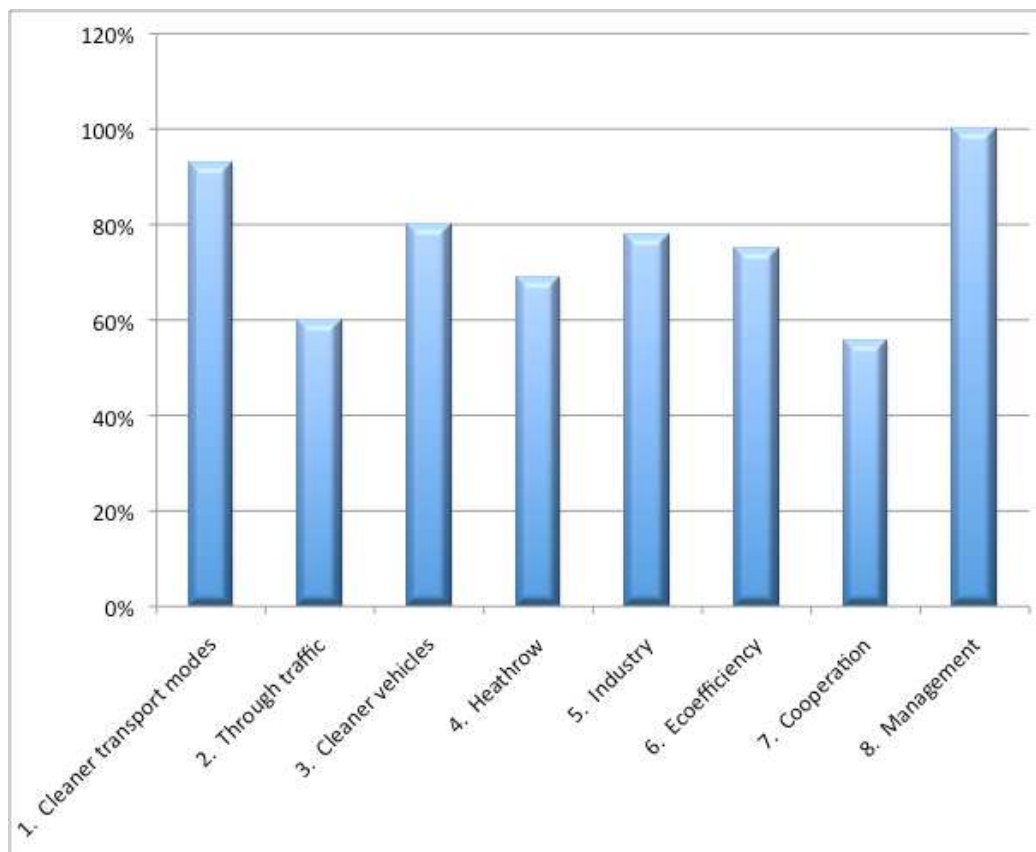
Overall, across these packages, 75% of measures have been fully adopted. In general, implementation of measures that Hillingdon has full control over has been very good (e.g. those in Packages 1, 3, 5 and 8). There has been less success in Packages where other groups are heavily involved, for example:

- Package 2, which involves TfL, the Highways Agency and others
- Package 4, which involves Heathrow Airport and DfT, though progress has recently been as a result of the commitments made in Heathrow's Air Quality Strategy for 2011-2020
- Package 7, which involves many stakeholders, from Central Government to local and regional bodies

It is not intended that this should be interpreted as direct criticism of these outside bodies, as it is in part a consequence of the broad ranging nature of the current Action Plan; in seeking to implement so many measures it was inevitable that problems would arise with some, particularly where the Borough was not responsible for funding or management. As it would seem to take longer to get actions in place where partnership working is needed it is very important to ensure that reducing pollutant emissions is a key part of the objectives of each working partner. Overall,

the success in bringing action plan measures into place provides a firm foundation for the revision of the plan in the coming year.

**Figure 6 - % of Measures in Each Package that were Fully in Place by the End of 2012**



### **Highlights from Air Quality Action Plan implementation in 2012**

The following highlights are discussed in the progress report:

- Further development of the Transport Tool Kit
- Schools Cleaner Air Zone Project
- Hillingdon and Heathrow Hotspot Project
- Assistance to researchers, keeping Hillingdon in touch with state-of-the-art developments in understanding of air quality science
- A series of specific transport actions including:
  - Several activities focused on schools:

- Continuation of the successful Walk on Wednesdays for all Borough schools,
  - Active promotion in regard to the supply of safe walking and cycling equipment such as reflective vests, pedometers and bicycle bells,
  - Road safety events
  - An annual ceremony to celebrate the schools that have achieved a modal shift through their School Travel Plans
- Activities focused on cycling, including the establishment of a network of Cycle Rangers.
- The funding of a travel plan monitoring officer
- Action in the Air Quality Hotspot Areas addressing:
  - West End Road, South Ruislip.
  - Hayes Town Centre.
  - Uxbridge Road corridor.
  - Heathrow Villages.
  - West Drayton and Yiewsley.
- An application for funding from the Mayor's Air Quality Fund for work on alternative fuelled vehicles
- Work with the Heathrow and Local Authorities Working Group, including;
  - Audit of Heathrow Air Quality Action Plan 2011-2020
  - NOx Sensor Project
  - Heathrow Airwatch Website
- Response to consultation on the Aviation Policy Framework
- Development of a response strategy to the Howard Davies Airports Commission

### **Next Steps**

It was stated last year that the most significant next step involves the ongoing revision of the action plan. This includes ensuring that it is properly linked with national, regional and other local policies. This is now complicated by the renewed interest in airport development. It may thus be argued that for Hillingdon the most significant next step lies in its response to consultation around the future of Heathrow.



In carrying out further actions it is important to be conscious of the need to maintain the impetus of local, regional and national actions in the interests of public health protection. The main focus of this work will doubtless be on those areas where limits are currently exceeded. However, the importance of at least maintaining, and preferably improving, air quality in areas that already meet the objectives should be borne in mind, given that the air quality limit values do not represent concentrations at which there is no effect on health.

## **9.1 Overview of progress: analysis of situation, opportunities, faults and threats**

### **9.1.1 Situation**

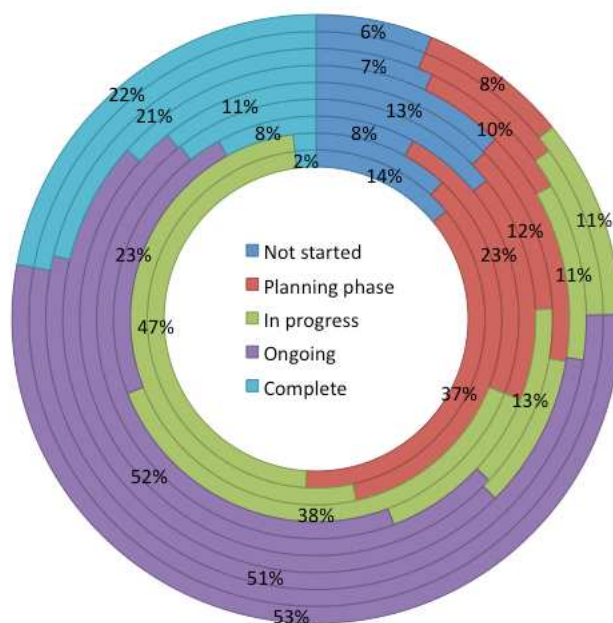
Information on the progress with all measures in the action plan since its adoption is provided in Table 12. The format used is broadly consistent with that shown in the progress report template. Progress within each package is summarised in the figures below. These show the number of measures in package at each of the following stages of development:

- Not started
- In the planning phase
- In progress
- Ongoing
- Completed

The category 'Completed' covers measures for which no further action is required (including monitoring). The category 'Ongoing' covers measures that are complete in the sense that all necessary actions are in place, but which will require continued input and monitoring. A good example concerns Measure 8.06 (annual reporting on air quality in the Borough). The present report demonstrates that the Council has all necessary actions in place for such reporting, but further annual reports will be required for the foreseeable future. In contrast, measures 'in progress' need additional action to be seen through to either the 'Ongoing' or 'Completed' categories.

An overview of how the Action Plan has progressed over the years is provided by Figure 7 showing the proportion of measures at each at stage of development. In the first two years (inner rings) about half of the measures were underway in some form beyond 'planning'. By 2008 more than half of the measures were ongoing/complete. By the reporting year, 75% of measures were ongoing/complete.

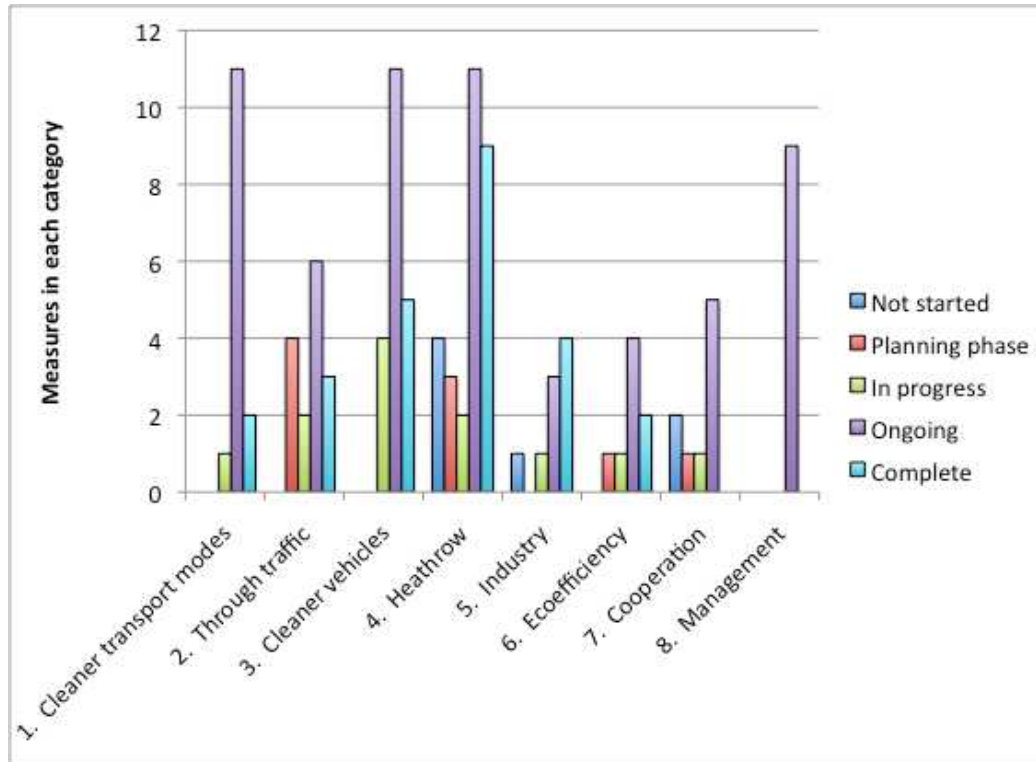
**Figure 7 - % of Actions Listed in the Various Packages of the Action Plan in Each Stage of Implementation. Rings from inside to out represent progress for 2004/5 and then for each year to 2012/13.**



A significant number of measures remain in the other two categories, with 6% of measures not started and 8% in a planning phase. To a significant extent these reflect measures for which wider support was needed that has not been forthcoming, or measures that, with the benefit of hindsight, are now not considered practicable. However, despite the maturity of the plan at this point in time, there has been some advancement of measures in the reporting year compared to the previous year.

Figure 8 shows progress against each Package of measures.

**Figure 8 - Progress of Actions in Each Package in the Action Plan, showing the Number of Measures at each of the Five Stages Listed (at end April 2013).**



A thorough review of all measures classed as ‘in progress/ongoing/complete’ has been made as part of the audit of the Action Plan completed in the reporting year. They are, therefore, not discussed in more depth in this Chapter, though additional information is given in the Table 12 that provides a listing of progress against each measure. It should also be noted that some of the completed measures include actions such as investigating whether subsidies could be applied to public transport (e.g. the Heathrow Express) to improve modal switch. In several such cases it has been concluded that there is no scope for implementing these measures, for example they are not in Hillingdon’s power and the bodies responsible are unwilling to take them on.

### 9.1.2 Opportunities

A large number of measures identified in the action plan are included in LIP2. This has the potential to provide a major source of funding for local actions in the action plan for the future. However, it does not influence any actions that are outside the

control of the Council, for example those in areas where Transport for London, the Highways Agency, HEATHROW AIRPORT or the Department for Transport are responsible.

Section 106 Agreements continue to provide further funding for measures included in or relevant to the action plan.

The Environmental Protection Unit still enjoys enthusiastic support for the action plan from other departments in the Council, from procurement to transport planning.

Good collaboration with other local stakeholders continues, particularly with neighbouring local authorities. This provides the scope for effective regional working. This, in turn, provides the opportunity to improve the effectiveness of delivery of the action plan.

Publication of the Heathrow Air Quality Strategy for 2011-2020 provides a new focus for working with the airport's operator for air quality improvement.

A new funding stream has become available, the Mayor's Air Quality Fund. A bid has been made by Hillingdon, together with Heathrow Airport and GlaxoSmithKline for funding on alternative fuels, particularly electric vehicles. This is an important bid so far as Hillingdon's action plan is concerned given that the proposed work links to no fewer than six measures:

- 7.07 Work in partnership to ensure consistency of Action Plan measures and explore all opportunities for regional measures for reducing emissions.
- 1.07 Ensure Green Travel Plans are a requirement for all businesses (new and existing) employing more than a specified number of people in the Borough.
- 3.07: Lead the way in trialling new technology, where appropriate, and act as a point of information for businesses and other stakeholders in Hillingdon for cleaner vehicle technologies, national schemes and grant systems for the use of alternative fuels.
- 3.16: Facilitate the uptake and use of alternative fuels, including water-diesel emulsion. This should include development of appropriate alternative

refuelling infrastructure where necessary e.g. charging points for electric vehicles.

- 4.14: Pursue quantification of measures in the HEATHROW AIRPORT Air Quality Action Plan and Surface Access Strategy in terms of air quality impacts.
- 4.16: Assess feasibility of a Heathrow specific LEZ to reduce emissions and accelerate take up of cleaner vehicle technology.

### 9.1.3 Faults

There are three types of fault that could affect the action plan and the Council's implementation of it:

**1. Failure to meet the limit values by the required date.** The Council's responsibility as determined by Central Government extends only to "move towards" compliance with the EU limit values, recognising the constraints acting on Local Authorities. The most obvious constraints affecting Hillingdon concern its lack of control of the major emission sources in the Borough – Heathrow Airport and the major road network.

**2. Adoption of an action plan that is insufficiently ambitious in "moving towards" the limit values.** On the basis that the plan has been reviewed by the GLA and National Government and that neither has identified this to be a problem, it is concluded that the plan is considered to be sufficiently ambitious relative to plans prepared by other local authorities. It is, however, now several years old, so it is appropriate that the Council takes action to revise the plan.

**3. Failure to implement the plan to the extent required to move sufficiently towards compliance with the limit values.** The Council has completed many actions that were part of the original plan. On the other hand, some have not been implemented at all. These are being reviewed with a view to considering whether further effort can be directed to their implementation or whether alternative approaches are needed.

These issues were considered in the 2012 audit of the action plan, conclusions from which are reproduced below.

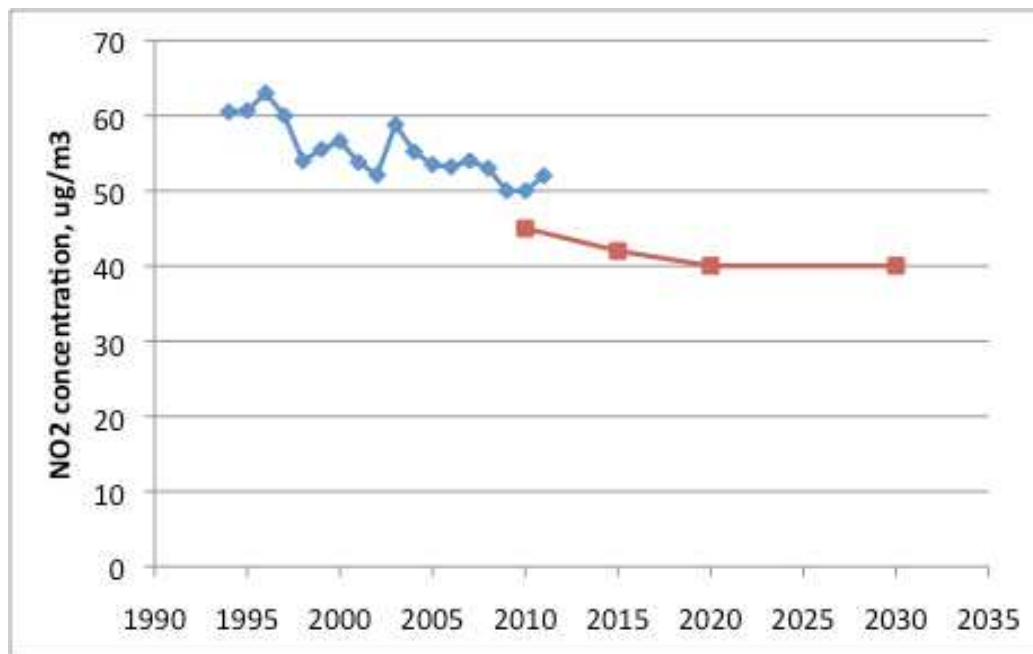
A problem that has arisen during the reporting year is the delay in the Hillingdon and Heathrow Hotspot Project. This is now due to report in August 2013. Delay in the project has led to a delay in revision of the action plan.

#### **9.1.4 Threats**

The ongoing economic crisis has a direct effect on reducing emissions through for example, reduced traffic. However, it will, in the longer term, delay the implementation of some measures and reduce the rate at which older vehicles are replaced with those designed with higher levels of pollution abatement equipment.

There remains significant uncertainty relating to plans for Heathrow Airport. The Howard Davies Airports Commission was set up by the Coalition Government in recognition of the need to establish a solid independent evidence base for a long-term strategy for aviation in the UK. The Commission will publish an interim report by the end of 2013 on immediate actions to improve the use of current runway capacity. Given that rumours persist that a further application will be made for development of a Third Runway at Heathrow, it is informative to consider how the forecast NO<sub>2</sub> concentration made in the previous application compares to actual concentration (Figure 9). It is very clear that the air quality modelling for Heathrow airport that supported the earlier application, suggesting compliance with air quality limit values by 2020, is not supported by monitoring data. For 2012 the measured data exceed the forecast by 4 µg/m<sup>3</sup>. This is less of a difference than for the previous year, though in part this is likely to highlight meteorological variability and the continuing economic slow-down.

**Figure 9 - Annual mean NO<sub>2</sub> concentrations at LHR2. Blue Line = Measured Data; Red Line = Modelled Information for 2010 to 2030 Reported in Support of Heathrow Expansion.**



## 9.2 Progress with the action plan

Highlights are listed here with reference to the appropriate action plan measures.

### 9.2.1 Selected highlights from the reporting year and other developments

#### Transport Tool Kit

*Measure 2.05: Develop best practice advice to ensure air quality assessments are made for proposals for new transport infrastructure and changes to traffic management.* Following on from the development of the Hillingdon Ready Reckoner emissions toolkit, an Excel-based tool for assessing the emission impacts from traffic management measures, Hillingdon successfully led a joint Defra bid with Leicester City Council to extend and incorporate a further range of schemes into the database. The initial workshop demonstrating the use of the tool has been held at Leicester and the project team is currently identifying relevant schemes for pre and post implementation emissions assessment.

## **Schools Cleaner Air Zone**

*Measure 1.06: Introduce more Safe Routes to School throughout the Borough with special regard to the schools within the highest exceedence areas.*

*Measure 3.09: Investigate the provision of low or zero emission buses for schools within the high exceedence areas.*

*Measure 6.02: Work with existing buildings and housing stock to secure improvements in emissions.*

Along with Camden, K&C and City of London, Hillingdon were successful in a Defra bid for this project, which is match-funded through the Borough LIPs and the GLA. Each Borough is currently identifying their priority schools. The project will aim to use a range of measures for reducing emissions from selected schools and their surroundings and adding protection to schoolchildren from nearby congested road networks.

## **Hillingdon and Heathrow Hotspot Project**

*Measure 2.12: Identify air quality congestion-related hotspots throughout West London and the appropriate measures for delivering improvement in both congestion and air quality e.g. new access road from the A40 to Ruislip industrial areas.*

This ongoing project will permit measures to be more closely targeted at areas of prime exceedence than previously. An extension of time for this project has been agreed with Defra, due to difficulties in obtaining key traffic data inputs from project stakeholders. The revised deadline is August 2013. One disbenefit of the delay has been to postpone the review of Borough action plans.

## **Transport actions**

These are continuing Borough wide, as the following examples show:

*Measure 1.05: Improve provision for pedestrians.*

*Measure 1.06: Introduce more Safe Routes to School throughout the Borough with special regard to the schools within the highest exceedence areas.*

Several activities are focused on schools, including:

- Continuation of the successful Walk on Wednesdays for all Borough schools,



- Active promotion in regard to the supply of safe walking and cycling equipment such as reflective vests, pedometers and bicycle bells,
- Road safety events
- An annual ceremony to celebrate the schools that have achieved a modal shift through their School Travel Plans

*Measure 1.03: Encourage the development of more dedicated cycle (priority) lanes and signalling.*

This has been pursued through cycling programmes through bikeability and Biking Borough initiatives including the establishment of a network of Cycle Rangers. The Rangers are a group of volunteers who actively use the cycling network around the Borough and hence have a very good understanding of where improvements are needed. A series of events has been held across the Borough aimed at encouraging cycling including:

- Promotion of cycling at events such as “Party in the Park”, “Hayes Carnival” and the local “Skyride” in Hayes;
- Support of Go Green in the Chimes Shopping Centre which has strengthened partnerships with Brunel University, the Chimes and the Local Cycling Campaign;
- Organisation of 10 volunteer led cycle rides for residents with British Cycling in the summer months across all parts of the Borough;

*Measure 1.07: Ensure Green Travel Plans are a requirement for all businesses (new and existing) employing more than a specified number of people in the Borough.*

Funded by WestTrans, a partnership of the west London boroughs of Hillingdon, Hounslow, Ealing, Harrow, Hammersmith and Fulham and Brent, Hillingdon now have a travel plan monitoring officer for one day a week. This will allow the auditing and enforcement of travel plans in the Borough. The travel plan database is currently being updated, the development of a monitoring mechanism for compliance and enforcement is to be the next stage of the project

### **Action in the Air Quality Hotspot Areas**

*Measure 2.01: Introduce Home Zones/20 mph in residential areas subject to significant amounts of through traffic that should use alternative routes.*

*Measure 2.12: Identify air quality congestion-related hotspots throughout West London and the appropriate measures for delivering improvement in both congestion and air quality e.g. new access road from the A40 to Ruislip industrial areas.*

West End Road, South Ruislip. A banned right hand turn from a London Underground depot in the area of Ruislip Gardens station had led to increased HGV movements through residential areas as drivers attempt to head south to access the A40. A scheme has now been agreed for a set of controlled traffic signals to allow the HGVs to legitimately turn right towards the A40. This will lead to reduced emissions as the route is shorter and in addition remove HGVs from residential streets.

*Measure 1.11: Support multi modal travel by further development of public transport interchanges for rail/cycle/bus/walking both within Hillingdon and the West London area.)*

Hayes Town Centre. The need for improvements to the public transport interchange in Hayes has been recognised and there is a programme of work aimed at improving the public realm and increasing sustainable travel modes including roll out of Legible London walking information in Hayes and the interchanges with the Grand Union Canal. There is a regeneration programme being put in place for including a re-design of the current Hayes Town Centre including, potentially, the local road network. Consultants have been commissioned to undertake an air quality assessment of the final design in order to ensure any air quality impacts arising from a change in the road network are effectively managed.

*Measure 2.06: Work in partnership with TfL to implement schemes along the high exceedence corridors designed to smooth traffic flows.*

Uxbridge Road corridor. This West London initiative looks along the whole road corridor from Uxbridge to Southall. It will identify traffic management issues along the corridor which includes interaction with nine separate shopping parades and busy bus routes. This will form the basis for a scheme of works aimed at improving the public realm and smoothing the flow of traffic. It is anticipated that this project will help address the small pockets of air quality exceedence that exist at several of the junctions along this corridor.

*Measure 2.01: Introduce Home Zones/20 mph in residential areas subject to significant amounts of through traffic that should use alternative routes.*

Heathrow Villages. The villages suffer from intrusion from road traffic, mainly caused by rat-running and HGVs using the narrow residential streets to access the A4 and the airport area. Traffic calming schemes are currently being considered and measures to manage HGVs will form part of a future workstream.

*Measure 2.06: Work in partnership with TfL to implement schemes along the high exceedance corridors designed to smooth traffic flows.*

West Drayton and Yiewsley. Improvements are to be made to a key road link between south West Drayton and the main Stockley Bypass (A408). It is anticipated that the creation of better road alignment and better operation of the roads will result in helping reduce traffic volumes on Yiewsley High Street which contribute to the areas of poor air quality along the High Street.

### **Keeping up with the science**

Hillingdon remains committed to keeping its knowledge of air quality science up to date. An example from the reporting year was collaboration with researchers leading to the publication of a paper by Malby et al<sup>5</sup> entitled 'Conditional extraction of air-pollutant source signals from air-quality monitoring'. The abstract of the paper is as follows:

*"Ambient air-quality data contain information about air-pollution sources that is currently underexploited. This information could be used to assess trends in the emissions performance of specific sources, and to check at an early stage if policies or controls to reduce air-quality impacts from particular sources are working. Previous techniques for extracting such information have tended to adopt complex analyses and to rely on data from monitoring networks with many sites, thus limiting their applicability to non-specialist users and to networks with few sites. This paper describes simple techniques for 'conditionally' selecting data from one or two monitors, and for analysing and interpreting concentrations in terms of source performance or policy progress. Our techniques minimise the effects of variations in meteorology and source activity, so that the selected data give a more consistent indication of individual source performance. We demonstrate our techniques with a*

---

<sup>5</sup> Malby, A.R., Whyatt, J.D. and Timmis, R.J. (2013) Conditional extraction of air-pollutant source signals from air-quality monitoring. *Atmospheric Environment* 74 (2013) 112e122.

*case study, in which we track the source performance of road traffic on the M4 motorway in London and show how impacts per vehicle have changed over time under different conditions of traffic flow and fleet composition.”*

### **Mayor’s Air Quality Fund**

*As noted above, this links with six action plan measures (7.07, 1.07, 3.07, 3.16, 4.14 and 4.16)*

This new fund, supported by TfL and the GLA, has been launched to provide match-funding for Boroughs that produce innovative new schemes and projects designed to tackle air pollution. To gain access to the funding, Boroughs must sign up to specific criteria to confirm ongoing support to becoming a Cleaner Air Borough.

Hillingdon and Hounslow have submitted a partnership bid to the Mayor’s Air Quality Fund along with Heathrow Airport and GlaxoSmithKline (GSK). If successful, the funding will enhance the partners’ current work on the promotion of alternative fuels especially in regard to electric vehicles. A methodology will be developed for quantifying the reduction in emissions and will be facilitated by the provision of the necessary infrastructure and a high quality marketing campaign. It is anticipated that the focus will be on specialist markets such as taxis and mini cabs given their high levels of use throughout the area. The bid awards are expected by the end of June.

### **Heathrow and Local Authorities Working Group**

#### ***Audit of Heathrow Air Quality Action Plan 2011-2020***

*Measure 4.10: Audit progress on the HEATHROW AIRPORT Heathrow Air Quality Action Plan (2001-2006).*

After an external tendering process, consultants have been appointed to undertake an audit of specified actions for the Plan. The working group is currently formalising which actions will be audited.

#### ***NOx Sensor Project***

*Measure 4.11 Review air quality monitoring regime at Heathrow and identify potential gaps.*

The operator of Heathrow Airport is working with the University of Cambridge on the development and deployment of a network of electrochemical sensors across the

Airport. If proved accurate, the sensors will help provide a more detailed spatial analysis of emissions across the airport. The local authorities are currently working with the Airport to co-locate the new sensors with existing air quality monitoring stations as part of the project development process.

### **Heathrow Airwatch Website**

*Measure 4.11 Review air quality monitoring regime at Heathrow and identify potential gaps.*

Developed some years ago as a single point for all air quality information relating to the airport, the site is currently undergoing refresh. It is anticipated that the new site will be up and running by the end of June 2013.

## **Aviation**

### **Aviation Policy Framework**

*Measure 4.01: Continue to oppose any further expansion at Heathrow that leads to negative air quality impacts.*

*And linked to:*

*Measure 4.19: Develop best practice guidelines to ensure air quality impact assessments are integral part of relevant transport and transport infrastructure proposals, and that appropriate mitigation measures are inclusive part of any scheme.*

*Measure 4.25 Lobby Central Government to pursue more stringent emission standards for plant, aircraft and airside vehicles.*

*Measure 7.09 UK Government to actively support air quality improvement in Hillingdon*

After public consultation, the Aviation Policy Framework was finalised and published in March 2013. In regards to local air quality, a commitment to achieving full compliance with European air quality standards is given (para 3.47). The policy itself seeks improvements via tightening international standards to reduce emissions from aircraft and vehicles and to work with airports and local authorities to improve local air quality. The document states that it expects airports to take the responsibility of addressing the surface access emissions associated with accessing the airport seriously, and also recognises that with noise management and mitigation prioritised as the main local impacts, proposals that have significant trade-off issues (e.g.

reducing noise yet increasing emissions of air pollutants), need to be carefully assessed. This is clearly very important for the area around Heathrow.

### ***Howard Davies Airports Commission***

*Measure 4.01: Continue to oppose any further expansion at Heathrow that leads to negative air quality impacts.*

The Howard Davies Airports Commission was set up by the Coalition Government to establish a solid independent evidence base for a long-term strategy for aviation. The Commission will publish an interim report by the end of 2013 on immediate actions to improve the use of current runway capacity. Hillingdon, along with the 2M group, will engage with the Commission to ensure that the serious implications for local air quality that could arise from proposals for expansion of the will be properly assessed and addressed. This needs to be done as an integral part of the process and in a transparent fashion so that the problems associated with the previous Government's proposal to expand Heathrow are not repeated (see Figure 9). The reductions in emissions that had been assumed for the Adding Capacity at Heathrow consultation painted a picture of an area, even with a third runway and all the additional flights and surface access traffic, in compliance with the EU limit values. In reality we have the situation that this area, with a 2 runway airport capped to 480,000 ATMs, will not be in compliance until at least 2020.

## **9.3 Conclusions from the audit (Holland, 2012)<sup>6</sup>**

The audit of Hillingdon's air quality action plan (AQAP) was produced for two purposes. The first was to summarise evidence regarding the robustness of Hillingdon's approach to its air quality problems. The second was to inform the revision of the plan. It investigated a series of 15 questions, brief conclusions on which are given in this summary.

### **9.3.1 The need for an AQAP**

#### ***1. Was Hillingdon correct to declare an air quality management area (AQMA) for NO<sub>2</sub>, leading to the requirement for an AQAP?***

---

<sup>6</sup> Holland, M.R. (2012) The London Borough of Hillingdon, Air Quality Action Plan: Independent audit of the air quality action plan, 2012.

Results of modelling studies and data from the monitoring network confirm that Hillingdon was correct to declare an AQMA for annual mean concentrations of NO<sub>2</sub>.

### **9.3.2 Scope of the AQMA**

#### ***2. Does the air quality monitoring network within the Borough provide a reliable indication of pollution levels?***

The air quality monitoring network was reviewed in the 2011 Progress Report, concluding that it was fit for purpose. Some recommendations were made for more efficient use of resources and these recommendations have been implemented. Monitoring stations are subject to quality control procedures. There is good agreement between the different types of monitoring equipment in place, and with the results of monitoring studies. It is concluded therefore that the Hillingdon network provides a reliable indication of air quality in the Borough.

#### ***3. Did the declared AQMA cover the correct area, and is it still appropriate?***

The declared AQMA is supported by the data available to the Council. Further investigation may now be needed in one location north of the current limit of the AQMA at Eastcote Village at the junction of the B472 and B466.

### **9.3.3 Implementation of the AQAP**

#### ***4. How many measures from the Action Plan have been fully implemented?***

Eighty five of the measures presented in the action plan are either complete or fully in place but requiring annual monitoring/continual update, representing 75% of the total number of measures. A further eleven measures are now in progress. Ten measures are considered to still be in a planning phase and there has been no progress with a further seven. The seven yet to be started include four that are focused on traffic using Heathrow.

#### ***5. Has the AQAP led to an improvement in air quality?***

At one level the answer to this question has to be no, given that monitored data show no reduction in NO<sub>2</sub> levels since the plan came into operation. However, other data show that there has been progress in a range of areas, from reducing traffic (and this covering a period prior to the economic downturn) to establishing sustainable waste management practices, including the banning of bonfires. It can be inferred from this

that whilst there has been no clear improvement in NO<sub>2</sub> levels, they are likely to have worsened in the absence of the action plan.

***. Where does responsibility lie for those measures that have not been fully implemented?***

Most of the measures that are yet to be fully implemented involve, to a greater or larger extent, TfL, HA and HEATHROW AIRPORT in addition to Hillingdon. Closer collaboration with these organisations will be needed in the future. It is recognised that the Council already liaises with these bodies, ways for more successful collaboration need to be identified.

***7. Is the Council using its planning powers adequately?***

Progress in this area has improved over time. At the start of the AQAP it was very difficult to obtain information on new planning applications. However, links between EPU and the Planning Department have improved, as shown by better access to planning applications. There is also greater willingness to explore potential for using Section 106 agreements than previously existed, providing some funding for air quality improvements.

***8. Is the Council effective in lobbying external organisations?***

Twelve measures in the AQAP exclusively concern lobbying other bodies such as the GLA, Defra, DfT, the airport operator and European Commission to act in areas outside of Hillingdon's control. Other measures also include a requirement for lobbying other groups. Given that the main sources of air pollution in the Borough are not under Hillingdon's control, these lobbying activities are extremely important. Given that the outcome of lobbying can be rather intangible most effort has so far gone towards those measures with a clearer outcome, such as the establishment of a safe routes plan for a school. However, lobbying opportunities have also been taken in seeking to address the problems linked to the major roads and to the airport. Perhaps most notably, the Council has succeeded in highlighting the problems faced by Hillingdon to the European Commission. However, there seems as yet no coordinated plan by the Council for lobbying on air quality issues. Lobbying has certainly been carried out by Council Officers, consultants to the council and others, and has had some effect. However, it is recommended here to develop a more effective lobbying strategy, ideas for which are outlined.



#### 9.3.4 Design of the AQAP

##### ***9. Is the structure of the AQAP appropriate? Should it be broader based or more focused?***

The existing plan contains over 100 measures spread across 8 packages:

Package 1: Switching to cleaner transport options, for example, shifting freight from road to rail and promoting cycling and walking

Package 2: Tackling through traffic

Package 3: Promotion of cleaner vehicle technology

Package 4: Measures specific to Heathrow Airport

Package 5: Measures concerning local industries and other businesses

Package 6: Improving the eco-efficiency of current and future developments, including those owned or operated by the Council

Package 7: Actions to be taken corporately, regionally, and in liaison with the Mayor

Package 8: Plan management

This structure is similar to that adopted elsewhere, including by the Beacon Authorities for Air Quality. A very targeted action plan was not appropriate to Hillingdon initially because the main sources of emissions (Heathrow and the major road network) were not under the control of the Council. It was appropriate that the Council sought to improve air quality to the extent that it was able, whilst seeking to influence the activities causing the greatest problems through the appropriate authorities.

Moving forward, it was suggested that the following is done to simplify the plan:

1. Actions that are complete and do not need further monitoring be removed from the plan.
2. Actions in the 'ongoing' category be kept under review. This is important to ensure, for example, that school travel plans remain active.
3. Measures 'under review' in this way should be brought together within a single monitoring action.
4. Packages should be realigned against the body or bodies that would be most responsible for their implementation. For example, all activities that would need to be led by TfL should be brought together into a single package.

5. Discussions be held with each body to determine the following:
  - a. An appropriate list of measures for each package
  - b. The availability of resource for each measure
  - c. The likely benefit of each measure in isolation and combination with others
  - d. The timescale for each measure to be fully implemented
6. With this done, it will be appropriate to report back to Defra to give a clear indication of:
  - a. The extent to which air quality in the AQMA may improve under a new plan
  - b. The timescale for improvements
  - c. In the event that limit values will not be met on a reasonable timescale, identification of the sources of air pollution most affecting areas subject to exceedence
  - d. Opportunities for bringing forward the date of compliance with the air quality limit values should be identified, bearing in mind that this is already behind time.

**10. *Should existing measures continue?***

A review of all measures in the existing action plan with consideration to how they may feature in a revised action plan was provided in Table 12.

**11. *Should the Action Plan be merged with Borough Transport Plans?***

It was concluded that the plan should not be merged with the Borough Transport Plan (the LIP) as it has to address problems beyond those covered by the LIP, notably relating to Heathrow and the strategic road network that is not under local control.

**12. *Are responsibilities in the AQAP allocated appropriately?***

Subject to the recommendations made above for revision of the action plan, it seems that responsibilities are allocated appropriately.

### 9.3.5 Interaction with stakeholders

**13. Have the Council Officers responsible for the AQAP liaised sufficiently with:**

- a. *The public?*
- b. *Other departments in the Council?*
- c. *Neighbouring Boroughs and the Mayor's Office?*
- d. *Regulatory authorities?*
- e. *Heathrow Airport*
- f. *Other local businesses?*

The audit concluded that there has been a good level of liaison with most other stakeholders. However, in the future there has to be improved liaison with the airport operator and those responsible for the major road network. Without this it will not be possible to advise government on likely timescales for compliance, or to be clear that the measures identified in a revised plan are the most efficient.

### 9.3.6 Learning

**14. Has the Council taken the opportunity to learn about best practice from other local authorities?**

It was concluded that Hillingdon has interacted with other councils to an appropriate level in order to learn about best practice. It was noted that Hillingdon has a unique problem in being home to the UK's largest airport.

**15. Have the Council's successes and failures in implementation of the plan been communicated so that others may learn from them?**

Whilst the Council has not communicated its successes and failures to other local authorities (beyond its neighbours) in a formal and systematic way, it was argued that Defra should put a mechanism in place for this to happen. If this was linked to the existing review process it would require very little added expenditure and is likely to have substantial benefits, including cost savings.

### 9.3.7 Next Steps

**Links to national policy**

The Council will continue to monitor developments relating to the government's discussion with the European Commission in relation to compliance with the air quality directives. It will also monitor and respond to national initiatives (e.g. around the Aviation Policy Framework) that have clear implications for air quality in the Borough, and hence the health of Borough residents.

### **Links to regional policy**

The most recent TfL guidance to Boroughs in regards to LIP funding concentrated on carbon reduction. Whilst many measures that reduce carbon also reduce local air quality pollutants there are exceptions. The new guidance from TfL (expected this year) is anticipated to also have a focus on improving local air quality. Boroughs will be able to match-fund LIP money with (e.g.) Defra money in order to undertake larger projects. As an example, Hillingdon has committed LIP funding towards a project to be match-funded by the Defra AQ grant along with 3 other London Boroughs and the GLA. The project, if funding is received, will investigate the environment in and around identified schools to identify ways of improving local air quality that are closely tailored to the specific conditions around those schools.

### **Local actions**

Hillingdon is reviewing the current Air Quality Action Plan. The Borough is looking to work with neighbouring Boroughs to ensure a consistent approach and that all regional measures are accounted for. This process has been delayed as the recommendations from the Hillingdon/Heathrow Hotspot project are still awaited (new deadline, August 2013). These are expected to play a major role in the action plan review, along with the findings of the audit completed in 2012.

It is anticipated that the emissions database tool designed for Hillingdon as part of the Emission Data Base project will provide a means by which transport management measures can be screened for their impact on emissions prior to implementation. This will allow design/mitigation features to be an integral part of the scheme. These activities will be facilitated by the improvements made to the tool in the reporting year.



**Table 12 - Action Plan Progress**

Updates to the tables since the last report are shown in blue text.

Ref.	Action Plan Measure	Original Time-scale	Progress with Measure	Outcome to date	Comments	Local Authority Role	Responsibility
Package							
1. Switching to Cleaner Transport Modes							
1. 01.	Establish a Green Travel Plan for Hillingdon.	2010	In progress	Staff survey on intranet March 2007 to gain baseline information on existing travel patterns. The assessment of journeys to work and business trips is now complete. Consultants have been commissioned to implement a phased implementation strategy.	Still draft The development of the travel plan is now embedded in the Climate Change Strategy as a short term measure to be implemented by 2010. Various initiatives such as Cycle Purchase Scheme, Council Car sharing scheme, reduced car parking from 5 to 4 days a week and Season Ticket Loans are already being rolled out across the Council.	Local Authority Led	Planning and Transportation

Ref.	Action Plan Measure	Original Time-scale	Progress with Measure	Outcome to date	Comments	Local Authority Role	Responsibility
					This will now be implemented via the Hillingdon LIP under development as a requirement of the MTS2. The LIP was completed in April 2011.		
1. 02.	Improve access to, and quality of, public transport travel information for people living and working in the Borough.	2008	Ongoing	Specific public transport information booklets developed for the Chimes shopping centre, South Ruislip, Uxbridge IBA. Article in Hillingdon People promoting car share and Heathrow-specific car share.	Face to face interviews at Uxbridge and South Ruislip Industrial Business Areas to roll out freight audit leaflets and public transport booklets; Improvements made to 10 bus stops in Hillingdon with regards to service information. See above for Hillingdon employees; The provision of public transport information will be part of planning obligations in relevant	Local Authority Led	Planning and Transportation

Ref.	Action Plan Measure	Original Time-scale	Progress with Measure	Outcome to date	Comments	Local Authority Role	Responsibility
					qualifying developments.		
1. 03.	Encourage the development of more dedicated cycle (priority) lanes and signalling.	2008	Ongoing	<p>Implemented routes in 06/07 via BSP:</p> <p>Route 39 - Uxbridge Road;</p> <p>Route 88A - Hayes/Harlinton/Heathrow;</p> <p>Route 89 - Uxbridge to Heathrow;</p> <p>Link 95 – Hayes and Yeading.</p> <p>The demand for cycle parking in Hillingdon is currently exceeding the existing capacity. A strategic study is to be commissioned to identify where the facilities are needed and the best means to secure them as soon as possible.</p> <p>Data show 35% increase in cycling in the Borough on monitored roads.</p> <p>Cycling programmes through bikeability and Biking Borough initiatives including the establishment of a network of Cycle Rangers. The Rangers are a set of volunteers who actively use the</p>	<p>Hillingdon has rolled out Bikeability and currently has 1,500 children at level 1 and 2 across the Borough.</p> <p>Improvements made along 17 cycling routes – all within the AQMA and along routes of air quality exceedences.</p> <p>55k for cycle training throughout the Borough via BSP funding,</p> <p>866k for cycling network improvements via BSP funding;</p> <p>The provision of cycling facilities will be part of planning obligations in relevant qualifying developments.</p>	Local Authority Led	Highways



Ref.	Action Plan Measure	Original Time-scale	Progress with Measure	Outcome to date	Comments	Local Authority Role	Responsibility
				<p>cycling network around the borough and hence are able to direct where improvements are needed.</p> <p>Organised a series of events across the borough aimed at encouraging cycling including:</p> <p>Promotion of cycling at events such as "Party in the Park", "Hayes Carnival" and the local "Skyride" in Hayes;</p> <p>Support of Go Green in the Chimes Shopping Centre which has strengthened partnerships with Brunel University, the Chimes and the Local Cycling Campaign;</p> <p>Organisation of 10 volunteer led cycle rides for residents with British Cycling in the summer months across all parts of the borough;</p>			
1. 04.	Extend provision of more parking for motorcycles, mopeds and bicycles at	2007	Ongoing	No specific policy on motorbike parking yet, bicycle parking is well established throughout the Borough	SPD on section 106 obligations currently out for consultation.	Local Authority Led	Highways

Ref.	Action Plan Measure	Original Time-scale	Progress with Measure	Outcome to date	Comments	Local Authority Role	Responsibility
	public sites and new developments.			with every opportunity taken to increase this, e.g. new developments. No formal audit taken though. <a href="#">See role of Cycle Rangers under action 1.03.</a>	Developments of less than 20 staff/occupiers must provide a minimum of cycle storage facilities as part of a "Move for Action" plan, developments over 20 staff/occupiers must provide a full travel plan that includes cycle facilities, storage, promotion of cycle routes etc SPD now published (July 2008)		
1. 05.	Improve provision for pedestrians.	2008	Ongoing	Pedestrian Crossings - 10 put in place in 2008. More congestion hot spots looked at for traffic management measures to smooth traffic flow, 4 of these are in the AQMA. Local Safety Schemes implemented via BSP at 6 key points in the	10 pedestrian crossings in place in 07-08, 3 of these associated with improving pedestrian access to Field End School (which is within the AQMA) as part of their School Travel Plan.	Local Authority Led	Borough Transport Strategy

Ref.	Action Plan Measure	Original Time-scale	Progress with Measure	Outcome to date	Comments	Local Authority Role	Responsibility
				<p>Borough, 5 of which are within the AQMA.</p> <p>20mph zone put in place at Oak Farm Estate.</p> <p>Canal towpath improvements for pedestrians</p> <p>Ongoing throughout the Borough via funding from TfL including the provision of more conspicuous zebra crossings to ensure pedestrian safety.</p> <p>Improvements made for pedestrians along the Great Union Canal in West Drayton under the LIP. Improved pedestrian access measures are also planned to link with the school travel programme (see Action 1.06).</p> <p><a href="#">See 1.06 regarding continuation of the successful Walk on Wednesdays scheme for schools and related activities.</a></p>	<p>Ongoing improvements, pedestrian crossings installed across the Borough included 4 new ones at schools with school travel plans</p> <p>SPD – see above</p>		
1. 06.	Introduce more Safe	2010	Ongoing	Air quality packs sent to all schools	Over 1,500 pupils are now	Local	Borough

Ref.	Action Plan Measure	Original Time-scale	Progress with Measure	Outcome to date	Comments	Local Authority Role	Responsibility
	Routes to School throughout the Borough with special regard to the schools within the highest exceedence areas.			<p>in the Borough.</p> <p>Integration of air quality packs information into the school curriculum to be put in as a key requirement for Hillingdon School Travel Plans.</p> <p>Production of free bespoke "Don't choke us" signs for schools in the Borough, 39 schools participated.</p> <p>Timescales - 36% schools with plan by 2006; 57% by 2007; 78% by 2008, 100% by 2009.</p> <p>All schools now have Travel Plans. Hillingdon have developed a Feet First campaign (include posters) designed to promote the walking to school message throughout the Borough.</p> <p>Hillingdon has achieved an average 17% modal shift away from car across the Borough for school journeys</p> <p>The school travel programme</p>	<p>registered under the Bikeability scheme aimed at encouraging safe cycling to school;</p> <p>The Walk on Wednesday (WOW) scheme now has 40 schools across Hillingdon participating regularly that includes 15,000 children. This is the 2<sup>nd</sup> highest number of schools participating in London and has achieved an overall modal shift (for WOW alone) of 14% as opposed to the national average of 6%.</p> <p>Healthy Hillingdon are a part of the School Travel Plan Steering Group that has ensured the links are made between health and reducing car use on</p>	Authority Led	Transport Strategy

Ref.	Action Plan Measure	Original Time-scale	Progress with Measure	Outcome to date	Comments	Local Authority Role	Responsibility
				<p>continues with improved pedestrian access measures programmed under the LIP throughout the Borough on a rolling programme to 2013-2014. In addition the Borough is giving substantial support to programmes such as Walk on Wednesdays, prizes for promotions and resources for awareness raising of School Travel Plans as well as small engineering measures such as safety fencing and waiting restrictions around individual schools.</p> <p>Schools Cleaner Air Zone: Along with Camden, K&amp;C and City of London, Hillingdon were successful in a Defra bid for this project. The project is also match-funded by borough LIPs and the GLA. Each Borough is currently identifying their priority schools. The project will aim to use a range of measures aimed</p>	<p>school journeys. Walk on Wednesdays initiative, Hillingdon has highest number of schools involved across all of London, developing a CD resource aimed at primary and secondary schools, local air quality – includes local air quality, climate change, healthy living</p>		

Ref.	Action Plan Measure	Original Time-scale	Progress with Measure	Outcome to date	Comments	Local Authority Role	Responsibility
				<p>at reducing emissions from selected schools and their surroundings and adding protection to schoolchildren from nearby congested road networks.</p> <p>Continuation of the successful Walk on Wednesdays for all borough schools, active promotion in regard to supply of safe walking and cycling equipment such as reflective vests, pedometers, bike bells. Road safety events and an annual ceremony to celebrate the schools who have achieved a modal shift through their School Travel Plans.</p>			
1. 07.	Ensure Green Travel Plans are a requirement for all businesses (new and existing) employing more than a specified number of people in the Borough.	2007	Ongoing	<p>Specific air quality targets to be included in all business travel plans as a requirement under the LDF framework, included in draft out for consultation in Feb 07.</p> <p>There are 3 car clubs operating successfully in Hillingdon - all associated with new planning</p>	<p>See 1.04 for details on new developments;</p> <p>Follow up to freight audits at Industrial Business Areas has included face to face interviews with 26 separate companies promoting the</p>	Local Authority Led	Planning Department

Ref.	Action Plan Measure	Original Time-scale	Progress with Measure	Outcome to date	Comments	Local Authority Role	Responsibility
				<p>developments, developed as part of s106 agreements.</p> <p>Hillingdon are proactively working on the creation of area-wide travel plan partnerships. The first partnership includes Brunel University, Hillingdon Hospital, The Chimes shopping Centre and Uxbridge College. Implementation is anticipated in 2011-2012.</p> <p>Funded by WestTrans, a partnership of the West London Boroughs of Hillingdon, Hounslow, Ealing, harrow, Hammersmith and Fulham and Brent, Hillingdon now have a travel plan monitoring officer for one day a week. This gives the ability to audit and enforce travel plans in Hillingdon. The travel plan database is currently being updated, the development of a monitoring mechanism for compliance and enforcement will be</p>	<p>establishment of travel plans.</p> <p>SPD see above</p> <p><a href="#">See 7.07 regarding Mayor's Air Quality Fund application.</a></p>		

Ref.	Action Plan Measure	Original Time-scale	Progress with Measure	Outcome to date	Comments	Local Authority Role	Responsibility
				<a href="#">the next stage of the project.</a>			
1. 08.	Improve access to, and quality of, public transport travel information on a regional basis both inside and outside the GLA boundary.	2008	Ongoing	Car share promotion in Hillingdon People including Heathrow Carshare. Mobility Management Group under HATF set up to address access to Heathrow, plans to extend this regionally. Hillingdon is a member of the group. Funding has been received for 08/09 via West Trans for the integration of sustainable travel information into the West London air quality website West London walkit.com – internet based low pollution walking routes launched in Nov 2008; Hillingdon sit on the Mobility Management Group of the Heathrow Area Transport Forum looking at regional initiatives around Heathrow	Project commissioned to integrate sustainable travel links into the Heathrow Airwatch website; The opening of T5 on 27 <sup>th</sup> March 2008 has provided better connectivity with regards to local access to the airport.	Partnership	West London Air Quality and Transport Group
1. 09.	Seek to ensure	2008	Ongoing	£228,000 received via BSP for bus	9 key bus priority routes	Partnership	Borough and



Ref.	Action Plan Measure	Original Time-scale	Progress with Measure	Outcome to date	Comments	Local Authority Role	Responsibility
	improvements in overall public transport service (facilities, cleanliness, safety, frequency, reliability) across the Borough and West London, and particularly in declared AQ Management Areas AQMAs.			priority measures, includes 222, E7 routes both of which are within exceedence areas within AQMA. £183,750 received via BSP for bus stop accessibility projects at 30 stops across the Borough. Improvements have been identified throughout the Borough for measures to improve bus priority and journey times. Improvements via the LIP currently being made to Uxbridge station for better access and real time information provision. Plans in place also for improvements to Hayes station.	and 10 specific bus stops received funding via BSP for improvements. Link also to action 1.12. 660k for bus priority via BSP; SPD – see above The improvements for the Mahjacks/Cedars roundabout in Uxbridge will help address a traffic congestion/air quality hotspot.	ip	West London Transport Strategy
1. 10.	Improve the north-south public transport provision in the Borough.	2010	Ongoing	Potential for a Community Transport link to be explored in the poor air quality areas around West Drayton/Yiewsley/Hayes – funding to be sought via BSP. Trialling of low emission vehicle for HCT	Feasibility study commissioned to assess potential for a flexible community bus around the south of the Borough in the poorest air quality areas, seeking to replace	Partnership ip	Borough Transport Strategy

Ref.	Action Plan Measure	Original Time-scale	Progress with Measure	Outcome to date	Comments	Local Authority Role	Responsibility
				<p>The needs assessment study to inform the introduction of a Community Bus service is currently being commissioned. It is anticipated that this service could help address the ageing population's changing needs</p> <p>The issue of good north-south links is key to improving modal shift within Hillingdon. Hillingdon specific projects such as the Community Bus and concept of a north-south Fast Bus are now being taken forward.</p> <p>A more strategic approach has developed for public transport provision in the Borough and beyond in the lifetime of the AQAP. Further improvements are being taken forward where funding permits.</p> <p>Improvement of north-south links remains a priority in LIP2</p>	<p>current short car journeys. If viable the contract for the bus will include low emission technology as one of the criteria.</p> <p>Finalisation of Report into Feasibility of Community Bus – this looks to provide transport for hard to reach groups in the south of the Borough providing links to schools, shops, doctors surgeries, community centres. Hillingdon will be investigating potential funding sources to take this forward.</p> <p>This issue has moved from an aspiration to a key priority in west London and is one of the key themes emerging in the mayoral West London</p>		

Ref.	Action Plan Measure	Original Time-scale	Progress with Measure	Outcome to date	Comments	Local Authority Role	Responsibility
					Transport Strategy.		
1. 11.	Support multi modal travel by further development of public transport interchanges for rail/cycle/bus/walking both within Hillingdon and the West London area.	2008	Ongoing	<p>Station Access Improvements carried out in 2006/07 at:</p> <ul style="list-style-type: none"> <li>• Northwood;</li> <li>• Northwood Hills;</li> <li>• Eastcote (Step 1);</li> <li>• Uxbridge (Step 1);</li> <li>• Ruislip.</li> <li>• Ruislip and Eastcote step 2</li> </ul> <p>Grand Union Canal – 1<sup>st</sup> stage improvements at Northolt</p> <p>Improvements to Uxbridge station are in place to improve the pedestrian desire lines within the station and to improve bus access. The current taxi rank will be relocated to the front of the station to ease congestion</p> <p>The need for improvements to the public transport interchange in Hayes has been recognised and there is a programme of work aimed</p>	Improvements were taken forward by West Trans BSP funding with an allocation of £550,000 for implementation of improvements to station access throughout the West London region Via BSP and West Trans funding	Partnership	West London Air Quality and Transport Group

Ref.	Action Plan Measure	Original Time-scale	Progress with Measure	Outcome to date	Comments	Local Authority Role	Responsibility
				at improving the public realm and increasing sustainable travel modes including roll out of Legible London walking information in Hayes and the interchanges with the Grand Union Canal. There is a regeneration programme being put in place for including a re-design of the current Hayes Town Centre including, potentially, the local road network. Consultants have been commissioned to undertake an air quality assessment of the final design in order to ensure any air quality impacts arising from a change in the road network are effectively managed.			
1. 12.	Encourage development of efficient and high quality bus corridors.	2008	Ongoing	Improvements to 9 bus priority schemes in the AQMA along high AQ exceedence roads Via BSP and West Trans		Partnership	West London Air Quality and Transport Group
1. 13.	Investigate potential for	2007	Complete	No progress to date, however	This measure has been	Partnership	Transportatio

Ref.	Action Plan Measure	Original Time-scale	Progress with Measure	Outcome to date	Comments	Local Authority Role	Responsibility
	more night buses.			<p>improvements are being sought by Hillingdon for Safer Travel at Night initiatives. These would be required to be in place before proposals for night buses could be safely assessed. Initiatives include ensuring the adequacy of lighting, paving, street furniture, signage and CCTV at Eastcote, Uxbridge and Ruislip stations and involvement in a Safer Travel campaign across the Borough.</p> <p>Details of night bus services in West London now available at <a href="http://www.tfl.gov.uk/tfl/gettingaround/maps/buses/pdf/nightbuseswestlondon-13834.pdf">http://www.tfl.gov.uk/tfl/gettingaround/maps/buses/pdf/nightbuseswestlondon-13834.pdf</a>.</p> <p>Now 3 dedicated night buses (N7, N9 and N207) and 6 other 24 hour services (81, 105, 111, 140, 285 and Oxford Tube)</p>	<p>incorporated into the LIP for implementation.</p> <p>Air Quality Action – monitor success of funding bid.</p> <p>The TfL website now has details of all night buses operating in west London. Of particular use to Hillingdon are the N207 from Holborn to Uxbridge and several connecting Heathrow to other areas of London.</p>	ip	n Team
1. 14.	Investigate the feasibility of working with relevant	2007	Complete	No progress to date, however this was highlighted in the consultation	Air Quality Action – to identify with the	Lobbying	West London Authorities

Ref.	Action Plan Measure	Original Time-scale	Progress with Measure	Outcome to date	Comments	Local Authority Role	Responsibility
	stakeholders to subsidise bus, train and underground fares in order to achieve significant modal shift.			<p>on the LIP as a measure to take forward.</p> <p>The introduction of Crossrail will improve the frequencies of trains from central London through Hillingdon with an interchange for access to Heathrow - to date there is no details on the ticket coatings as to whether this will support substantial modal shift;</p> <p>Heathrow Express remains a highly priced service although the introduction of the stopping service Heathrow Connect has provided a cheaper service;</p> <p>There are no details of pricing structures as yet for either Crossrail or Airtrack</p> <p>It has been concluded that in the current economic climate there is no feasibility of further subsidisation of public transport fares.</p>	<p>Transportation team opportunities to lobby for subsidised travel.</p> <p>7% increase in Heathrow express fares</p> <p>The Government have set up High Speed Two as a company to investigate the potential for High Speed rail. Hillingdon are requesting to be actively engaged as part of the process and have written asking for the key objectives of establishing modal shift from car and short haul air to be key areas for investigation.</p> <p>The HS2 company has published a preferred route for a new high speed route to Birmingham. The report</p>		

Ref.	Action Plan Measure	Original Time-scale	Progress with Measure	Outcome to date	Comments	Local Authority Role	Responsibility
					has indicated a lack of business case for a direct link to Heathrow.		

Ref.	Action Plan Measure	Original Timescale	Progress with Measure	Outcome to date	Comments	Local Authority Role	Responsibility
Package							
2. Tackling Through Traffic							
2. 01.	Introduce Home Zones/20 mph in residential areas subject to significant amounts of through traffic that should use alternative routes.	2007	Ongoing	2006/07 – new Home Zone in Oak farm, Hillingdon. New Home Zone introduced along Coldharbour Lane – Borough road with high air quality exceedences New one in Hayes Consideration of further site in Barnhill. <a href="#">The villages suffer from intrusion from road traffic, mainly caused by rat-running and HGVs using the narrow residential streets to access the A4 and the airport area. Traffic</a>	The purchase of mobile traffic counters, as part of an air quality funding bid from TfL, has meant that traffic calming schemes are now underpinned by traffic count data to ensure the objectives of the schemes are realised in practice.	Local Authority Led	Transportation Team

Ref.	Action Plan Measure	Original Timescale	Progress with Measure	Outcome to date	Comments	Local Authority Role	Responsibility
				calming schemes are currently being considered and measures to manage HGVs will form part of a future workstream. See also 2.06 regarding traffic around Ruislip Gardens Station.			
2. 02.	Support the West London Transit Scheme project if appropriate.	2007	Complete	2006 – the Council Cabinet resolved to be an objector to the West London Tram Scheme, the Borough wish for a connection at Hayes to improve access to Heathrow plus extension out to Denham not considered as part of the current scheme. No further action to be undertaken.	Project commissioned via West London AQ group to examine potential alternatives for traffic flow improvement along the Uxbridge Road. Scheme withdrawn by GLA	Local Authority Led	Planning and Transportation
2. 03.	Ensure the provision of sufficient signage and details of spaces for public car parks.	2007	Ongoing	Electronic signs erected for Uxbridge town centre. 18 car parks in Hillingdon have now achieved Park Mark standard	A study of the Council's car parks has identified the potential areas for the inclusion of electric vehicle charging bays to give a range throughout the Borough 2 electric charging points	Local Authority Led	Highways Department



Ref.	Action Plan Measure	Original Timescale	Progress with Measure	Outcome to date	Comments	Local Authority Role	Responsibility
					have been installed in the Civic Centre Car Park. Charging facilities have been installed in a further 10 car parks as part of a trial with Ford/SSE involving local residents.		
2. 04.	Investigate the creation of Clear Zones.	2007	Complete	No progress. GLA advise to look into clear zone – consultation letter Initial feasibility discussions suggested that this would not be of significant benefit in Hillingdon.	Air quality Action – to seek information from Camden on condition and criteria for Clear Zone.	Local Authority Led	Hillingdon Transportation Team
2. 05.	Develop best practice advice to ensure air quality assessments are made for proposals for new transport infrastructure and changes to traffic management.	2005	Ongoing	2006/07 – WLAQ group to establish communication strategy for guide. Communication Strategy in place, workshop for air quality and transport officers in April 2007, presentation at Bristol Conference in March 07. Implemented via the pre-planning advice note given to developers	Taken forward for new developments via planning process; Network Monitoring Strategy – see highlight  Now an integral part of the planning process	Partnership	West London Air Quality and Transport Group

Ref.	Action Plan Measure	Original Timescale	Progress with Measure	Outcome to date	Comments	Local Authority Role	Responsibility
				<p>requesting this information prior to submission of a planning application</p> <p>Transport Tool kit: Following on from the development of the Hillingdon Ready Reckoner emissions toolkit, an excel-based tool for assessing the emissions impacts from traffic management measures, Hillingdon successfully led a joint Defra bid with Leicester City Council to extend and incorporate a further range of schemes into the database. The initial workshop demonstrating the use of the tool has been held at Leicester and the project team is currently identifying relevant schemes for pre and post implementation emissions assessment.</p>			
2. 06.	Work in partnership with	2006	Planning	Recommendations to be given to	See 2.02	Partners	West London

Ref.	Action Plan Measure	Original Timescale	Progress with Measure	Outcome to date	Comments	Local Authority Role	Responsibility
	TfL to implement schemes along the high exceedence corridors designed to smooth traffic flows.		phase	<p>WLTS for implementation via WL BSP funding.</p> <p>To be taken forward by West Trans, air quality emission information will be provided via TEEM, a transport emissions model under development by the WLAQ Cluster group</p> <p>TEEM is currently being used to assess the freight corridors throughout west London</p> <p>TEEM now being configured for use with a GIS interface for ease of final use. Scenario testing capabilities also being developed.</p> <p>Under LIP the poor air quality areas around West Drayton High Street and Porters Way, and the Heathrow villages, have been identified for improvements to reduce congestion, rat running, HGV movements etc. (as appropriate to each case).</p>	<p>Via the LIP funds automatic traffic counters were placed on the Borough's roads with most significant AQ problems.</p> <p>TfL – looking at drawing up transport and air quality joint implementation plans, will have input into the West London sub-region plan;</p>	hip	Air Quality and Transport Group

Ref.	Action Plan Measure	Original Timescale	Progress with Measure	Outcome to date	Comments	Local Authority Role	Responsibility
				<p>A project looking along the whole Uxbridge Road corridor from Uxbridge to Southall is being undertaken. It will identify the traffic management issues along the corridor which includes interaction with nine separate shopping parades and busy bus routes. This will form the basis for a scheme of works aimed at improving the public realm and smoothing the flow of traffic. It is anticipated that this project will help address the small pockets of air quality exceedence that exist at several of the junctions along this corridor.</p> <p>Improvements are to be made to a key road link between south West Drayton and the main Stockley Bypass (A408). It is anticipated that the creation of better road alignment and better operation of the roads will result in helping</p>			

Ref.	Action Plan Measure	Original Timescale	Progress with Measure	Outcome to date	Comments	Local Authority Role	Responsibility
				reduce traffic volumes on Yiewsley High Street which contribute to the areas of poor air quality along the High Street.			
2. 07.	Improve coordination of road works and provide more effective signing around them.	2007	Ongoing	Traffic Manager in post (Apr07).	Hillingdon now have a network management plan for Borough roads. Improvements in air quality have been incorporated as a key objective. Network Monitoring Strategy – see highlight	Hillingdon	West London Air Quality and Transport Group
2. 08.	Investigate use of high occupancy vehicle lanes and freight priority schemes along the major exceedence corridors such as the M4, A4, A40 and A312.	2007	In progress	Planning and the Strategic Road Network – document on DfT website – gives clarity to HA role, general presumption that there will be no capacity enhancements on routes of strategic national importance purely to accommodate new developments, in any case would be subject to stringent environmental assessment.	CO2 emissions will be factored in to DMRB. M4 junction 4 improvements now complete, ongoing traffic speed and flow monitoring will help to quantify the success of this improvement HA update meeting:	Partnership	West London Air Quality and Transport Group

Ref.	Action Plan Measure	Original Timescale	Progress with Measure	Outcome to date	Comments	Local Authority Role	Responsibility
				<p>Heathrow Junction 4 M4 improvements total completion by February 2007. Should give beneficial impact on air quality from reducing queue lengths.</p> <p>Study due to start in early 2007 on what will be needed to cope with the impact of T5 opening.</p> <p>Any improvements to the M4 will come via TVMMS measures e.g. speed limits, ramp metering etc. Decision in Spring 2007 as to which measures will be taken forward.</p> <p>Meeting with HA and AQ officers Feb 2010. The concept of hard shoulder running will be investigated along the M4 junctions 3-12. Pilot studies have indicated a "neutral" result with regards to local air quality although caution must be given to any increases in capacity resulting from this change</p>	<p>HA as an organisation look to use video-conferencing wherever possible;</p> <p>New version of DMRB now delayed to Dec 2009;</p> <p>There will be integrated demand management for whole of M25;</p> <p>Tender out for looking at managed motorway measures for M4 from Junction 3-12</p> <p>New HA strategy refers to "working towards meeting the AQ objectives" – is this in line with joint agreement between DfT and Defra to meet the AQ limits?</p>		

Ref.	Action Plan Measure	Original Timescale	Progress with Measure	Outcome to date	Comments	Local Authority Role	Responsibility
				in traffic management. Hillingdon are participating in the HA diffusion tube study to help inform understanding on pollution dispersal from motorway network.			
2. 09.	Investigate the use of light rail/tram schemes along other high exceedence corridors such as the A4 and A40.	2010	Complete	<p>It had been hoped that PSDH would consider the A4, but this was not done.</p> <p>Concluded that in the current economic climate it is very unlikely that funding would be made available for such a significant infrastructure project.</p>	<p>The Adding Capacity report did not specifically examine the use of light rail or trams for air quality improvements</p> <p>No further work carried out on this</p> <p>HEATHROW AIRPORT are developing a personal rapid transit system for use on-airport. There may be the potential to expand this type of technology to outside airport use if the trial is successful</p>	Partnership	West London Air Quality and Transport Group
2. 10.	Investigate measures such as variable message signing to smooth traffic	2007	Planning phase	<p>Annual meetings with HA. (see 2.08)</p> <p>Ramp metering and variable</p>	Impact of variable speed limits appears to be a site-specific issue with regards	Partnership	West London Air Quality and

Ref.	Action Plan Measure	Original Timescale	Progress with Measure	Outcome to date	Comments	Local Authority Role	Responsibility
	flows on the HA/TfL routes M4 and surrounding link roads.			message signing being investigated as part of the M4 junction 3-12 Controlled Motorway study See 2.08 To date (2011) no further developments on variable messaging, ramp metering and hard shoulder running on the M4. Bus lane has been taken from the M4, though it is unclear whether this is good or bad for air quality. HA will need to be fully involved on action plan measures for the key corridors.	to impacts of air quality improvements. HA to examine on site specific basis, if funding received. HA will be investigating these issues on the strategic road network.		Transport Group
2. 11.	Investigate use of speed limits on major roads at the optimal level for NOx and PM10 emissions for the current traffic profile.	2007	In progress	Annual meeting with HA (see 2.08)  To date, only major change is loss of the bus lane on the M4, too soon to quantify effect.	Study on M1 in Sheffield, main air quality issues from congestion in peak hours so results not conclusive, free-flowing traffic would show better results. In the M4 area this measure may be part	Partnership	West London Air Quality and Transport Group



Ref.	Action Plan Measure	Original Timescale	Progress with Measure	Outcome to date	Comments	Local Authority Role	Responsibility
					<p>of recommendations from TVMMS on measures to take forward although the impact of lowering speeds will be site specific dependent on the air quality issues of the particular road.</p> <p>M20 variable speed limits to be assessed subject to funding</p> <p>HA will be investigating these issues on the strategic road network</p> <p>As above</p>		
2. 12.	Identify air quality congestion-related hotspots throughout West London and the appropriate measures for delivering improvement in both congestion and air quality e.g. new access	2009	Ongoing	10 more congestion hot spots looked at for traffic management measures to smooth traffic flow, 4 of these are in the AQMA. Congestion/air quality hotspots being addressed in Uxbridge, Ruislip and via whole corridor enhancements to the Uxbridge	Continued development of the West London Traffic Emissions Modelling tool (TEEM) – project commissioned to examine impact on emissions of different transport measures e.g. tighter LEZ	Partnership	West London Air Quality and Transport Group

Ref.	Action Plan Measure	Original Timescale	Progress with Measure	Outcome to date	Comments	Local Authority Role	Responsibility
	road from the A40 to Ruislip industrial areas.			<p>Road.</p> <p>The combined use of traffic counters and air quality information will ensure a more focussed approach to dealing with congestion hotspots</p> <p>LIP funding has been used to develop an emissions database for the Borough, which in turn has been developed into a tool for assessing the effectiveness of transport measures for air quality improvement. A traffic calming scheme around a school in Northwood has already been assessed using the tool.</p> <p>Funding gained for Hotspot project focused on the A40, A312 and Heathrow areas.</p> <p>A banned right hand turn from a London Underground depot in the area of Ruislip Gardens station had led to increased HGV</p>	<p>standards,</p> <p>implementation of a bus lane, effect of queuing at junctions</p> <p>New access road to South Ruislip being investigated via Hillingdon Freight Study</p> <p>Hillingdon and Heathrow Hotspot Project: An extension of time for this project has been agreed with Defra. Due to difficulties in obtaining key traffic data inputs from project stakeholders, an agreed deadline has been given of August 2013.</p> <p>One dis-benefit of the delay has been to postpone the review of borough action plans</p>		

Ref.	Action Plan Measure	Original Timescale	Progress with Measure	Outcome to date	Comments	Local Authority Role	Responsibility
				movements through residential areas as drivers attempt to head south to access the A40. A scheme has now been agreed for a set of controlled traffic signals to allow the HGVs to legitimately turn right towards the A40. This will lead to reduced emissions as the route is shorter and remove HGVs from residential streets.	which would have been influenced by the conclusions from this project.		
2. 13.	Support rail projects that have the potential effect to cut through traffic e.g. Crossrail and extending the Underground system (e.g. Central Line to Uxbridge).	2010	Ongoing	Crossrail and Airtrack both identified in the Adding Capacity consultation for improvements in access to Heathrow. Airtrack is at early stages of feasibility and will require funding. Improvements are in place for an upgrade to the Metropolitan line to Uxbridge with regard to fleet and signalling, Hillingdon continue to lobby for better tube links eg extension of the Central line to	Rail % to Heathrow: 2004 –9.3; 2005 – 9.6; 2006 – 8.8 (three quarters only). 2M High Speed North proposal, Government High Speed Two Crossrail – will help access to Heathrow from London but as it will replace the current	Lobbying	West London Transport Group  2M

Ref.	Action Plan Measure	Original Timescale	Progress with Measure	Outcome to date	Comments	Local Authority Role	Responsibility
				<p>Uxbridge</p> <p>The publication of the HS2 report has defined the first stage of a high speed rail link to Birmingham. Although a high speed rail network for the UK with appropriate European links is supported, the preferred route and the narrowness of the remit of HS2 is a distinct disappointment. Hillingdon will continue to lobby for an appropriate national framework for high speed rail and a route that captures the best environmental advantages.</p> <p>HS2 – the route traverses the borough. The consultation also includes the principle of a Heathrow link. Given that the documentation shows no strong economic case for a link to Heathrow the borough is concerned that a direct link may</p>	<p>Heathrow Connect there will be no great overall benefit with regards to modal shift to Heathrow; Airtrack will help access to the south west of the airport with regard to providing an alternative to the car from this south-westerly side of the airport;</p> <p>The Council is taking an active part in consultations relevant to this measure (e.g. on HS2)</p>		

Ref.	Action Plan Measure	Original Timescale	Progress with Measure	Outcome to date	Comments	Local Authority Role	Responsibility
				<p>simply fuel the call for more capacity at the airport. In addition, there is a general concern that should domestic or short haul flights be switched to rail, without a policy in place to freeze the slots lost, these may simply be replaced by international, more polluting, higher passenger number planes that would add to local air quality, extra road traffic, more CO2.</p> <p>HEATHROW AIRPORT have withdrawn the Transport and Works Act application that would have facilitated the progression of Airtrack.</p> <p>Hillingdon responded to the HS2 consultation in July 2012. Concern was expressed relative to a number of issues, including the need for Government intervention to prevent slots freed from passenger transfer to rail being</p>			

Ref.	Action Plan Measure	Original Timescale	Progress with Measure	Outcome to date	Comments	Local Authority Role	Responsibility
				used for more polluting services. It was also noted that information was needed on precise routes of spur lines and interchanges in order to assess whether there would be detrimental effects on local air quality.			
2. 14.	Work in partnership to investigate use of fiscal measures, such as road pricing, for reducing traffic on major road networks.	2007	Planning phase	There has been limited potential to take this forward. Limitations on various consultations in connection with Heathrow have meant that it has not been debated in detail.	Ambiguity in Adding Capacity consultation. Reference is made only to the potential for road pricing to be a part of a surface access strategy if further expansion is granted. Not looked at in Heathrow Decision.	Lobbying	DfT
2. 15.	Consider establishment of cross-agency regional group to address air quality issues with regards to roads.	2006	Planning phase	Suggested at HATF in June meeting. Discussed as AOB at December HATF meeting. Group approval, Chair of Steering Group to action.	Still not set up	Lobbying	West London Air Quality and Transport Group

Ref.	Action Plan Measure	Original Timescale	Progress with Measure	Outcome to date	Comments	Local Authority Role	Responsibility
Package							
3. Promotion of Cleaner Vehicle Technology							
3. 01.	Develop and implement an Action Plan via the BAA Heathrow Clean Vehicle Programme to make improvements in the Council vehicle fleet with regard to reducing emissions.	2006	Ongoing	<p>Updated assessment from Clean Vehicle Programme in November 2006.</p> <p>Fleet emissions inventory commissioned March 2007.</p> <p>Heathrow Air Quality Strategy 2011-2010 Actions 2.13 to 2.18 address emissions from landside vehicles using the airport, introducing emission standards, use of low and zero emission vehicles, etc.</p> <p>With respect to the Hillingdon Council Fleet, 8 new refuse vehicles were bought in December 2011, all to the Euro V standard. Another 26 vehicles have been retro-fitted to meet the tighter London LEZ standard in force from</p>	<p>Driver training money secured via BSP for 2008-09</p> <p>Driver training to be incorporated into Council policy, currently seeking to include reducing emissions as an integral part of the policy.</p> <p>Driver training implemented across all Council drivers, fleet manager currently evaluating self-assessment scheme for future CVP award</p> <p>The CVP evaluation is currently being assessed by HEATHROW</p>	Local Authority Led	Hillingdon Fleet Management Team

Ref.	Action Plan Measure	Original Timescale	Progress with Measure	Outcome to date	Comments	Local Authority Role	Responsibility
				January 2012. All now meet the Euro V standard and are fully compliant with the LEZ. The Council is also active in trialling electric vehicles.	AIRPORT.		
3. 02.	Encourage local businesses and freight operators in Hillingdon to sign up to the Clean Vehicle Programme and develop and implement action plans for reducing emissions.	2007	Ongoing	Hillingdon Freight Meeting in June 06. Follow on from freight audits of Uxbridge and South Ruislip business areas – production of fact sheets of key points found from the studies for dissemination to the businesses, production of site specific public transport information brochures for staff at the 2 sites. Regional funding received for audits of Yiewsley and West Drayton business areas, air quality assessment integral part of project.	Following on from the freight audits, 26 face to face interviews with on-site companies have been carried out to encourage sign up to WLFQP and the establishment of company travel plans. May need to be continued outside the WLFQP because of funding issues.	Local Authority Led	Hillingdon Transportation Team
3. 03.	Provide training for local authority drivers to minimise emissions, and consider opening training	2006	Ongoing	Community transport ensure all drivers are trained, awareness of smooth driving and vehicle maintenance integral part of	Potential to roll this out more widely, e.g. to bus operators. ENV bid put in via BSP for	Local Authority Led	Hillingdon Fleet Management Team



Ref.	Action Plan Measure	Original Timescale	Progress with Measure	Outcome to date	Comments	Local Authority Role	Responsibility
	opportunities to other drivers working for businesses in Hillingdon.			<p>training. Hillingdon are a Bronze member of the Freight Operators Recognition Scheme (FORS). This is run by TfL and the aims include:</p> <ul style="list-style-type: none"> <li>• Drivers and driver management</li> <li>• Vehicle maintenance and fleet management</li> <li>• Transport operations</li> <li>• Performance management</li> </ul> <p>Heathrow Air Quality Strategy 2011-2010 Action 2.11 commits to eco-driving training for all drivers who require an airside permit.</p>	<p>driver training. Bid successful for financial year 08/09</p> <p>All Hillingdon drivers now trained, also have in-house trainers. Hillingdon will investigate the potential to open this up to local businesses</p>		
3. 04.1.	Ensure the implementation of the Idling Vehicles Regulations.	2006	Ongoing	<p>Article in Hillingdon People.</p> <p>Free school signs offered, 39 schools requested them with a total of 88 signs being sent out.</p> <p>Funding applied and received via BSP for driver training, will include switching off when idling.</p> <p>TfL now setting up 'Report Idling</p>	<p>Rolling out of turn off engine signs in the Council's owned premises to be explored in 08/09</p> <p>Link to 3.03</p> <p>Switch off when idling part of driver training scheme</p>	Local Authority Led	Hillingdon Transportation Team

Ref.	Action Plan Measure	Original Timescale	Progress with Measure	Outcome to date	Comments	Local Authority Role	Responsibility
				Vehicles' Website, which Hillingdon will disseminate.			
3. 04.2.	Actively promote the use of the Dirty Diesel Hotline for reporting smoky vehicles spotted in Hillingdon.	2006	Ongoing	To be incorporated into the London No Idling Campaign by TfL		Local Authority Led	Hillingdon Transportation Team
3. 05.	Consider the recommendations of the London Low Emission Zone Feasibility Study jointly with the GLA, ALG and TfL.	2006	Completed	Cabinet report on LEZ submitted, overall support but with more information needed on the impact upon small businesses and minibus users such as schools, community groups etc.	LEZ now in force, signs erected around Hillingdon as an outer Borough. Success will be monitored via TfL	Local Authority Led	Cabinet
3. 06.	Install signs in waiting areas of Council premises, bus garages, coach stations and major leisure venues, etc. advising drivers to switch off engines when stationary.	2006	In progress	Article in Hillingdon People advising of legislation and air quality impacts of idling vehicles. To be tied in with London No Idling Campaign.	Funding applied and received via BSP for signs for next year See 3.04 Insufficient support for signs, project re-allocated to mobile traffic counters	Local Authority Led	Highways
3. 07.	Lead the way in trialling new technology, where	2007	Ongoing	Trial of electric SMART car for use as a pool car.	Feasibility study for flexibly routed bus service	Local Authority	Hillingdon Fleet

Ref.	Action Plan Measure	Original Timescale	Progress with Measure	Outcome to date	Comments	Local Authority Role	Responsibility
	appropriate, and act as a point of information for businesses and other stakeholders in Hillingdon for cleaner vehicle technologies, national schemes and grant systems for the use of alternative fuels.			<p>Demo requested of Modec electric van. Hillingdon taking part in Ford Electric Vehicle Pilot Project. Work in partnership with the Ford Focus Battery Electric Vehicle (FFBEV) consortium to plan and implement the trial of 5 Ford Focus electric vehicles across the Borough during 2010 and 2011. The consortium will invest in EV charging infrastructure at approximately 20 sites across Hillingdon. Qdell/LHR Express Cars have received the BS 14001 accreditation, supported by Hillingdon.</p> <p>Trials of electric cars in the Council's fleet are now underway, with 2 vehicles, one for Car Park Services and the second by the Events team. Both replace diesel vehicles.</p> <p>The Borough is working with Ford and SSE on a project to trial</p>	<p>– if proved feasible will look to incorporate environmental criteria on low emissions into procurement contract;</p> <p>Presentation to GLA Best Practice workshop on fleet emissions inventory.</p> <p>Electric charging points installed in the Council's car park and 2 other car parks</p> <p>Electric Pool car to be trialled in environmental services;</p> <p>Prius hybrid on trial in Children and Families unit;</p> <p>Electric cars on trial throughout Hillingdon residents as part of Ford Trial</p> <p><a href="#">See 7.07 regarding</a></p>	Led	Management Team

Ref.	Action Plan Measure	Original Timescale	Progress with Measure	Outcome to date	Comments	Local Authority Role	Responsibility
				electric vehicles amongst local residents.	Mayor's Air Quality Fund application.		
3. 08.	Participate in the London-wide Vehicle Emissions Testing programme.	2007	Complete	London wide programme has come to an end. No further funding is imminent. Will continue to monitor potential for taking this up again.	Interest to participate in any future programme of this type, but measure will not be taken forward until future funding is agreed.	Local Authority Led	Vehicle Emissions Testing Steering Group
3. 09.	Investigate the provision of low or zero emission buses for schools within the high exceedence areas.	2010	In progress	Now linked to Action 1.06, and specifically the Schools Cleaner Air Zone Project. The approach now being followed differs to the original measure, though is more strategic in outlook, and better linked to action 1.06. Since the time of action plan adoption there has of course been some replacement of buses etc. with newer vehicles, which will be less polluting than those using the Borough at the time the AQMA was declared.	School Travel Plans, to date, have tended to focus on alternatives such as cycling and walking.	Local Authority Led	Fleet Management Team
3. 10.	Focusing on areas and	2010	Ongoing	Implemented via LEZ	Links into 2.01 – use	Local	Hillingdon

Ref.	Action Plan Measure	Original Timescale	Progress with Measure	Outcome to date	Comments	Local Authority Role	Responsibility
	corridors of high exceedence within residential areas, investigation into the banning or restricting of traffic, or particular types of traffic, from identified roads.				experience from that to inform more widespread implementation especially along corridors? Taken forward via LEZ	Authority Led	Transportation Team
3. 11.	Investigate the potential for discounts for residents with low emission vehicles in Parking Management Areas.	2006	Complete	Concluded that this was not possible under the current economic climate.		Local Authority Led	Sustainability Steering Group
3. 12.	Develop sub-regional Bus Quality Partnerships focussed on addressing the contribution of buses and coaches to emissions.	2010	Ongoing	Implemented via LEZ	The Heathrow Bus and Coach Strategy, published in 2007, has incorporated reducing emissions and using low emission technology as a key objective	Partnership	West London Air Quality and Transport Group
3. 13.	Work in partnership for the provision of low emission buses in the	2010	Ongoing	Heathrow Bus and Coach Strategy published, commitment in the Strategy to ensure only LEZ	See 3.12	Partnership	Heathrow Area Transport

Ref.	Action Plan Measure	Original Timescale	Progress with Measure	Outcome to date	Comments	Local Authority Role	Responsibility
	West London/Heathrow region.			compliant vehicles are stipulated in future HEATHROW AIRPORT supported contracts.			Forum (HATF)
3. 14.	Ensure freight developments in the West London area are subjected to an air quality assessment before implementation.	2005	Completed	Freight workshop organised at Hillingdon, ideas from group discussion to be taken forward by Hillingdon. Regional funding received to progress with audits at Hayes and West Drayton Industrial Business Areas, air quality impact is an integral part of the audit.	Freight Project 07/08 – this has involved improvements to directional signing to protect residential streets from unnecessary freight movements; Audits of additional industrial business areas in the south of the Borough carried out in 07/08; Face to face interviews (26 to date) with companies from Uxbridge and South Ruislip Industrial Areas to promote the establishment of workplace travel plans.	Partnership	Hillingdon Transportation Team and WLFQP

Ref.	Action Plan Measure	Original Timescale	Progress with Measure	Outcome to date	Comments	Local Authority Role	Responsibility
3. 15.	Work with the West London Freight Quality Partnership to develop a Freight Strategy to include reducing the air quality impact of freight maximising opportunities to move freight from road to other modes e.g. canals.	2006	In progress	Regular attendance at WLFQP meetings by member of WL AQ cluster group, opportunities raised for joint projects. Baseline freight map of the West London area has now been produced. Major signage and HGV routing project undertaken across West London as WLFQP initiative to reduce illegal movements and encourage HGVs to divert to main transport corridors rather than local roads	Need to refer back to TfL. Freight fits well with sub-regional air quality implementation plans.	Partnership	West London Freight Quality Partnership (WLFQP)
3. 16.	Facilitate the uptake and use of alternative fuels, including water-diesel emulsion. This should include development of appropriate alternative refuelling infrastructure where necessary e.g. charging points for electric	2007	In progress	SWELTRAC, of which Hillingdon is a member are seeking funding for electric charging points and feasibility for a biodiesel project. See 3.07.	The West London AQ group has commissioned a best practice review of emissions technologies for cab companies. Key recommendations from this will be rolled out to cab firms throughout the region.	Partnership	West London Air Quality and Transport Group

Ref.	Action Plan Measure	Original Timescale	Progress with Measure	Outcome to date	Comments	Local Authority Role	Responsibility
	vehicles.				Electric charging points installed in 3 car parks. Best Practice Guide for Reducing Taxi Emissions report sent to PCO for incorporation into London-wide guide <a href="#">See 7.07 regarding Mayor's Air Quality Fund application.</a>		
3. 17.	Lobby national government to provide incentives through the fuel duty system for cleaner fuels, inc. further vehicle excise duty reductions for retrofitting to smaller vehicles and increased retrofitting grants.	2005	Ongoing	Website live Feb 2007, at <a href="http://www.westlondonairquality.org.uk">www.westlondonairquality.org.uk</a> . Relevant information and consultations will feature on the website including information on grants and cleaner vehicle technology. West London alliance website now covers this – provides a more complete overview of issues relating to air quality in the area.	Need for a more holistic approach identified, taken forward via WLA	Lobbying	West London Air Quality Group
3. 18.	Work to ensure fiscal	2005	Ongoing	London Congestion Charge Zones	Being taken forward by	Lobbying	West London



Ref.	Action Plan Measure	Original Timescale	Progress with Measure	Outcome to date	Comments	Local Authority Role	Responsibility
	encouragement of the adoption of low and zero emissions vehicles through the provision of discounts when entering any proposed LEZ or Congestion charging zone.			and LEZ schemes are led by TfL therefore not in Hillingdon control. However, discounts are in place for the congestion zone for very low/zero emission vehicles and through road tax.	TfL.		Air Quality and Transport Group
3. 19.	Promote best practice in terms of emissions management with the train operators, the Strategic Rail Authority and Network Rail.	2010	Complete	Monitoring was in place close to railway and at nearest residential location. Concern over rail emissions raised by modelling has not been borne out by monitored data. Not currently a priority.	Adding Capacity at Heathrow consultation suggests that emissions from rail (i.e. diesel locomotives) on the Great Western line will reduce significantly in the next decade	Lobbying	West London Air Quality and Transport Group

Ref.	Action Plan Measure	Original Timescale	Progress with Measure	Outcome to date	Comments	Local Authority Role	Responsibility
Package							
4.	Measures Specific to Heathrow Airport						

Ref.	Action Plan Measure	Original Timescale	Progress with Measure	Outcome to date	Comments	Local Authority Role	Responsibility
4. 01.	Continue to oppose any further expansion at Heathrow that leads to negative air quality impacts.	2010	Ongoing	<p>Air Quality Technical Panel (set up by DfT) published report in July 2006, outlines best practice methodology for predicting air quality at Heathrow as input to PSDH.</p> <p>Hillingdon active in the, now successful, campaign to stop 3<sup>rd</sup> Runway.</p> <p>The Council has continued to follow and contribute the debate on further development at Heathrow, following the 2010 decision against the 3<sup>rd</sup> Runway.</p> <p>Hillingdon along with the 2M group will engage with the Howard Davies Airports Commission to</p>	<p>Hillingdon have sent in a robust response to the Adding Capacity consultation. Hillingdon do not believe sufficient evidence has been supplied to ensure the Government can be confident that the EU limit value will be met and maintained in exposure areas around Heathrow.</p> <p>Legal Challenge lodged by the Council against Government decision to build a 3<sup>rd</sup> runway</p> <p>After public consultation, the Aviation Policy Framework was finalised and published in March 2013. In regards to local air quality, the commitment to achieving full compliance with European air quality standards is stated (para 3.47). The policy itself seeks improvements via tightening international standards to reduce emissions from aircraft and</p>	Local Authority Led	Environmental Protection Unit (EPU)

Ref.	Action Plan Measure	Original Timescale	Progress with Measure	Outcome to date	Comments	Local Authority Role	Responsibility
				ensure that the air quality problems of the Heathrow area, and the deficiencies of the air quality assessment for the 'Adding Capacity at Heathrow' paper issued in the earlier debate on the 3 <sup>rd</sup> Runway are properly recognised	vehicles and to work with airports and local authorities to improve local air quality. The document states it expects airports to take the responsibility of addressing the surface access emissions associated with accessing the airport seriously and also recognises that with noise management and mitigation prioritised as the main local impacts, proposals that have significant trade-off issues e.g. reducing noise yet increasing emissions, need to be carefully assessed. This is clearly very important for the Heathrow area.		
4. 02.	Develop system for auditing the ATM limit and parking provisions for operational T5.	2008	Ongoing	Further progress pending the opening of T5.  Annual report supplied as part of T5 planning	Whilst compliance with the ATM limit is a matter for HEATHROW AIRPORT to manage, the Council, in common with the T5 Inspector, regards it as a critical control over	Local Authority Led	Aviation Team

Ref.	Action Plan Measure	Original Timescale	Progress with Measure	Outcome to date	Comments	Local Authority Role	Responsibility
				conditions with regard to ATM limit	the environmental impact of Heathrow. Will have to be over-turned if capacity increases given go ahead		
4. 03.	Audit all air quality conditions for the construction phase of Terminal 5.	2008	Complete	PM continues to be monitored around the T5 site. No exceedences of PM noted at residential locations during 2006, construction now moving to internal fit-out stage.	Complete	Local Authority Led	Environmental Protection Unit (EPU)
4. 04.	Pursue the retaining of the T5 related air quality monitoring network post T5 construction.	2008	Complete	AQ station at Longford and Oaks Road both to be retained post T5 opening. These are both at key residential locations. 2011-2020 Heathrow AQ Strategy commits to continuation of funding for LHR2, Oaks Road, Harlington sites for NO <sub>2</sub> , particles and (Harlington	Complete – agreement to keep LHR2, London Harlington, Green Gates and Oaks Road as sites for continuous monitoring. HA will be monitoring highway capacity issues that may arise from opening of T5 and dedicated spur off M25 eg potential for queuing back to M4/M25 and merging of increased M25 traffic on to M4. ATCs installed on Borough roads leading to airport – in place prior to	Local Authority Led	

Ref.	Action Plan Measure	Original Timescale	Progress with Measure	Outcome to date	Comments	Local Authority Role	Responsibility
				only) ozone. Monitoring results to be made available with 24 hours on Heathrow AirWatch website.	opening to monitor for any increased traffic on local roads.		
4. 05.	Quantify and pursue emission reductions for all new on-airport development.	2007	Ongoing	Mitigation sought for on-airport developments in 2006 e.g. car rentals consolidation car park close to residents in Longford and potential redevelopment of Terminal 2, the Heathrow East terminal, that would include a new on-airport Energy Centre. Planning application to be lodged in 2011 regarding the enabling works to allow the operational change of No Cranford Agreement. Local air quality considerations will	Hillingdon continue to seek emission reductions from on-airport development as part of the planning process. Heathrow East will be the next major project on-airport unless decisions are made sooner with regards to further capacity. Comments were given at the planning application stage with regard to the suggested use of biomass in the accompanying Energy Centre and attention was drawn to the need to address any local air quality issues that may arise for taking this option forward. Several Hotel applications received	Local Authority Led	Aviation Team

Ref.	Action Plan Measure	Original Timescale	Progress with Measure	Outcome to date	Comments	Local Authority Role	Responsibility
				<p>form an important part of the assessment of the operational change.</p> <p>Permission granted in 2011 for construction of a biomass plant at Heathrow, but including high level of NOx and particle controls.</p> <p>2011-2020 Heathrow AQ Strategy Action 1.10 commits to utilising the best practicable solutions to cut emissions from development of future airport infrastructure.</p> <p>Heathrow Air Quality Strategy 2011-2010 Action 2.21 commits to using best available techniques for new heating and boiler plant.</p>	<p>since opening of T5. Continue to pursue air quality improvements from all relevant developments as part of planning process.</p> <p>The information on abatement technologies for the Heathrow biomass plant could provide useful reference material in the assessment of other similar plant.</p>		
4. 06.	Evaluate best practice	2006	Ongoing	August 2005 - Lack of	Recommendation from consultant	Partnersh	Heathrow Air

Ref.	Action Plan Measure	Original Timescale	Progress with Measure	Outcome to date	Comments	Local Authority Role	Responsibility
	from European and International airports with regard to the minimisation of air quality impacts and assess feasibility of application at Heathrow.			resources resulted in failure to submit a successful bid. BA has achieved success in a project to reduce APU usage across the BA network. The project has saved 1000 tonnes in fuel burn to date and are projecting savings of 40,000 tonnes of CO <sub>2</sub> are possible annually over the BA network, with corresponding reductions in other ground emissions and ground noise. Heathrow Air Quality Strategy 2011-2010 Action 3.8 comments to making a benchmark survey of air quality management regimes and airside operations at	that Hillingdon could continue pursuit of this objective by joining the ARC organisation. Projects such as the BA APU study should be highlighted as best practice and rolled out across other airlines at Heathrow. Heathrow Air Quality Strategy 2011-2010 Actions 2.1 to 2.7 present a series of measures for reducing emissions on the ground, including tighter running time allowances for APUs and targets for provision of fixed electrical ground power and pre-conditioned air at fixed stands. There is no commitment given in the Heathrow Air Quality Strategy 2011-2010 under Action 3.8 to make the benchmarking survey public.	ip	Quality Working Group

Ref.	Action Plan Measure	Original Timescale	Progress with Measure	Outcome to date	Comments	Local Authority Role	Responsibility
				other comparable airports in 2011, 2015 and 2020. There is, however, no commitment given to make this survey public.			
4. 07.	Work with National Government to ensure the use of all relevant fiscal measures to reduce emissions from Heathrow in order to achieve the 2010 EU limit.	2010	In progress	Publication of Civil Aviation Sustainable Strategy. Progress Report on Air Transport White Paper published in December 2006. Heathrow expansion via mixed mode and/or 3rd runway still supported by Govt but only if strict environmental criteria such as AQ objectives can be met. Full PSDH consultation due in summer 2007. OMEGA set up by Govt, a multi-disciplinary partnership to study	Adding Capacity consultation shows clear non-compliance with EU 2010 limit at relevant locations. Hillingdon will pursue via 2M group to approach EU on the issue of a derogation. Delegation to Strasbourg to raise concerns over air quality levels around Heathrow and lack of measures to secure compliance; Officer visit to Brussels to raise air quality modelling issues around Heathrow; Consultation response sent to Defra re Plans and Programmes to Meet EU Limit Values – no incorporation of Heathrow or aviation as a source of emissions	Partnership	Local Authorities



Ref.	Action Plan Measure	Original Timescale	Progress with Measure	Outcome to date	Comments	Local Authority Role	Responsibility
				<p>environmental, business and operational impacts of aviation.</p> <p>Hillingdon and Hounslow to attend meeting in April 2007 for update on OMEGA workstreams.</p> <p>Consultation response on aviation into EU ETS</p> <p>Meeting with Defra re potential options for reducing emissions around Heathrow.</p> <p>Aviation Scoping Report – will form the framework for aviation, Hillingdon will be working with others to form robust response to protect the interests of local residents.</p> <p>Heathrow Area identified as exceedence area within the Defra Air</p>	<p>Awaiting the publication of the draft Time Extension Application with regards to its treatment of the Heathrow area as a source of non-compliance and the action suggested for mitigation</p> <p>BAA Air Quality Strategy Review – waiting for 2011-2020 release. Draft to date suggested a focus on four objectives:</p> <p>Limit and where possible reduce airport related emissions to local air quality concentrations at all relevant local receptors to help ensure EU LV met in Heathrow area;</p> <p>Accurately quantify contribution from airport-related sources to local air quality concentrations to focus management activities;</p> <p>Continually improve approach to managing AQ impacts, supporting technology etc;</p>		

Ref.	Action Plan Measure	Original Timescale	Progress with Measure	Outcome to date	Comments	Local Authority Role	Responsibility
				Quality Plan for meeting the EU limit value	Actively engage with internal and external stakeholders to develop shared objectives. BAA Surface Access Strategy Review No draft to comment, HEATHROW AIRPORT has withdrawn Transport and Works Act application for Airtrack, which would have given rail link to the west.		
4. 08.	Assess the potential to set an emissions cap for Heathrow.	2008	Complete, in terms of assessing potential	There is potential to set an emissions cap for the airport, perhaps differentiated in terms of the different activities undertaken there (local area traffic, stationary sources, airport service vehicles and aircraft). However, it is concluded that there is currently no willingness to pursue this as an option by either the	Not an option reviewed as part of Adding Capacity documentation This aspect may need to be addressed in the Time Extension application to help ensure compliance with EU air quality limits	Partnership	Heathrow Air Quality Working Group

Ref.	Action Plan Measure	Original Timescale	Progress with Measure	Outcome to date	Comments	Local Authority Role	Responsibility
				airport operator or central government.			
4. 09.1.	Assess the potential to use landing emissions charges scheme to create revenue stream for public transport improvements.	2008	Not started, Council will continue to lobby	CAA/EA given roles as independent assessors for noise and air quality as part of the Decision on Heathrow Expansion. Any landing charge will need to be sufficiently high to enforce change with regard to fleet turnover, Hillingdon will work with both the CAA and EA to ensure these concerns are raised. Role of CAA and EA with regard to environmental conditions around Heathrow still not yet published – this role has not been pursued by Govt following the cancellation of expansion plans at	Not an option reviewed as part of Adding Capacity. Heathrow already has emissions charges in place although the Heathrow AQ Action plan 2007-2011 notes this has low emissions benefit for NOx reduction Hillingdon will seek to pursue this option to deal with the current air quality exceedences experienced around the Heathrow area This aspect may need to be addressed in the Time Extension application to help ensure compliance with EU air quality limits Needs to be reviewed from a legal perspective, in relation to revenue-neutrality.	Partnership	Heathrow Air Quality Working Group

Ref.	Action Plan Measure	Original Timescale	Progress with Measure	Outcome to date	Comments	Local Authority Role	Responsibility
				Heathrow.			
4. 09.2.	Introduce differentiated landing charges at a level that would force cleaner engine technology.	2010	Ongoing	<p>Differentiated landing charge in place but effect unknown as to whether it has been set at a level that will force change.</p> <p>Heathrow Air Quality Strategy 2011-2020 Action 2 commits to review landing charges annually to incentivise the use of cleaner aircraft, with a target of 95% of ATMs at CAEP4 and above by 2015 and 100% by 2020.</p> <p>Heathrow Air Quality Strategy 2011-2010 Action 3.2 commits to develop a matrix of aircraft types and engine fits based on noise and NOx emissions to help</p>	<p>Not an option reviewed as part of Adding Capacity – no recommendations on control of this source was made in the consultation material</p> <p>It is unclear the extent to which the targets under Action 2 of the 2011-2020 Heathrow AQ Strategy reflect business as usual. HEATHROW AIRPORT will therefore need to work with Hillingdon to provide clarity on the resulting benefits.</p>	Partnership	HEATHROW AIRPORT

Ref.	Action Plan Measure	Original Timescale	Progress with Measure	Outcome to date	Comments	Local Authority Role	Responsibility
				develop their landing charges fee structure.			
4. 10.	Audit progress on the BAA Heathrow Air Quality Action Plan (2001-2006).	2005	Ongoing	Progress on Heathrow AQ Action Plan during 2006: Aircraft towing trial with Virgin to assess its effectiveness in reducing taxiing emissions and operational feasibility for Heathrow; Concluded the first year of Clean Vehicles Incentive Fund, awarding £100k to CVP members to adopt low emission technologies; Completed a feasibility study for the Clean Vehicles Programme to become compulsory for all airside vehicles and to be extended to address	Now replaced by AQ Action Plan for 2007-2011 EA invited to be a part of the Heathrow Air Quality Working Group Current plan under review. Hillingdon will be a consultee of the draft new Action Plan New air quality action plan for Heathrow for 2011 to 2020 has now been issued. Objective 3 contains a series of actions for dissemination of information, with Action 3.18 committing to engagement with Local Authorities. Hillingdon will need to ensure that the level of engagement is sufficient for monitoring progress with the Action Plan. <a href="#">After an external tendering process, consultants have been</a>	Partnership	Heathrow Air Quality Working Group

Ref.	Action Plan Measure	Original Timescale	Progress with Measure	Outcome to date	Comments	Local Authority Role	Responsibility
				CO2 emissions as well as NOx; Committed to BAA roads being part of the London LEZ should it proceed. BAA Action Plan to be reviewed, current work includes collation of an updated Emissions Inventory and the revision of Airside Vehicles Strategy	appointed to undertake an audit of specified actions for the 2011-2020 Plan. The working group is currently formalising which actions will be audited.		
4. 11.	Review air quality monitoring regime at Heathrow and identify potential gaps.	2005	Completed	Monitors now in place at Sipson and Harmondsworth, monitors in Harlington, Longford and Oaks Road retained. Heathrow Airport is working with University of Cambridge on the development and deployment of, a network of electrochemical	Air quality monitoring network reviewed as part of the West London Network Audit. See 4.04 for relevant details from 2011-2020 Heathrow Air Quality Strategy. The Airwatch site is currently being refreshed. It is anticipated that the new site will be up and running by the end of June 2013.	Partnership	Heathrow Air Quality Working Group

Ref.	Action Plan Measure	Original Timescale	Progress with Measure	Outcome to date	Comments	Local Authority Role	Responsibility
				sensors across the Airport. If proved accurate, the sensors will help provide a more informed spatial analysis of emissions across the airport. The local authorities are currently working with the Airport to co-locate the new sensors with existing air quality monitoring stations as a part of the project development process.			
4. 12.	Maintain production of externally audited Emissions Inventory on bi-annual basis.	2010	Ongoing	Emission Inventories produced as part of the Adding Capacity consultation	Heathrow AQ strategy 2011-2020 (Action 1.4) commits to production of an annual NOx emissions inventory to review the efficacy of the airport operator's action plan. There is, however, no commitment that this will be externally audited. Action 1.5 commits to make this information available to the	Partnership	BAA Heathrow

Ref.	Action Plan Measure	Original Timescale	Progress with Measure	Outcome to date	Comments	Local Authority Role	Responsibility
					Boroughs. Actions 1.11 to 1.18 commits to various actions for improved automatic data collection for inventory improvement for mobile sources. Under Action 3.1 a commitment is given to publish the aircraft fleet profile against CAEP standards on an annual basis.		
4. 13.	Identify the areas where the existing BAA 5 year Action plan can be strengthened.	2006	Ongoing	Draft new Action Plan sent out for consultation March/April 2006. Comments sent from Heathrow local authorities requesting inclusion of quantification of emission reductions on measures, cost-effectiveness and annual progress reports in line with Defra guidance. March 2007 – new Action	Heathrow Air Quality Action plan 2007-2011 published. Examples below: <ul style="list-style-type: none"> <li>Managing emissions from aircraft operations – of the 6 actions put forward 4 have high emission reductions benefits but all 4 have tradeoffs with other pollutants;</li> <li>Managing emissions from airside vehicles – 7 actions, 3 medium emission benefits;</li> <li>Managing emissions from</li> </ul>	Partnership	Heathrow Air Quality Working Group



Ref.	Action Plan Measure	Original Timescale	Progress with Measure	Outcome to date	Comments	Local Authority Role	Responsibility
				Plan still not published, letter sent from Heathrow local authorities requesting update on the issue. New air quality action plan for 2011 to 2020 about to be released (autumn 2011). Hillingdon has commented on a draft.	landside vehicles – 5 actions, 2 of medium benefit; <ul style="list-style-type: none"> <li>Fixed sources – 1 action, low emission benefit.</li> </ul> Hillingdon provided comments to the draft of the 2011-2020 Heathrow AQ Strategy.		
4. 14.	Pursue quantification of measures in the BAA Air Quality Action Plan and Surface Access Strategy in terms of air quality impacts.	2006	Ongoing	March 2007 – neither the Action Plan nor the Surface Access Strategy have been published, letter sent from local authorities surrounding Heathrow requesting update on the issue. Quantification of the new plan expected in 2012. 2011-2020 Heathrow AQ strategy Action 1.6, 1.7,	2007-2011 Heathrow AQ Action Plan published; Heathrow Surface Access Strategy not yet finalised Heathrow Surface access Strategy finalised. Links made with improving local air quality and gaining reductions in climate change emissions. No increase in modal transport shift to public transport target – this has been retained at 40%	Partnership	Heathrow Air Quality Working Group

Ref.	Action Plan Measure	Original Timescale	Progress with Measure	Outcome to date	Comments	Local Authority Role	Responsibility
				1.8 commit to provide dispersion model forecasts for 2015, 2020 and 2025, including source apportionment. Action 1.9 commits to analysing monitoring data to better understand the relationship between airport activity and local air quality.	In its role as consultee Hillingdon will pursue this issue in regard to the new BAA Action Plan <a href="#">See 7.07 regarding Mayor's Air Quality Fund application.</a> <a href="#">See 4.11 regarding Airwatch</a>		
4. 15.	Assess feasibility of Congestion/Access Charging at Heathrow to reduce overall travel movements to the airport.	2006	Not started	An important part of the legal challenge was the inadequacy of the approach taken by DfT with regard to improving surface access to Heathrow. The claimants won the point regarding surface access and the fact that even without any further expansion taking place, the current surface	Not reviewed in depth as part of Adding Capacity consultation. Heathrow Decision – this aspect to be left to planning application stage if Govt approve capacity increases. Hillingdon believe this is a flaw of the Government decision not to have properly addressed surface access issues as part of the decision to expand This aspect may need to be addressed in the Time Extension	Partnership	DfT

Ref.	Action Plan Measure	Original Timescale	Progress with Measure	Outcome to date	Comments	Local Authority Role	Responsibility
				access network is inadequate even to support forecast growth under existing limits	application to help ensure compliance with EU air quality limits.		
4. 16.	Assess feasibility of a Heathrow specific LEZ to reduce emissions and accelerate take up of cleaner vehicle technology.	2006	Completed	Commitment from BAA to include BAA roads and motorways should LEZ proceed.	<p>If the London LEZ does not go ahead Hillingdon will still push for a Heathrow specific LEZ.</p> <p>BAA roads included Heathrow Roads included Heathrow Decision for expansion has not incorporated this option Given continuing exceedences around Heathrow Hillingdon will work with partners to assess feasibility of more stringent LEZ around the Heathrow area This aspect may need to be addressed in the Time Extension application to help ensure compliance with EU air quality limits.</p> <p><a href="#">See 7.07 regarding Mayor's Air Quality Fund application.</a></p>	Partnership	DfT

Ref.	Action Plan Measure	Original Timescale	Progress with Measure	Outcome to date	Comments	Local Authority Role	Responsibility
4. 17.	Assess appropriate target for modal shift to maximise air quality improvements.	2006	Planning phase	40% modal shift to public transport achieved in 2008, on track to be sustained in 2009, currently awaiting validation of figures. The current Heathrow Surface Access Strategy (2008-2012) also has an aspirational target of 45% for public transport mode share. The Airtrack scheme may help move towards this target however the BAA masterplan forecast growth, within existing limits, is 90-95mppa. This implies a further 9.74mppa to arrive by private transport and an extra 6mppa to be	Adding Capacity documentation suggests high increases in surface access to Heathrow e.g. 27% increases in traffic volumes during the inter-peak. Severe increases in capacity of the Piccadilly line and other modal transport alternatives will be required if the Govt give approval for expansion. Heathrow Decision for expansion has not incorporated this option; Heathrow Surface access Strategy 2008 has not looked to increase the public transport modal shift target from 40%; Heathrow Decision for expansion has not incorporated this option Given the projected growth in passenger numbers, Hillingdon will continue to pursue the setting of higher targets for public transport	Partnership Lobbying	DfT Heathrow Airport Transport Forum

Ref.	Action Plan Measure	Original Timescale	Progress with Measure	Outcome to date	Comments	Local Authority Role	Responsibility
				<p>accommodated on public transport.</p> <p>The HS2 company has now published its preferred route option and concluded that a link to Heathrow may not have a strong business case. The Heathrow link is now subject to a separate review. Hillingdon are supportive of the principle of high speed rail but only with the objective of improving modal shift from road and short haul air to rail. Hillingdon will not support a high speed rail link which simply fuels the call for increased capacity at Heathrow</p>	<p>modal shift given the projected extra volumes in passengers</p> <p>This aspect may need to be addressed in the Time Extension application to help ensure compliance with EU air quality limits</p>		
4. 18.	Define programme for the establishment of code of	2006	Complete	Link to 4.06 Programme is defined	Via ICAO? There is a programme via ICAO	Partnership	Heathrow Air Quality

Ref.	Action Plan Measure	Original Timescale	Progress with Measure	Outcome to date	Comments	Local Authority Role	Responsibility
	practice for airlines best operating practice to maximise reduction of emissions.			under Actions 2.1 to 2.7 of the Heathrow Air Quality Strategy 2011-2010	looking at this option, progress to date is slow. Heathrow Decision for expansion has not incorporated this option This aspect may need to be addressed in the Time Extension application to help ensure compliance with EU air quality limits		Working Group
4. 19.	Develop best practice guidelines to ensure air quality impact assessments are integral part of relevant transport and transport infrastructure proposals, and that appropriate mitigation measures are inclusive part of any scheme.	2006	In progress	Consultation meeting with BAA Heathrow on Heathrow Surface Access Strategy (HSAS), consultation comments returned to BAA. Comments included the need to make strong links with the air quality levels in the region and indicate how the HSAS measures will contribute to addressing this. March 2007 – HSAS still	No obvious links have been made in the Heathrow AQAP 2007-2011 to any targets/objectives in the forthcoming Heathrow Surface Access Strategy Heathrow Decision for expansion has not incorporated this option This aspect may need to be addressed in the Time Extension application to help ensure compliance with EU air quality limits <a href="#">See 4.01 regarding the Aviation Policy Framework</a>	Partnership	Heathrow Air Quality Working Group

Ref.	Action Plan Measure	Original Timescale	Progress with Measure	Outcome to date	Comments	Local Authority Role	Responsibility
				not published. Heathrow Air Quality Strategy 2011-2010 Action 2.2 commits to development of a best practice programme with partners in Sustainable Aviation and the CAA			
4. 20.	Assess feasibility of specifying emissions criteria for Heathrow taxis, buses and coaches using the Central Bus Terminal, and car hire shuttles, hopper buses etc.	2006	Completed	Heathrow Bus and Coach Strategy has committed to ensuring that only LEZ compliant vehicles are stipulated in future BAA supported contracts.	Incorporated into the LEZ Heathrow Air Quality Strategy 2011-2010 Actions 2.13 to 2.18 specify a number of measures for reducing emissions from landside vehicles using the airport.	Partnership	Heathrow Air Quality Working Group
4. 21.	Ensure the minimisation of the air quality impact of freight deliveries to and from Heathrow is a key objective of the West London Freight Quality Partnership (WLFQP).	2006	Planning phase	New air quality action plan for 2011 to 2020 about to be released. Hillingdon has commented on a draft. Surface access strategy to follow 2012/2013.	Freight addressed via the BAA Clean Vehicle Programme	Partnership	Heathrow Air Quality Working Group
4. 22.	Assess the use of bus	2010	Not		Adding Capacity documentation did	Partnership	Heathrow Air

Ref.	Action Plan Measure	Original Timescale	Progress with Measure	Outcome to date	Comments	Local Authority Role	Responsibility
	priority, guided buses and high occupancy vehicle lanes in the Heathrow area.		started		not review this option Heathrow Decision for expansion has incorporated this option This aspect may need to be addressed in the Time Extension application to help ensure compliance with EU air quality limits	ip	Quality Working Group
4. 23.	Assess the feasibility of a Park and Ride scheme specifically for Heathrow.	2006	Not started		Adding Capacity documentation did not review this option Heathrow Decision for expansion has not incorporated this option This aspect may need to be addressed in the Time Extension application to help ensure compliance with EU air quality limits	Partnership	Heathrow Air Quality Working Group
4. 24.	Assess the health impact of Heathrow Airport and associated activities.	2007	Planning phase	Launched in June 2009, the new £5 million MRC-HPA Centre for Environment and Health has as one of its first projects - A study of	Adding Capacity documentation did not review this option Heathrow Decision for expansion has not incorporated this option Joint meeting with Hounslow to the research team, currently awaiting	Partnership	Heathrow Air Quality Working Group



Ref.	Action Plan Measure	Original Timescale	Progress with Measure	Outcome to date	Comments	Local Authority Role	Responsibility
				people living near London's Heathrow airport, exploring how air and noise pollution can affect people's health. The research will analyse the effects of living near road traffic from airport uses as well as aeroplanes. Current evidence suggests that air pollution and noise affect the cardiovascular system in different ways. Building on existing work, the new study will look at the effects of exposure to both forms of pollution together	completion, peer review and publication of the study July 2012 – queried with MRC-HPA centre whether report is yet available. Response awaited. COMEAP, for the Department of Health, published guidance on quantification of health impacts of air pollutants at a local level in 2012.		
4. 25.	Lobby Central Government to pursue more stringent emission standards for plant,	2007	Ongoing	Council has lobbied government, but no response on this issue to date.	Government decision on expansion has introduced concept of green slots – no further details available to date as to what this actually	Lobbying	Local Authorities

Ref.	Action Plan Measure	Original Timescale	Progress with Measure	Outcome to date	Comments	Local Authority Role	Responsibility
	aircraft and airside vehicles.			The Heathrow Expansion Decision referred to consultation on a green slot mechanism to incentivise the use of cleaner planes. There has been no consultation to date. Heathrow Air Quality Strategy 2011-2010 Actions 2.8 to 2.12 introduce various measures to reduce emissions from airside vehicles.	entails or what impact it will have on aircraft fleet turnover Hillingdon will lobby for the continuance in exploring this mechanism. This aspect may need to be addressed in the Time Extension application to help ensure compliance with EU air quality limits <a href="#">See 4.01 regarding the Aviation Policy Framework</a>		
4. 26.	Explore feasibility of reducing fares on the Heathrow Express.	2010	Complete	January 2007 - Fares on HEX increased by 7%. May be addressed by PSDH to promote modal shift. Heathrow Connect stopping service introduced as cheaper	As above Heathrow Decision for expansion has not incorporated this option	Lobbying	Local Authorities

Ref.	Action Plan Measure	Original Timescale	Progress with Measure	Outcome to date	Comments	Local Authority Role	Responsibility
				option to HEX Concluded that this is not a possibility under the current economic climate.			
4. 27.	Pursue relevant organisations to prioritise public transport provision to Heathrow, particularly rail links to the west, east and south.	2008	Ongoing	Responding to TfL consultation on public transport links to T5. BAA has withdrawn the funding that would have progressed AirTrack.	TfL have increased bus connectivity to Heathrow 2m High Speed North proposal; Government High Speed Two The recent HS2 report has indicated a weak business case for prioritising a direct link to Heathrow from the new proposed high speed line	Lobbying	Local Authorities
4. 28.	Explore feasibility of an airport passenger tax, ring-fenced for increased public transport.	2010	Complete	Heathrow Area Transport Forum projects funded using money from Heathrow car parking charges.	Adding Capacity documentation did not review this option Heathrow Decision for expansion has not incorporated this option This aspect may need to be addressed in the Time Extension application to help ensure compliance with EU air quality limits	Lobbying	Local Authorities

Ref.	Action Plan Measure	Original Timescale	Progress with Measure	Outcome to date	Comments	Local Authority Role	Responsibility
Package							
5. Measures Concerning Local Industries and Other Businesses							
5. 01.	Support opportunities for Combined Heat and Power where appropriate within the Borough.	2010	Ongoing	<p>Part of the Hillingdon pre-application advice that although such schemes may be considered they must be accompanied by appropriate air quality assessments.</p> <p>Links also to MAQS</p> <p>Hillingdon now has a framework in place whereby schemes can be assessed for air quality impact, providing developers with the certainty that they need with respect to planning requirements when making applications.</p>	<p>Caution advised with regards to biomass installations in new developments. AQ assessments on biomass requested as part of planning submission</p> <p>Hillingdon using EPUK guidance with regard to biomass. Biomass is discouraged. Where it is suggested as part of a development Hillingdon require full air quality assessment including details on the sustainability of the fuel plus full details of abatement technology</p>	Local Authority Led	Planning

Ref.	Action Plan Measure	Original Timescale	Progress with Measure	Outcome to date	Comments	Local Authority Role	Responsibility
5. 02.	Introduce (within reason) progressively stricter conditions on Part A processes, including incineration processes, especially when located within high exceedence areas or where the impact is predicted to be within high exceedence areas.	2007	Ongoing	<p>New monitoring station location finalised, due in place by April 07, Grundons supporting purchase of, and running costs of the station for 5 years.</p> <p>Harmondsworth monitor now in place, new monitor located in Hayes.</p> <p>Heathrow Air Quality Strategy 2011-2010 Action 2.20 commits to conducting a best available techniques analysis for all major boiler plant, and then to seek funding for application, as appropriate, on a 'suitable timescale'.</p>	BAM chosen for PM monitoring due to non-compliance issues with TEOMs, as advised by Defra.	Local Authority Led	Environmental Protection Unit (EPU)

Ref.	Action Plan Measure	Original Timescale	Progress with Measure	Outcome to date	Comments	Local Authority Role	Responsibility
5. 03.	Work with the Environment Agency to improve public dissemination of industrial pollutant emissions data and other relevant information, for example on performance against permit conditions.	2005	Completed	Press release passed to AQ group on prosecution by EA of Clinical Energy in Hillingdon. Emission data available at <a href="http://www.emissions.hillingdon.gov.uk">http://www.emissions.hillingdon.gov.uk</a> . Communication lines in place with EA via the Heathrow AQ Working group and for specific installations as and when appropriate	Hillingdon working with EA, Slough, health agencies and Grundons to set up a website with on-line monitoring data available when Slough Incinerator is in full operation. Working in partnership with the EA is an integral part of the action plan process, opportunities for dialogue exist via several working groups and on an individual installation-specific basis	Local Authority Led	Environmental Protection Unit (EPU)
5. 04.	Discourage the use of bonfires on all industrial sites.	2005	Completed	Launched at GLA November 2006, used in Hillingdon as planning condition. Measure complete via use of Best Practice Guide.	Use of Best Practice Guidance advised on all relevant planning applications	Local Authority Led	Environmental Protection Unit (EPU)

Ref.	Action Plan Measure	Original Timescale	Progress with Measure	Outcome to date	Comments	Local Authority Role	Responsibility
5. 05.	Adopt best practice strategy for all proposed demolition and development projects. This will include the use of low emission vehicles and equipment and the use of dust minimisation techniques.	2005	Completed	Covered by Best Practice Guide: Control of Emissions from Construction and Demolition from GLA/APPLE.	See above (5.04)	Local Authority Led	Environmental Protection Unit (EPU)
5. 06.	Ensure continued regulation of part B processes and maintenance of part B register. Ensure register is available on-line.	2006	Ongoing	New Part B website launched January 2007, link on Council's website, gives details of processes and permits within Hillingdon. 100% of inspections carried out on industrial processes in 2007, all information relating to inspections available via specialised website	100% of inspections carried out in 2008 All inspections carried out by external contractors, reports given to LA and all information available via specialised website including online application	Local Authority Led	Environmental Protection Unit (EPU)

Ref.	Action Plan Measure	Original Timescale	Progress with Measure	Outcome to date	Comments	Local Authority Role	Responsibility
5. 07.	Investigate introduction of Air Quality Action Plans for local industries, including those currently un-regulated under EA.	2008	Completed	Conclusions reached in the audit of the AQAP on this measure. Need to prioritise sources and provide guidance on emission reductions and cost-saving actions that may be possible (e.g. through improved efficiency of resource use),	Current resources do not permit this to extend beyond statutory actions.	Local Authority Led	Environmental Protection Unit (EPU)
5. 08.	Consider introduction of Environmental Award system for local industries and businesses.	2008	Not started	No progress to date.	This measure has been brought to attention of LSP as one they may wish to pursue, also to be put forward as measure for revision of MAQS	Local Authority Led	Sustainability Steering Group
5. 09.	Encourage businesses to participate in environmental management schemes and to continue to improve environmental performance.	2008	In progress	Freight forum and Green Business Forum will act as vehicles to provide information and encourage environmental awareness.	No progress on this issue in 2007 – see above Air quality rep now on the Local Strategic Partnership, Cleaner Greener group - this may prove a mechanism for taking this forward in the future	Local Authority Led	Sustainability Steering Group



Ref.	Action Plan Measure	Original Timescale	Progress with Measure	Outcome to date	Comments	Local Authority Role	Responsibility
Package							
6. Improving Eco-efficiency of current and future developments, inc. Council properties							
6. 01.	Provide a consolidated platform for advising businesses and the public of the risks of air pollution, ways of reducing pollution, and campaigns such as Bike to Work Week, combining information from various Council departments and other bodies.	2007	Ongoing	<p>Presentation on air quality to Ickenham Residents Group, Business Forum, Residents group around Heathrow.</p> <p>Participation in Streets Ahead Day, and World Environment Day promoting local and global air quality issues.</p> <p>AirText launched March 2007, article in Hillingdon People and local press, target to get 300 sign ups.</p> <p>Inconvenient Truth DVD showing to Labour Group.</p> <p>Continued participation in AirText, attendance at monthly Streets Ahead events throughout the Borough</p> <p>The Airtext scheme has a total of 5,947 subscribers with Hillingdon have a total of 94. In the period</p>	<p>Green Roadshow held in May 2007, raising awareness of recycling, low carbon life-styles, energy saving, use of alternative technologies;</p> <p>Streets Ahead scheme set up in Hillingdon – representatives from Environmental services visit a different ward each month, ensuring that initiatives like AirText are promoted monthly throughout the Borough;</p> <p>World Environment Day event held – Nottingham Declaration on Climate Change signed</p> <p>Local air quality theme at 3 Streets Ahead events in</p>	Local Authority Led	Sustainability Steering Group

Ref.	Action Plan Measure	Original Timescale	Progress with Measure	Outcome to date	Comments	Local Authority Role	Responsibility
				July 09-Jan 2010 Hillingdon subscribers were sent messages over a total of 21 alert days.	the year; Air quality presentation given to Street Champions in Hayes; Go Green event in local park concentrated on local air quality and climate change; Enviromall - event in local shopping centre concentrated on local air quality and climate change Airtext has proved a successful tool for sensitive receptors in Hillingdon. Continued support will be given where resources are available to ensure the service is continued		
6. 02.	Work with existing buildings and housing	2007	Ongoing	Energy efficiency awareness campaigns are underway for local	Ongoing campaign to promote energy efficiency	Local Authority	Energy Efficiency

Ref.	Action Plan Measure	Original Timescale	Progress with Measure	Outcome to date	Comments	Local Authority Role	Responsibility
	stock to secure improvements in emissions.			residents. Establishment of the Green doctor scheme in Hillingdon –see highlights <a href="#">Schools Cleaner Air Zone Project (links to action 1.06)</a> . The project will (amongst other activities) aim to use a range of measures aimed at reducing emissions from the selected schools.	via several events throughout the year	Led	Programme
6. 03.	Ensure continued use of existing mechanisms such as Section 106 agreements for improvements in air quality.	2008	Ongoing	S106 SPD being re-drafted, air quality integrated into transport section as well as stand alone section. The emerging draft LDF refers to the use of mechanisms such as s106 to address air quality issues	S106 SPD out to consultation March 2008 Planning Obligation SPD finalised July 2008, transport and air quality key themes that Hillingdon will look to address The draft MAQS refers to the continued use of s106 and the development of an SPD template for air	Local Authority Led	Planning Department

Ref.	Action Plan Measure	Original Timescale	Progress with Measure	Outcome to date	Comments	Local Authority Role	Responsibility
					quality to be used throughout London		
6. 04.	Review and update Air Quality Supplementary Guidance when appropriate (see planning application form at Section 7).	2006	In progress	Hillingdon LDF re-drafted, timetable for review of AQ SPD put back. See comment in 6.03	AQ SPD to be reviewed Sept 2008, consideration to be given to links to climate change Timetable put back due to slippage of LDF timescale, Hillingdon will look to widen this to Local Air Quality and Climate Change LDF due for consultation in summer 2010, SPD will follow	Local Authority Led	Planning Department
6. 05.	Quantify cumulative effects of new developments within AQMA.	2007	Ongoing	Awaiting finalisation of LDF. Pushing for consideration of cumulative impacts of development to be considered where appropriate.	LDF still not finalised – Hillingdon asked to re-visit LDF due to Adding Capacity consultation, unlikely to be finalised before summer 2008 LDF now due for consultation in summer	Local Authority Led	Environmental Protection Unit (EPU)

Ref.	Action Plan Measure	Original Timescale	Progress with Measure	Outcome to date	Comments	Local Authority Role	Responsibility
					2010		
6. 06.	Develop supplementary planning guidance for sustainable design and construction.	2006	Completed			Local Authority Led	Planning
6. 07.	Raise awareness of sustainable waste management practices.	2006	Completed	Home composting being promoted in addition to actions undertaken in previous years.	Green kerbside recycling in place at all homes	Local Authority Led	Sustainability Steering Group
6. 08.	Development of West London Air Quality SPD to ensure consistency across Borough boundaries, explore opportunities for joint Section 106 agreements.	2005	Planning phase	Air quality and climate change linked in new draft of the Hillingdon LDF as key spatial objectives. West London Air Quality Strategy due for review to cover 2010-2015 which present an opportunity to address this issue	London Plan re-visited in 2008, Heathrow Opportunity Area identified with a requirement for a minimum of 10,750 homes. Waiting for finalisation of west London Borough LDFs	Partnership	West London Air Quality Group

Ref.	Action Plan Measure	Original Timescale	Progress with Measure	Outcome to date	Comments	Local Authority Role	Responsibility
Package							
7. Actions to be Taken Corporately, Regionally and in Liaison with the Mayor							
7. 01.	Ensure that the London Development Framework, Borough Transport Strategy the Community Plan and future corporate strategies incorporate the Borough air quality action plan and local air quality strategy measures where appropriate.	2006	Ongoing	New emerging LDF includes objectives to improve air quality; The emerging Borough Transport Strategy due to be published for consultation in Dec 2010 has improving quality of life and reducing the carbon footprint as key objectives	See 6.05 for progress on LDF; Planning Obligations SPD published July 2008, local air quality issues incorporated; Climate Change Strategy published April 2009, local air quality issues incorporated	Local Authority Led	Planning Policy Unit
7. 02.	Develop an environmental management system for Hillingdon Borough Council.	2008	Not started	No progress.		Local Authority Led	LSP
7. 03.	Establish an Environment Coordination Office for more effective integration of actions to improve environmental performance within and outside the Council.	2008	In progress	No progress in terms of the measure as defined, but progress has been made less formally on this measure (see right).	Alternative approach being followed for this measure, with good coordination between (e.g.) air quality, climate and transport, planning officers.	Local Authority Led	LSP

Ref.	Action Plan Measure	Original Timescale	Progress with Measure	Outcome to date	Comments	Local Authority Role	Responsibility
7. 04.	Implement an integrated procurement strategy so that purchase of goods and services is evaluated against London sustainability targets. This to include support to environmental industries in London, where appropriate.	2006	Ongoing	The Low Emission Strategies Partnership Board has the development of a Procurement Strategy as a key project for 2010/2011.	Procurement policy for fleet vehicles in place. Requirement for relevant Green Spaces contractors to use electric vehicles.	Local Authority Led	Sustainability Steering Group
7. 05.	Provide air quality information to interested parties and link with other health initiatives.	2006	Ongoing	Articles in Hillingdon People for car share, update on new air quality monitoring within the Borough, AirText sign up. Reports and presentations given to local residents groups with regard to air quality, progress on PSDH. Industrial emissions website established. (see 5.03)	Public meetings held and regular press releases given with regard to Adding Capacity at Heathrow consultation; AirText regularly promoted at Streets Ahead events throughout the Borough See 6.01	Local Authority Led	Environmental Protection Unit (EPU)
7. 06.	Work with the London Sustainable Distribution Partnership to implement	2008	Not started	No progress.	Action likely to be led by TfL	Partnership	LSP

Ref.	Action Plan Measure	Original Timescale	Progress with Measure	Outcome to date	Comments	Local Authority Role	Responsibility
	infrastructure for effective and integrated distribution of goods in London.						
7. 07.	Work in partnership to ensure consistency of Action Plan measures and explore all opportunities for regional measures for reducing emissions.	2007	Ongoing	<p>Joint projects identified with WL Freight Quality partnership.</p> <p>Highways Agency meetings identified as annual event for Heathrow area.</p> <p>Environment Agency meetings identified as 6-monthly event for Heathrow specific issues, attendance also at WL AQ Cluster Group.</p> <p>Review of WL Air Quality Strategy complete, includes links with Climate Change and a Communication Strategy.</p> <p>The West London Air Quality Strategy will be reviewed to cover 2010-2015, this will incorporate relevant measures from the West London Transport Strategy.</p> <p>Good consistency of measures</p>	<p>Continued regional working with West London Air Quality group, successful bids via West Trans BSP and Defra grants for joint actions</p> <p>As above</p> <p>Hillingdon also now represented on Low Emission Strategies Partnership Board – taking forward production of Low Emission Toolkit and Procurement Guidance</p> <p><a href="#">Hillingdon, in a joint approach with Hounslow, have submitted a partnership bid to the Mayor's Air Quality Fund</a></p>	Partnership	West London Alliance



Ref.	Action Plan Measure	Original Timescale	Progress with Measure	Outcome to date	Comments	Local Authority Role	Responsibility
				<p>with Mayor's Action Plan</p> <p>This new fund, supported by TfL and the GLA, has been launched to provide match-funding for boroughs that produce innovative new schemes and projects designed to tackle air pollution. To gain access to the funding boroughs must sign up to specific criteria to confirm ongoing support to becoming a Cleaner Air Borough.</p>	<p>along with Heathrow Airport and GlaxoSmithKline (GSK). If successful, the funding will enhance the partners' current work on the promotion of alternative fuels especially in regard to electric vehicles. The methodology will be developed for quantifying the reduction in emissions and will be facilitated by the provision of the necessary infrastructure and a high quality marketing campaign. It is anticipated that the focus will be on specialist markets such as taxis and mini cabs given the high levels of use throughout this area. The bid awards</p>		

Ref.	Action Plan Measure	Original Timescale	Progress with Measure	Outcome to date	Comments	Local Authority Role	Responsibility
					are expected by the end of June 2013.		
7. 08.	Development of regional Air Quality Strategy to tackle cross-boundary issues and include all National Air Quality Strategy pollutants, climate change etc.	2007	Planning phase	Nottingham declaration signed 5 <sup>th</sup> June 2007; Consultation response to Draft Climate Change Bill 11 <sup>th</sup> July 2007 – issues raised included strengthening the role of local authorities in the bill, the inclusion of other greenhouse gases to ensure any trade-offs with issues impacting on local air quality are fully understood and specific aviation comments requiring the inclusion of aviation in the climate change reduction targets. See 7.07 - The west London Air Quality Strategy will be reviewed to cover 2010-2015, this will incorporate relevant measures from the West London Transport Strategy	Hillingdon Climate Change Strategy and Carbon Management Plan published. Local air quality incorporated into both documents LSP, Sustainable Community Strategy, LDF and forthcoming Borough Transport Strategy	Partnership	Local Authorities

Ref.	Action Plan Measure	Original Timescale	Progress with Measure	Outcome to date	Comments	Local Authority Role	Responsibility
7. 09.	UK Government to actively support air quality improvement in Hillingdon.	2007	Ongoing	<p>Opportunities identified include responses to EU Thematic Strategy, the PSDH process, the review of the National Air Quality Strategy.</p> <p>Delegations supported to Strasbourg and Brussels to raise profile of air quality in Heathrow area</p> <p>Continued support of the 2M grouping to seek air quality improvements in the Heathrow area and also to seek maximum environmental improvements from any proposed high speed rail scheme.</p> <p>Hillingdon have been involved in initial discussions with Defra re the Time Extension Application and how the Heathrow Area will be treated within it.</p> <p>Hillingdon continues to engage directly with the European</p>	<p>Hillingdon working with 2M group to assess process needed for UK Govt to be granted a derogation in the area around Heathrow.</p> <p>Defra Air Quality Action plan to meet EU LVs for NO2</p> <p>Came out on 9th June. Hillingdon acknowledged in main GLA exceedence area 1 due to roads, London Hillingdon site by M4 highlighted and in GLA exceedence area 2 Heathrow area as separate area. Even with an LEZ scenario (not looked at what this means yet) still going to be exceedences. Is quite detailed and I don't have</p>	Lobbying	Defra

Ref.	Action Plan Measure	Original Timescale	Progress with Measure	Outcome to date	Comments	Local Authority Role	Responsibility
				Commission to highlight the problems it faces as a consequence of the presence of Heathrow Airport and the density of the major road network in and around the Borough. Also to clarify the position of the Borough relative to any fines that may be imposed by the Commission for air quality infractions.	enough time to look at yet so will just have to be a paragraph acknowledging it's out and we will respond etc <a href="http://uk-air.defra.gov.uk/library/no2ten/documents/UK0001.pdf">http://uk-air.defra.gov.uk/library/no2ten/documents/UK0001.pdf</a> <a href="#">See 4.01 regarding the Aviation Policy Framework</a>		

Ref.	Action Plan Measure	Original Timescale	Progress with Measure	Outcome to date	Comments	Local Authority Role	Responsibility
Package							
8.	Action Plan Management						
8. 01.	Develop and maintain management system for implementation of the plan.	2010	Ongoing			Local Authority Led	Environmental Protection Unit (EPU)

Ref.	Action Plan Measure	Original Timescale	Progress with Measure	Outcome to date	Comments	Local Authority Role	Responsibility
8. 02.	Identify and secure all potential funding for Action Plan initiatives.	2010	Ongoing	S106 sought on new developments, BSP funding of 45,000, SCE bids submitted each year for air quality monitoring, modelling and action plan measures.	Ongoing via BSP, Defra grant, section 106, West Trans BSP	Local Authority Led	Environmental Protection Unit (EPU)
8. 03.	Maintain, and where necessary expand, the existing air quality monitoring network.	2010	Ongoing	System in place and expanded as need be (e.g. new station located in hotspot in Hayes) Actions recommended by 2011 review of the monitoring network were acted on that year, including closure of the Hillingdon Hospital 2 monitoring station.	Funding sought via SCE for new monitor in Ickenham, identified as key area in west London Monitoring Network Audit <a href="#">See action 4.11 regarding the NOx Sensor Project</a>	Local Authority Led	Environmental Protection Unit (EPU)
8. 04.	Review and assessment of air quality in line with Defra guidance.	2010	Ongoing	Rolling programme in place (see annual reports on air quality issued by Hillingdon).		Local Authority Led	Environmental Protection Unit (EPU)
8. 05.	Prioritise measures, providing a schedule for implementation.	2006	Ongoing	Audit of action plan is underway, see also 8.07. <a href="#">Audit now completed.</a>		Local Authority Led	Environmental Protection Unit (EPU)

Ref.	Action Plan Measure	Original Timescale	Progress with Measure	Outcome to date	Comments	Local Authority Role	Responsibility
8. 06.	Provide progress report to Defra on annual basis.	2010	Ongoing	Progress Reports (etc.) submitted as required.	Review of Action Plan Funding already identified, will be based upon air quality modelling and source apportionment underway at the mo by CERC.	Local Authority Led	Environmental Protection Unit (EPU)
. 07.	Review and adapt the action plan according to opportunity and circumstance.	2010	Ongoing	Action Plan review set for late 2010, timing will depend upon adoption of the mayor's Air Quality Strategy and the publication of the UK Time Extension Application to Europe Activities for revision of the Action Plan commenced in 2011 with new source apportionment work. <a href="#">Audit of action plan now completed.</a>		Local Authority Led	Environmental Protection Unit (EPU)
8. 08.	Maintain consultation process to disseminate information on progress against defined targets to other stakeholders.	2010	Ongoing	Consulted with various residents group, briefing notes prepared for business groups.	3 aqap progress	Local Authority Led	Environmental Protection Unit (EPU)

Ref.	Action Plan Measure	Original Timescale	Progress with Measure	Outcome to date	Comments	Local Authority Role	Responsibility
8. 09.	Examine potential for the development of regional action plan on cross boundary issues.	2007	Ongoing	Continued attendance at bodies such as West London Air Quality Group, HATF and APPLE.		Local Authority Led	Environmental Protection Unit (EPU)

## 10 Conclusions and Proposed Actions

### 10.1 Conclusions from New Monitoring Data

Exceedences of the annual mean objective for NO<sub>2</sub> continue to occur in the Borough within the AQMA.

- Concentrations at London Hillingdon have continued to increase as the trend over the last four years has continued. This site is representative of public exposure as it is a similar distance from the M4 motorway as the nearby housing. This site is already within the Hillingdon AQMA.
- Concentrations at Hillingdon South Ruislip have increase by 10µg/m<sup>3</sup>, which is a significant increase given that the site was already exceeding the annual mean AQS objective for NO<sub>2</sub>. The site recorded 52µg/m<sup>3</sup> in 2012 compared with 42µg/m<sup>3</sup> in 2011. It is recommended that the Council investigate what caused this increase in 2012.
- Concentrations at other monitoring sites remained the same or decreased in 2012 compared to 2011. No exceedences of the 1-Hour mean objective for NO<sub>2</sub> were recorded in 2012.

It is recommended to continue monitoring at all locations across the Borough.

### 10.2 Conclusions relating to New Local Developments

It is recommended that the Council continue to implement the system of checks for all new developments with regards to air quality.



### **10.3 Other Conclusions**

The Council will continue to implement the Air Quality Action Plan measures and link with any updated local or regional policies which may be developed.

### **10.4 Proposed Actions**

There is no need to carry out any Detailed Assessment at this time. Recommended actions are:

- Continue to monitor air pollution across the Borough;
- Investigate what caused the  $10\mu\text{g}/\text{m}^3$  increase in concentrations at Hillingdon South Ruislip continuous monitor;
- Continue to implement action plan measures; and
- Proceed to the Annual Progress Report 2014.

# Appendices

Appendix A: Quality Assurance / Quality Control (QA/QC) Data

Appendix B: Monitoring Results

Appendix C: Planning Applications during 2012

# Appendix A: QA:QC Data

## Diffusion Tube Bias Adjustment Factors

A bias adjustment factor of 1.01 reported in the latest version v03\_13 of the national database of co-location studies conducted for tubes prepared (50% TEA in acetone) and analysed by Gradko during 2012 has been used to adjust the diffusion tube results.

## Factor from Local Co-location Studies

One co-location study was undertaken in 2012 at the AURN site Hillingdon Sipson. The bias factor from this study was 1.27 based on an overall good precision at each site.

**Table 13 - Co-loction study Hillingdon Sipson**

Diffusion Tubes Measurements										Automatic Method		Data Quality Check	
Period	Start Date dd/mm/yyyy	End Date dd/mm/yyyy	Tube 1 $\mu\text{g m}^{-3}$	Tube 2 $\mu\text{g m}^{-3}$	Tube 3 $\mu\text{g m}^{-3}$	Triplicate Mean	Standard Deviation	Coefficient of Variation (CV)	95% CI of mean	Period Mean	Data Capture (% DC)	Tubes Precision Check	Automatic Monitor Data
1	04/01/2012	01/02/2012	52.4	49.8	53.8	52	2.1	4	5.1	59.3	99.9	Good	Good
2	01/02/2012	29/02/2012	46.5	43.6	43.5	45	1.7	4	4.2	58.4	95.8	Good	Good
3	29/02/2012	28/03/2012	50.4	48.4	52.9	51	2.3	4	5.7	64.4	99.9	Good	Good
4	28/03/2012	25/04/2012								50.9	99.7		Good
5	25/04/2012	30/05/2012	31.7	32.0	32.2	32	0.3	1	0.7	42.8	99.3	Good	Good
6	30/05/2012	27/06/2012	44.2	44.5	50.1	46	3.3	7	8.3	50.4	99.4	Good	Good
7	27/06/2012	01/08/2012	44.1	44.3	43.2	44	0.5	1	1.4	55.4	95.1	Good	Good
8	01/08/2012	29/08/2012	47.5	47.4	48.8	48	0.8	2	2.0	62.8	95.8	Good	Good
9	29/08/2012	26/09/2012	45.2	41.5	40.5	42	2.5	6	6.2	55.6	95.7	Good	Good
10	26/09/2012	31/10/2012	45.8	48.0	57.4	50	6.2	12	15.4	56.7	95.7	Good	Good
11	31/10/2012	28/11/2012	53.1	54.2	54.9	54	0.9	2	2.3	73.6	95.7	Good	Good
12	28/11/2012	02/01/2013	40.0	42.0	39.8	41	1.2	3	3.0	61.3	91.7	Good	Good
13													

AEA Energy & Environment  
From the AEA group

It is necessary to have results for at least two tubes in order to calculate the precision of the measurements

Overall survey --> **Good precision** **Good Overall DC**  
(Check average CV & DC from Accuracy calculations)

Site Name/ ID:	Precision: 11 out of 11 periods have a CV smaller than 20%
----------------	--

<b>Accuracy (with 95% confidence interval)</b> without periods with CV larger than 20% Bias calculated using 11 periods of data Bias factor A 1.27 (1.19 - 1.36) Bias B -21% (-26% - -16%) Diffusion Tubes Mean: 46 $\mu\text{g m}^{-3}$ Mean CV (Precision): 4 Automatic Mean: 58 $\mu\text{g m}^{-3}$ Data Capture for periods used: 97% Adjusted Tubes Mean: 58 (55 - 62) $\mu\text{g m}^{-3}$	<b>Accuracy (with 95% confidence interval)</b> WITH ALL DATA Bias calculated using 11 periods of data Bias factor A 1.27 (1.19 - 1.36) Bias B -21% (-26% - -16%) Diffusion Tubes Mean: 46 $\mu\text{g m}^{-3}$ Mean CV (Precision): 4 Automatic Mean: 58 $\mu\text{g m}^{-3}$ Data Capture for periods used: 97% Adjusted Tubes Mean: 58 (55 - 62) $\mu\text{g m}^{-3}$
--	--

Jaume Targa, for AEA  
Version 04 - February 2011

## Discussion of Choice of Factor to Use

LAQM statutory reports from 2007 to 2011 used the locally calculated bias adjustment factor. However, the national bias adjustment factor was used in the 2012 USA. The national bias adjustment factor was used to correct the diffusion tube 2012 results. The basis for this decision is due to the trend in bias adjustment factors over the past few years. The factor of 1.01 is much closer to the trend in factors that have been applied in Hillingdon over the past few years. If 1.27 from the co-location study were applied there would be a significant increase in concentrations at all site.

Whilst using the national factor is not a conservative approach is considered to be a better approach to adjust results when dealing with a Borough-wide set of monitoring sites.

## PM Monitoring Adjustment

Particulate Matter is monitored by TEOM at five sites. Results presented in the Progress Report have been VCM-corrected. The parameters used in producing the corrected data are summarised in tables below.

**Table 14 - VCM Correction Data Heathrow Green Gates**

Summary	Text
Site Name	Heathrow Green Gates
Organisation	Heathrow Airport Ltd
Start Date	01/01/2012
End Date	31/12/2012
TEOM data already corrected with 1.3 factor	No
EPA Constant A	3
EPA Constant B	1.03
Instrument Temperature	25
Instrument Pressure	1013
Instrument reports to local ambient readings	No
Timescale	Hourly
Pressure Site	Ealing - Southall FDMS (EI7)
Temperature Site	Brent - Neasden Lane (BT5)
FDMS Site 1	Sutton - Worcester Park (ST6)
FDMS Site 2	Greenwich and Bexley - Falconwood FDMS (GB0)
FDMS Site 3	Average of remaining sites within range
FDMS Site 3 Warning	FDMS3 Correction includes unratified data.

**Table 15 - VCM Correction Data Heathrow LR2**

Summary	Text
Site Name	London Heathrow LHR2
Organisation	Hillingdon
Start Date	01/01/2012
End Date	31/12/2012
TEOM data already corrected with 1.3 factor	No
EPA Constant A	3
EPA Constant B	1.03
Instrument Temperature	25
Instrument Pressure	1013
Instrument reports to local ambient readings	No
Timescale	Hourly
Pressure Site	Ealing - Southall FDMS (EI7)
Temperature Site	Brent - Neasden Lane (BT5)
FDMS Site 1	Sutton - Worcester Park (ST6)
FDMS Site 2	Greenwich - Blackheath (GR7)
FDMS Site 3	Average of remaining sites within range
FDMS Site 3 Warning	FDMS3 Correction includes unratified data.

**Table 16 - VCM Correction Data Heathrow Oakes Road**

Summary	Text
Site Name	Heathrow Oakes Road
Organisation	Hillingdon
Start Date	01/01/2012
End Date	31/12/2012
TEOM data already corrected with 1.3 factor	No
EPA Constant A	3
EPA Constant B	1.03
Instrument Temperature	25
Instrument Pressure	1013
Instrument reports to local ambient readings	No
Timescale	Hourly
Pressure Site	Ealing - Southall FDMS (EI7)
Temperature Site	Brent - Neasden Lane (BT5)
FDMS Site 1	Sutton - Worcester Park (ST6)
FDMS Site 2	Greenwich and Bexley - Falconwood FDMS (GB0)
FDMS Site 3	Average of remaining sites within range
FDMS Site 3 Warning	FDMS3 Correction includes unratified data.

**Table 17 - VCM Correction Data Hillingdon Oxford Avenue**

Summary	Text
Site Name	Hillingdon 3 - Oxford Avenue
Organisation	Hillingdon

<b>Summary</b>	<b>Text</b>
Start Date	01/01/2012
End Date	31/12/2012
TEOM data already corrected with 1.3 factor	No
EPA Constant A	3
EPA Constant B	1.03
Instrument Temperature	25
Instrument Pressure	1013
Instrument reports to local ambient readings	No
Timescale	Hourly
Pressure Site	Ealing - Southall FDMS (EI7)
Pressure Site Warning	
Temperature Site	Brent - Neasden Lane (BT5)
Temperature Site Warning	
FDMS Site 1	Sutton - Worcester Park (ST6)
FDMS Site 1 Warning	
FDMS Site 2	Greenwich - Blackheath (GR7)
FDMS Site 2 Warning	
FDMS Site 3	Average of remaining sites within range
FDMS Site 3 Warning	FDMS3 Correction includes unratified data.

**Table 18 - VCM Correction Data Hillingdon South Ruislip**

<b>Summary</b>	<b>Text</b>
Site Name	Hillingdon 1 - South Ruislip
Organisation	Hillingdon
Start Date	01/01/2012
End Date	31/12/2012
TEOM data already corrected with 1.3 factor	No
EPA Constant A	3
EPA Constant B	1.03
Instrument Temperature	25
Instrument Pressure	1013
Instrument reports to local ambient readings	No
Timescale	Hourly
Pressure Site	Ealing - Southall FDMS (EI7)
Pressure Site Warning	
Temperature Site	Kings Cross 4 - Coopers Lane (KX4)
Temperature Site Warning	
FDMS Site 1	Greenwich - Blackheath (GR7)
FDMS Site 1 Warning	
FDMS Site 2	Sutton - Worcester Park (ST6)
FDMS Site 2 Warning	
FDMS Site 3	Average of remaining sites within range
FDMS Site 3 Warning	FDMS3 Correction includes unratified data.

## Short-term to Long-term Data adjustment

Concentrations at all sites which recorded less than 75% data capture during 2012 have been annualised according to the method set out in LAQM TG(09) box 3.2. The details of the annualisation have been provided in the table below.

**Table 19 - Short-Term to Long-Term Monitoring Data Adjustment**

Site	Uncorrected Diffusion Tube Mean ( $\mu\text{g}/\text{m}^3$ )	Annualisation Factor Hillingdon Sipson	Annualisation Factor North Kensington	Annualisation Factor Teddington	Average Annualisation Factor	Annualised Bias Adjusted Concentration ( $\mu\text{g}/\text{m}^3$ )
HD42	45.3	0.94	0.75	1.00	0.90	41.1
HD46	51.5	0.94	0.75	1.00	0.90	46.7
HD48	33.9	0.94	0.75	1.00	0.90	30.8
HD50A	38.9	1.01	1.12	0.97	1.03	40.7
HD55	40.2	0.98	0.89	0.93	0.93	38.0
HD64	39.4	0.94	0.75	1.00	0.90	35.7
HD66	39.1	0.94	0.75	1.00	0.90	35.5
HD68	33.8	0.93	0.73	0.95	0.87	29.8
HD69	42.1	0.94	0.75	1.00	0.90	38.2
HD72	38.2	0.94	0.75	1.00	0.90	34.6
HD76	32.7	0.94	0.75	1.00	0.90	29.7
HD77	32.1	0.94	0.75	1.00	0.90	29.1
HD78	36.8	0.94	0.75	1.00	0.90	33.4
HD79	39.4	0.94	0.75	1.00	0.90	35.7
HD80	43.6	0.94	0.75	1.00	0.90	39.6
HD200	36.0	1.01	1.12	0.97	1.03	37.6
HD201	41.0	1.01	1.12	0.97	1.03	42.8
HD202	31.9	1.01	1.12	0.97	1.03	33.3
HD203	43.9	1.05	1.18	1.02	1.08	48.1
HD204	36.8	1.00	1.15	0.97	1.04	38.7
HD205	41.0	1.00	1.08	0.95	1.01	41.9
HD206	28.9	0.99	1.09	0.94	1.01	29.4
HD207	30.3	0.97	1.10	0.92	1.00	30.5
HD208	28.0	1.06	1.11	0.99	1.05	29.6
HD209	33.0	1.01	1.12	0.97	1.03	34.5
HD210	47.8	1.01	1.12	0.97	1.03	49.9
HD211	32.8	1.00	1.08	0.95	1.01	33.5
HD212	32.4	1.10	1.33	1.08	1.17	38.4
HD213	36.8	1.05	1.18	1.02	1.08	40.2
HD214	47.4	1.01	1.12	0.97	1.03	49.5

### **QA/QC of Automatic Monitoring**

All sites in Hillingdon are managed by the AURN and AEA following the national procedure guidance and standards.

### **QA/QC of Diffusion Tube Monitoring**

Gradko participates in the Workplace Analysis Scheme for Proficiency (WASP), which is an independent analytical performance testing scheme.

According to the summary of laboratory precision published by the LAQM Helpdesk, tubes analysed by Gradko displayed 'Good' precision in 14 out of 16 studies in 2012 (based on spreadsheet version 03/13).



## Appendix B: 2012 Diffusion tube monitoring results

Tube	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
HD31	52.4	46.5	50.4		31.7	44.2	44.1	47.5	45.2	45.8	53.1	40.0
HD31	49.8	43.6	48.4		32.0	44.5	44.3	47.4	41.5	48.0	54.2	42.0
HD31	53.8	43.5	52.9		32.2	50.1	43.2	48.8	40.5	57.4	54.9	39.8
HD42	47.4	35.1	53.5									
HD43	56.0	44.0	56.5		49.8	38.1	44.0	44.5	42.5	44.3	49.1	23.5
HD46	57.6	41.9	55.2		44.9	32.4	34.8	37.7	37.8	54.0	58.4	34.7
HD46	57.7	42.3	54.8		41.1	40.2	40.9	38.2	37.3	49.4	55.1	48.0
HD46	58.1	42.8	53.5									
HD47	45.1	31.1	46.9			22.5	21.3	24.7	23.8	32.0	39.4	21.5
HD48	38.3	28.2	35.2									
HD49	36.7	27.4	34.9		17.9	17.1	15.0	19.9	23.6	30.7	37.2	20.1
HD50A					29.1	27.1	42.0	36.7	41.0	44.3	53.6	37.6
HD51	47.3	39.7	46.4		27.9	28.0	29.1	33.6	32.8	34.0	44.6	31.1
HD52	50.1	37.9	47.6		32.1	21.5	28.5	30.2	33.2	37.2	56.7	28.0
HD53	54.0	47.0	49.0			34.3	39.5	43.0	45.5	45.2	56.0	28.4
HD55	50.4	37.9	50.4		33.2				38.2	44.0	46.3	21.2
HD56	51.8	37.2	50.1		27.3	27.1	21.6	30.8	30.4	40.5	43.2	39.6
HD57	51.0	29.4	48.8		30.9	28.3	31.5		34.5	42.9	48.7	43.4
HD58	50.4	41.9	48.2		32.0		32.8	40.4	35.1	43.7	49.0	22.5
HD59	52.3	33.0	44.8		26.6	25.3	23.5	29.2	23.1	40.9	45.6	45.2
HD60	41.3	31.9	45.2			23.3	21.3	26.5	25.4	31.6	39.6	32.2
HD61	47.5	38.0	43.1		30.2	28.8	28.6	34.4	34.0	20.6	45.3	21.2
HD64	40.6	34.1	43.5									
HD65	44.1	31.7	42.4		25.9	26.5	26.8	33.4	31.9		84.6	30.9
HD66	42.5	34.2	40.5									
HD67	40.0	30.6	42.8		24.4	23.6	12.3	26.2	26.8	30.5	37.8	22.9
HD68		29.4	38.3									
HD69	43.7	36.7	46.0									
HD70	35.6	24.8	34.2		18.1	16.6	18.5	25.2	22.8	26.9	34.4	19.8

Tube	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
HD72	42.4	30.8	41.3									
HD73	39.7	30.2	36.3		20.1	16.6	19.9	23.7	23.1		35.9	30.0
HD74	40.5	28.8	38.5		25.1	17.0	20.1	23.2	26.4	32.5	38.4	19.6
HD75	40.9	31.0	36.5		17.9	18.2	20.8	25.8	25.5	30.8	39.1	30.0
HD76	39.0	24.6	34.6									
HD77	37.0	27.3	32.1									
HD78	43.5	33.4	33.4									
HD79	43.2	31.6	43.5									
HD80	46.3	35.4	49.2									
HD200					30.1	30.7	30.9	37.8	34.6	41.9	49.9	31.9
HD201					43.3	34.7	30.5	38.1	39.9	52.6	56.6	32.2
HD202					23.1	21.6	23.5	26.0	31.5	38.7	42.5	48.2
HD203					35.7	38.3	40.7	36.0	40.8	54.4		61.7
HD204					31.6		28.6	37.1	36.2	39.0	48.1	
HD205					34.0	38.3		44.1	40.3	42.8	49.9	37.6
HD206					23.8		19.0	28.0	25.0	35.4	39.4	32.0
HD207						27.1	21.0	27.2	23.7	38.0	45.0	30.4
HD208					23.2		20.8		24.2	32.7		38.9
HD209					25.8	30.4	27.2	31.9	32.6	37.4	44.3	34.6
HD210					53.5	35.3	44.7	44.6	42.6	54.8	59.3	47.6
HD211					32.5	25.2		30.1	32.6	38.8	46.0	24.4
HD212					39.6	29.6		32.7	27.9			
HD213					34.8	35.7	32.8	37.4	32.7	40.3		43.6
HD214					35.9	43.7	41.0	47.6	48.1	49.2	56.0	57.5

## Appendix C: Planning Applications during 2012

Planning applications can be viewed at:

<http://www.hillingdon.gov.uk/index.jsp?articleid=10058> using the planning references provided.

### Planning application where development had begun and/or completed in 2012:

- 4129/APP/2011/453 Redevelopment of site to include 2 x single storey detached buildings with associated drive through for use as A3 (Restaurants and Cafes) with associated car parking, landscaping, cycle store, bin store, ancillary sub-station and alterations to existing vehicular crossover to front (involving demolition of the existing public house).
- 5107/APP/2011/2048 NATS Phase 2 89 Houses - Details in compliance with conditions 5 (traffic and car parking arrangements), 6 (demolition and construction management plan), 7 (access), 10 (waste storage /collection areas), 14 (CCTV), 20 (levels), 48 (construction logistics plan), 49 (service and delivery plan), 53 (badger survey), and 61 (tree protection) of outline permission ref: 5107/APP/2009/2348 dated 01/10/2010: Proposed mixed-use redevelopment comprising: 773 dwellings comprising 12no. studios, 152 no. 1-bedroom flats, 316no. 2-bedroom flats, 21no. 2-bedroom houses, 23no. 3-bedroom flats, 181no. 3-bedroom houses, 59no. 4-bedroom houses and 9no. 5-bedroom houses; Class D1 Primary Healthcare facility including room for joint community use (up to 1085sqm gea); Class C2 Nursing Home (up to 3630sqm gea); Classes A1-A3 Shop units to complement Mulberry Parade (up to 185sqm gea, depending on size of Primary Healthcare facility); Class B1 Business units including site management office (up to 185sqm gea); Energy Centre (up to 220sqm gea) with combined heat and power unit; foul water pumping station; associated access roads from Porters Way (and excluding all access including pedestrian and bicycle access from Rutters Close); 1085 car parking spaces; cycle parking; public open space areas; cycleways and footpaths; and landscaping works.
- 5107/APP/2010/2337 NATS Phase 1 58 Houses - Details in compliance with Conditions 7 (Accessibility), 8 (Energy strategy), 9 (Bird hazard management plan), 11 (Code for Sustainable Homes), 13 (Security measures), 14 (CCTV),

- 15 (Noise mitigation), 16 (Vibration), 17 (Air pollution mitigation), 18 (Phasing), 20 (Levels), 30 (Rainwater/greywater recycling), 46 (Piling method), 50 (Archaeology), 51 (Drainage), 52 (Ecological Mitigation and Management Plan), 53 (Badger survey), 55 (Energy centre air quality), 57 (Cleaner technologies), 61 (Tree protection) of planning permission ref: 5107/APP/2009/2348 dated 01/10/2010: Proposed mixed-use redevelopment comprising: 773 dwellings comprising 12 no. studios, 152 no. 1-bedroom flats, 316 no. 2-bedroom flats, 21 no. 2-bedroom houses, 23 no. 3-bedroom flats, 181 no. 3-bedroom houses, 59 no. 4-bedroom houses and 9 no. 5-bedroom houses; Class D1 Primary Healthcare facility including room for joint community use (up to 1085 sq.m gea); Class C2 Nursing Home (up to 3630 sq.m gea); Classes A1-A3 Shop units to complement Mulberry Parade (up to 185 sq.m gea, depending on size of Primary Healthcare facility); Class B1 Business units including site management office (up to 185 sq.m gea); Energy Centre (up to 220 sq.m gea) with combined heat and power unit; foul water pumping station; associated access roads from Porters Way (and excluding all access including pedestrian and bicycle access from Rutters Close); 1085 car parking spaces; cycle parking; public open space areas; cycleways and footpaths; and landscaping works.
- 32157/APP/2011/872 Mixed use development comprising 7,310 sqm (gea) industrial/warehousing unit (Use Classes B1c, B2, B8); 7998 sqm (gea) retail store (Use Class A1) and petrol filling station, together with associated car parking, landscaping and alterations to adjacent highway.

**Planning application from 2012 with baseline air quality assessments where permission has been given:**

- 4318/APP/2012/2733 Cherry Lane Primary School, West Drayton Erection of a two storey building and multi use games area, together with cycle storage, bin storage, equipment stores, landscaping, and associated works in connection with the sites use as a school and extension to existing school to provide additional toilets
- 6269/APP/2012/2898 Heathrow Primary School, Harmondsworth Application for the part demolition of the existing building, construction of a two storey extension to the existing school, removal of the existing temporary mobile

classrooms on site, the addition of a Multi Use Games Area, the re-organisation of the onsite car park, the provision of cycle and scooter parking and associated works.

- 51743/APP/2012/1781 Erection of two storey extension, including part demolition of existing building and associated works.
- 3345/APP/2012/2036 Demolition of school and former caretaker's house to allow for the comprehensive redevelopment of the site to provide a new school, Multi Use Games Area (MUGA), car parking, landscaping and associated development.

**The following planning applications were also submitted in 2012 with air quality assessments. However they remain undecided or have been withdrawn:**

- 59872/APP/2011/1691 - Change of use of, and external alterations to, Apollo and Jubilee to provide a new creative quarter comprising vinyl production, studios, visitors centre, training, office and exhibition space with associated café/bar, retail and leisure facilities (use classes A1, A3, A4, A5, B1, B2, D1 & D2). Change of use and external alterations to Neptune House for mixed use (use classes A3, A4, A5, B1, D1 & D2). New build residential development of 244 units with associated ground floor uses (A1, A3, A4, A5, B1, D1 & D2) and associated access, parking, servicing and landscaping (involving part demolition of Neptune, Apollo and Jubilee buildings) (Application to extend life of permission)
- 65688/APP/2011/2990 Full Planning Permission for a 8751m<sup>2</sup> (Gross External Area (GEA)) 240 Bedroom 6 Storey Hotel including Access, Car Parking and ancillary works to the northern section of the site. Full Planning Application Site Area: 3122 m<sup>2</sup>/0.3122 Hectare. Outline planning permission for 2 approx 325m<sup>2</sup> (Gross internal area (GIA) Fast Food Retail Outlets to the southern section of the site. Outline application site area: 3642m<sup>2</sup>/0.3642 hectare. Restaurant/Fast Food retail outlets details comprise access and layout. (Hybrid Application)
- 41867/APP/2011/1523 Redevelopment of site to accommodate a three storey high building comprised of 40 residential units, with associated car parking and landscaping, including raised soft landscaped amenity over the car park and roof terrace.

- 1933/APP/2011/3078 Alterations and extension to existing building as well as change of use of from Class B1 office building to a Class C1 hotel, to create a 4 storey hotel comprising 112 rooms, function rooms, car, cycle and coach parking, landscaping and new access arrangements
- 3114/APP/2008/2667 reserved matters phase 2 (details of siting, design, external appearance, access and landscaping) (employment uses b1(c), b2 and b8), traffic arrangements, parking and small units in part compliance with conditions 1, 7, 8, and 14 of the secretary of state's appeal decision ref. App/r5510/a/01/1077460 dated 30/08/2002 and planning permission ref.3114/app/2005/2021 dated 13/09/2005 (to allow an extension of time to submit reserved matters).
- 24485/APP/2012/1341 Erection of a mixed use development comprising 39 residential units and a single commercial unit of 117sqm floorspace (Mixed Use Classes A1, A2, A3 and D1), provision of private and shared amenity space, provision of footpath access to towpath, car parking, cycle parking and associated works.
- 4266/APP/2012/1544 & 5 Mixed use redevelopment comprising the erection of a 3,543 sq.m foodstore (GIA) (Use Class A1), (inclusive of delivery areas) with 181 car parking spaces and 32 cycle spaces; 3 additional retail units, totalling 1,037 sq.m (GFA) (Use Class A1 to A5); a 100 sq.m safer neighbourhoods unit (Use Class D1); a 7 storey (plus plant level) 84 bedroom hotel (Use Class C1), with 18 car parking spaces and 16 cycle spaces; together with associated highways alterations and landscaping.
- 38058/APP/2012/1203 Demolition of existing buildings and existing dwelling and erection of 108 residential units, a 50 unit extra care/dementia sheltered housing scheme, 1,529 m2 light industrial floorspace and 437 m2 of restaurant/cafe floorspace associated open space, car parking and landscaping (Outline Application with Access, Layout and Scale being determined).
- 38058/APP/2012/1203 Demolition of existing buildings and existing dwelling and erection of 108 residential units, a 50 unit extra care/dementia sheltered housing scheme, 1,529 m2 light industrial floorspace and 437 m2 of restaurant/cafe floorspace associated open space, car parking and

landscaping (Outline Application with Access, Layout and Scale being determined).

- 59872/APP/2012/1838 Outline planning application for a mixed use development of the Old Vinyl Factory site including the demolition of up to 12,643 sqm of buildings and construction of up to 112,953 sqm (112,953 sqm includes the retention and re-use of 784 sqm of the Power House and 901 sqm Pressing Plant) of new floorspace. Uses to include up to 510 residential units (maximum area of 49,000 sqm GEA), up to 7,886 sqm of new B1 floorspace, up to 4,000 sqm of A class uses (A1, A2, A3, A4, A5), up to 4,700 sqm of D1 and D2 uses, an energy centre (up to 950 sqm), car parking, works to access and creation of new accesses and landscaping.
- 40652/APP/2012/2030 Erection of a four storey building to provide 6,966sq.m of Class B1(a) Office floorspace, provision of 72 associated car parking spaces at basement level, associated landscaping and ancillary works.
- 40652/APP/2012/2030 Erection of a four storey building to provide 6,966sq.m of Class B1(a) Office floorspace, provision of 72 associated car parking spaces at basement level, associated landscaping and ancillary works.
- 12579/APP/2012/2366 The continuation of existing recycling operations at land to the North and South of New Years Green Lane for an organic composting facility operation to handle a maximum throughput of up to 75,000 tonnes per annum of organic waste for a temporary period of five years
- 15811/APP/2012/2444 4 x 2-storey, 3-bed, semi-detached houses with habitable roofspace and 3 x two storey, 3-bed, detached houses with habitable roofspace with associated parking and amenity space involving demolition of existing B1 office building
- 9420/APP/2011/2119 Redevelopment of the site to provide a 301 bedroom hotel (Class C1) and 4 new industrial units accommodating a combined total 9,562sq.m of floor space (Use Classes B1(b), B1(c), B2 and B8) alterations to access arrangements (including from Hatch Lane), associated landscaping and car parking together (involving demolition of the existing buildings on site).
- 35293/APP/2012/2287 Erection of 2 industrial/warehouse units incorporating 10,961sq.m of Use Class B1(c)/B2/B8 floorspace and ancillary office space, associated car parking, landscaping and service yards.

- 4318/APP/2012/2733 Erection of a two storey building and multi use games area, together with cycle storage, bin storage, equipment stores, landscaping, and associated works in connection with the sites use as a school and extension to existing school to provide additional toilets.
- 43155/APP/2012/1903 Variation of condition 3 of planning permission 43155H/99/326 dated 20th October 1999 to enable operations and restoration of the site to be completed no later than 30th September 2017 and alterations to approved restoration landscaping scheme.
- 68911/APP/2012/2983 New 3 Form of Entry primary school (630 students) plus a nursery (45 students) and a Special Resource Provision Unit for approximately 12 pupils, associated car parking, hard and soft play areas, sports pitches, pedestrian and vehicular access routes and landscaping.
- 2373/APP/2012/2011 Erection of an Anaerobic Digestion Biogas Plant including landscaping, parking and associated works.