



## 2015 Updating and Screening Assessment for

# London Borough of Hammersmith and Fulham

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

May 2015



## London Borough of Hammersmith and Fulham

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## Executive Summary

This latest updating and screening report reviews air quality data collected in 2014 for the strategy pollutants; nitrogen dioxide (NO<sub>2</sub>) and particulate matter (PM<sub>10</sub>).

This report has found that exceedences of the nitrogen dioxide annual mean objective continued in 2014 at the majority of the 16 monitoring locations in the borough. Exceedences of the hourly nitrogen dioxide objective are also likely alongside very busy 'A' roads and in the town centres. This situation remains a concern.

In terms of PM<sub>10</sub>, monitoring is carried out in 1 location, from which we collected limited data in 2014 due to a vehicle collision with the monitoring station. The station did not measure an exceedence of the Government's annual mean objective although the limited monitoring period does not allow sufficient data to establish the trend in PM<sub>10</sub> at this site.

The potential for new air quality impacts from a range of specified local sources has been considered, concentrating on assessing any new transport, industrial, commercial or domestic sources that were not covered by previous assessments. No new sources have been identified since the Updating and Screening Assessment in 2012. A detailed assessment is not required at this time.

A review of the Air Quality Action plan for the 2014/15 period is included which shows that progress has been made in a number of areas across the council including sustained uptake of green parking permits, an increased number of workplace travel plans. The council has started a programme to assist with residential cycle parking and 88% of schools have reviewed their travel plan in the last 12 months.

The lack of progress in reducing NO<sub>2</sub> levels are of particular concern, given the substantial reduction needed to meet the objective levels for NO<sub>2</sub>, in light of the recent ruling by the Supreme Court. The next stage in terms of air quality review and assessment work is to prepare and submit a progress report in April 2016.

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# 1 Introduction

## 1.1 Description of Local Authority Area

The Borough of Hammersmith & Fulham is located on the western edge of inner London in a strategic location on the transport routes between the City and Heathrow. It is the 4<sup>th</sup> smallest of the London Authorities in geographical area (1639.7 hectares) and has the 3<sup>rd</sup> smallest population of the London Boroughs (181,700 according to 2015 GLA population estimate). It also has the 6<sup>th</sup> highest population density of any Local Authority in London. Hammersmith and Fulham has the highest level of “adults using a cycle in the last month” of the London Boroughs at 23.6% in 2012/13. (London DataStore, 2015)

Much of Hammersmith & Fulham is residential in character and scale although the northern most part of the borough is more industrial, forming part of the Park Royal industrial estate and is also the location for a complex network of railway lines, depots and sidings, including 2 busy rail routes – the Great Western and the West Coast mainlines. There are also a small number of light industrial processes authorised by the council, although most of these are made up of dry cleaners and petrol stations. The borough is also home to Westfield London in Shepherds Bush town centre, one of the largest shopping centres in the UK, to 3 football teams, a large exhibition centre at Olympia and is traversed by the A4 and A40, 2 of the busiest roads in west London.

The main sources of oxides of nitrogen and small particulate emissions in the borough are road traffic, domestic and commercial gas boilers, trains and small industrial processes.

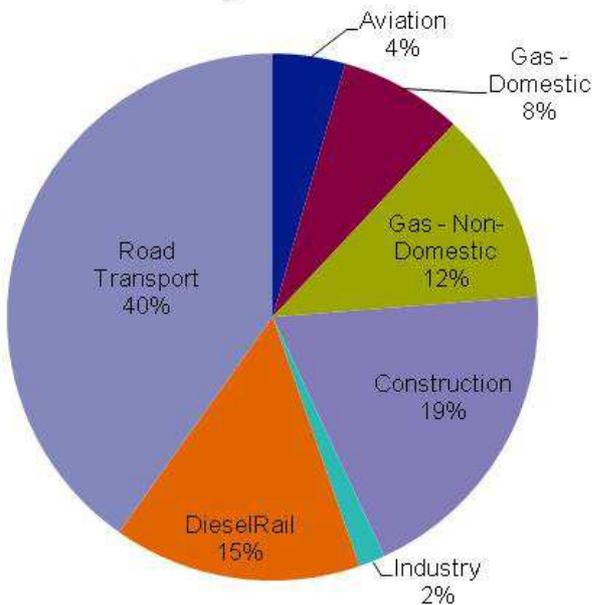
### Emission sources

The emission sources of pollutants from within the borough are mainly from transport, residential and commercial activities. A large proportion of the pollution however arises from beyond the borough’s immediate area including neighbouring boroughs, the urban area as a whole and further afield from national and European sources. The contribution of NO<sub>x</sub> and PM<sub>10</sub> from the various sources within the borough in 2010 is shown in the figures below (produced using data from the London Atmospheric Emissions Inventory, released in 2013). Changes in the assumptions used for predicting emissions shows that emissions of NO<sub>x</sub> from transport are a bigger proportion than in previous inventories; this is likely to be due to a greater understanding that emissions reductions are not occurring as expected. For PM<sub>10</sub> information is now also available for re-suspension, tyre and brake wear. Other sources which account for less than one percent are not shown (for NO<sub>x</sub> these include aviation, oil, fires, shipping etc).

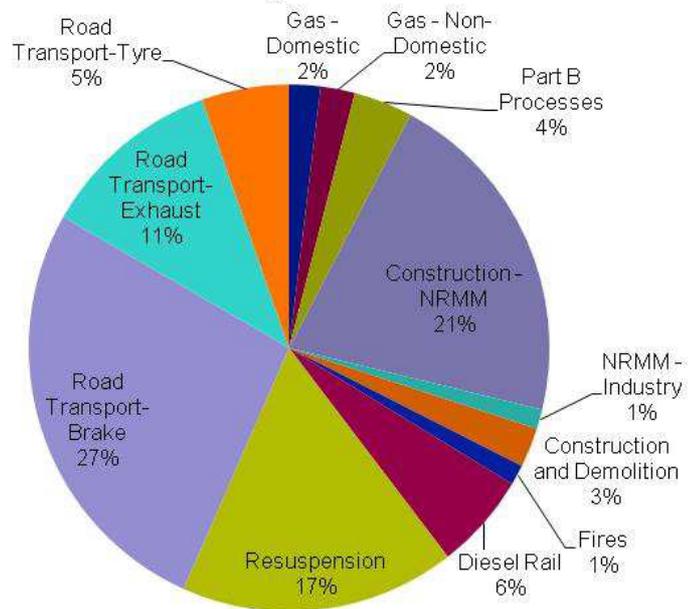
The latest inventory shows the most significant source of NO<sub>x</sub> is road transport followed by gas and construction emissions (based on modelling for 2010). The most significant source of PM<sub>10</sub> from within the borough is road transport (a combination of exhaust and road/tyre breakdown); however the next most important source is re-suspended materials and Non Road Mobile Machinery (note this will be based on assumptions regarding the level of construction activity in the borough).

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**Modelled NO<sub>x</sub> emissions from sources within the Borough in 2010**



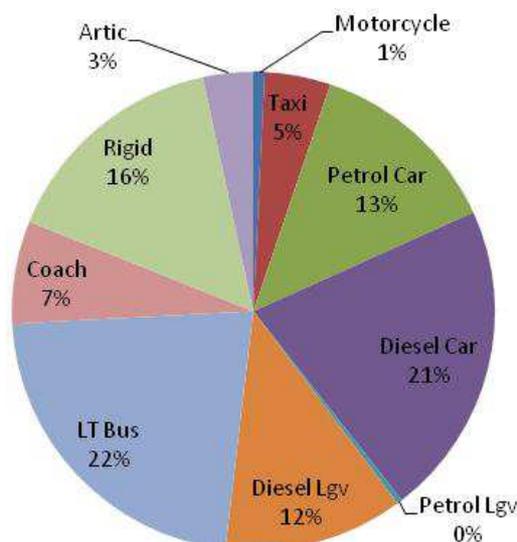
**Modelled PM<sub>10</sub> emissions from sources within the Borough in 2010**



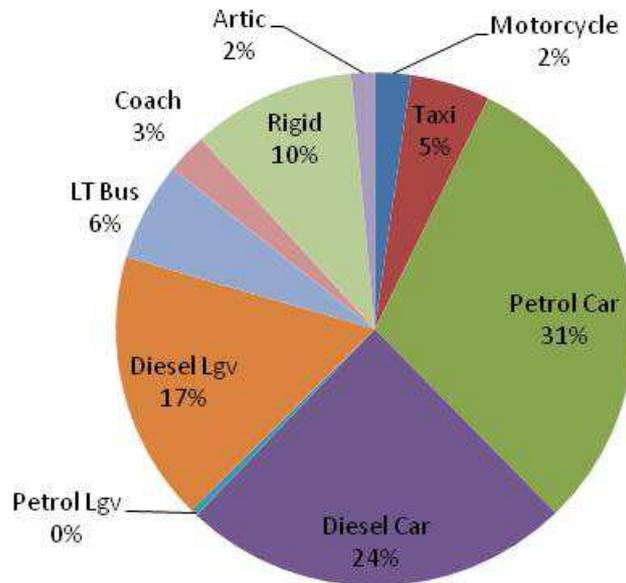
The charts below and overleaf focussing on transport emissions, show the breakdown of emissions of NO<sub>x</sub> and PM<sub>10</sub> from different vehicle and fuel types. These show that emissions from diesel vehicles account for almost 90% of transport emissions of NO<sub>x</sub> and 90% of tail pipe emissions of PM<sub>10</sub>. Additionally for PM<sub>10</sub> the total emissions which include tyre and brake wear emissions are also estimated as these are now included in the latest inventory.

For NO<sub>x</sub>, cars (not including Taxis) are the main source at 34% of the total; however diesel fuelled cars contribute the larger fraction of this (21% of the total). Car sources are followed closely by buses (22%), then heavy duty vehicles (19% combining rigid and artic lorries), diesel LGV (12%), coaches (7%) and taxis (5%), as the main sources. While diesel cars (36%), diesel LGVs (24%) are the two main sources of exhaust emissions of PM<sub>10</sub>.

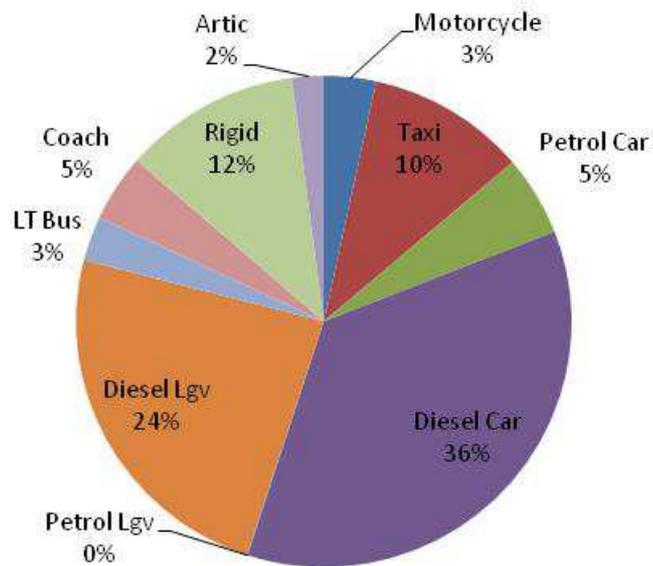
**Modelled mobile sources of NO<sub>x</sub> in the Borough for 2010**



Modelled mobile sources of PM10 in the Borough for 2010



Modelled sources of PM10 exhaust emissions in 2010



## 1.2 Purpose of Report

This report fulfils the requirements of the Local Air Quality Management process as set out in Part IV of the Environment Act (1995), the Air Quality Strategy for England, Scotland, Wales and Northern Ireland 2007 and the relevant Policy and Technical Guidance documents. The LAQM process places an obligation on all local authorities to regularly review and assess air quality in their areas, and to determine whether or not the air quality objectives are likely to be achieved. Where exceedences are considered likely, the local authority must then declare an Air Quality Management Area (AQMA) and prepare an Air Quality Action Plan (AQAP) setting out the measures it intends to put in place in pursuit of the objectives.

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

## 1.3 Air Quality Objectives

The air quality objectives applicable to LAQM in England are set out in the Air Quality (England) Regulations 2000 (SI 928), The Air Quality (England) (Amendment) Regulations 2002 (SI 3043), and are shown in Table 1.1. This table shows the objectives in units of microgrammes per cubic metre  $\mu\text{g}/\text{m}^3$  (milligrammes per cubic metre,  $\text{mg}/\text{m}^3$  for carbon monoxide) with the number of exceedences in each year that are permitted (where applicable).

**Table 1.1 Air Quality Objectives included in Regulations for the purpose of LAQM in England**

Pollutant	Air Quality Objective		Date to be achieved by
	Concentration	Measured as	
Benzene	16.25 $\mu\text{g}/\text{m}^3$	Running annual mean	31.12.2003
	5.00 $\mu\text{g}/\text{m}^3$	Running annual mean	31.12.2010
1,3-Butadiene	2.25 $\mu\text{g}/\text{m}^3$	Running annual mean	31.12.2003
Carbon monoxide	10.0 $\text{mg}/\text{m}^3$	Running 8-hour mean	31.12.2003
Lead	0.5 $\mu\text{g}/\text{m}^3$	Annual mean	31.12.2004
	0.25 $\mu\text{g}/\text{m}^3$	Annual mean	31.12.2008
Nitrogen dioxide	200 $\mu\text{g}/\text{m}^3$ not to be exceeded more than 18 times a year	1-hour mean	31.12.2005
	40 $\mu\text{g}/\text{m}^3$	Annual mean	31.12.2005

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Pollutant	Air Quality Objective		Date to be achieved by
	Concentration	Measured as	
Particles (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

The whole of Hammersmith & Fulham was designated as an Air Quality Management Area (AQMA) in 2000 for two pollutants – nitrogen dioxide (NO<sub>2</sub>) and particles (PM<sub>10</sub>). This was because the first stage of the review and assessment process had shown that exceedences of the objectives for these pollutants were likely over large areas, particularly next to the busy road network that traverses the borough. There was no need to designate any area as an AQMA for any of the other pollutants as all of the targets for 1,3-butadiene, carbon monoxide, lead, sulphur dioxide and benzene were shown to be likely to be achieved.

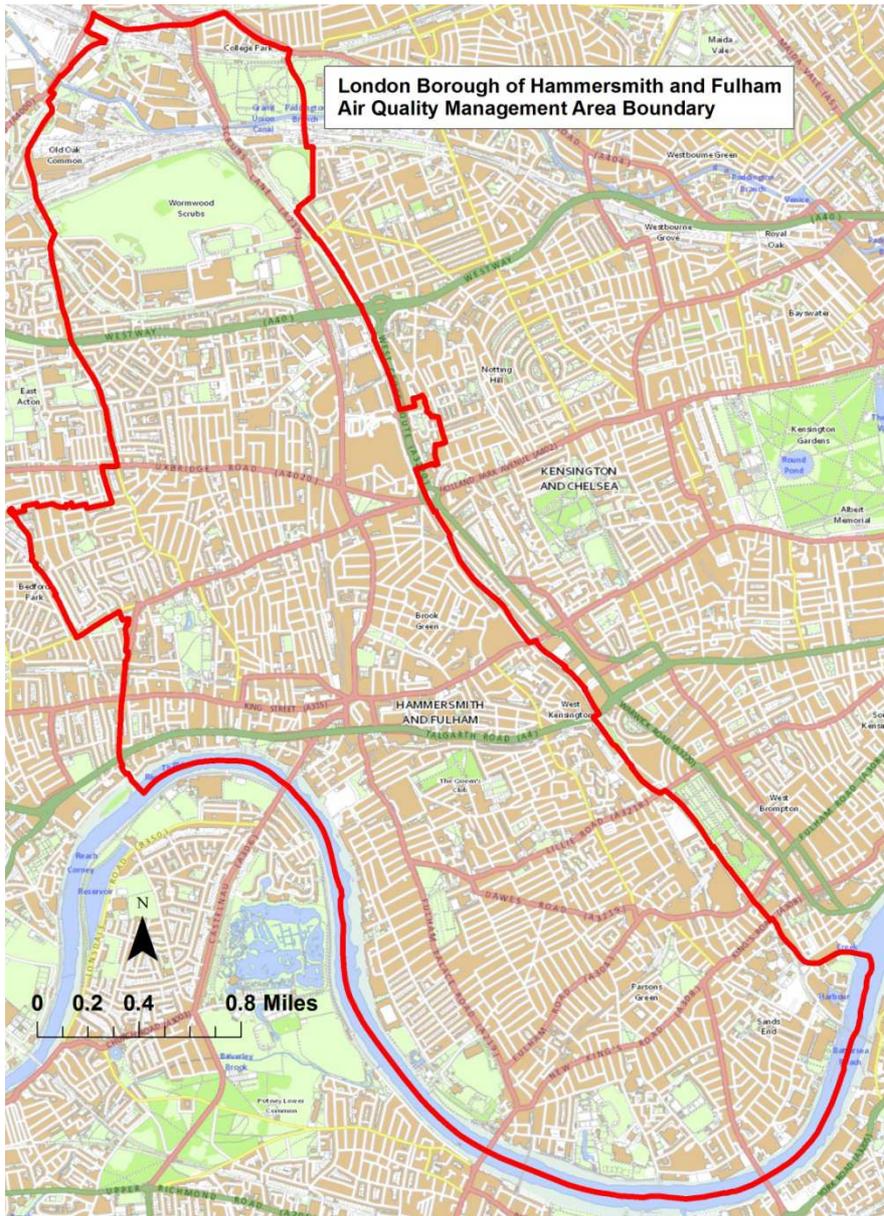
Having declared the AQMA, a more detailed assessment was carried out in the borough which confirmed the AQMA designation and then work started on drafting and implementing the Air Quality Action Plan (AQAP), which was adopted in April 2003. Progress with the Plan has been reviewed annually since 2004.

Updating and Screening Assessments (USAs) have also been completed (in 2004, 2006, 2009 and 2012), all of which concluded that the original whole borough AQMA should remain. The 2004 USA showed that further investigations were necessary for 2 pollutants: (i) benzene (around a service station next to a busy road in Fulham) and (ii) PM<sub>10</sub> (in the industrialised part of the borough around Scrubs Lane). Results from these assessments have been reported previously and showed that no further actions were required. The 2006 USA concluded that exceedences of the NO<sub>2</sub> and PM<sub>10</sub> objectives were very likely to continue, requiring the AQMA to remain in place, but no Detailed Assessments were required. The 2009 and 2012 USAs concluded that it was appropriate to keep the AQMA in place, although it was recognised that there may be a more consistent level of compliance developing, particularly in relation to the PM<sub>10</sub> objectives.

For all other pollutants (1,3-butadiene, Carbon Monoxide, Lead, Sulphur Dioxide), the USAs have concluded that the Air Quality Strategy objectives were likely to be met by the required dates, so no further action was required to control emissions of these pollutants.

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Figure 1.1 Map of AQMA Boundary (whole borough)



## 2 New Monitoring Data

### 2.1 Summary of Monitoring Undertaken

#### 2.1.1 Automatic Monitoring Sites

The council's air quality monitoring station in Shepherds Bush town centre began measuring NO<sub>2</sub> and PM<sub>10</sub> in November 2011. A full set of data for 2012 is available, however 100% data capture was not possible from this station in 2013 and 2014, the reason for this is included in Section 2.2.

Figure 2.1 Map of Automatic Monitoring Site

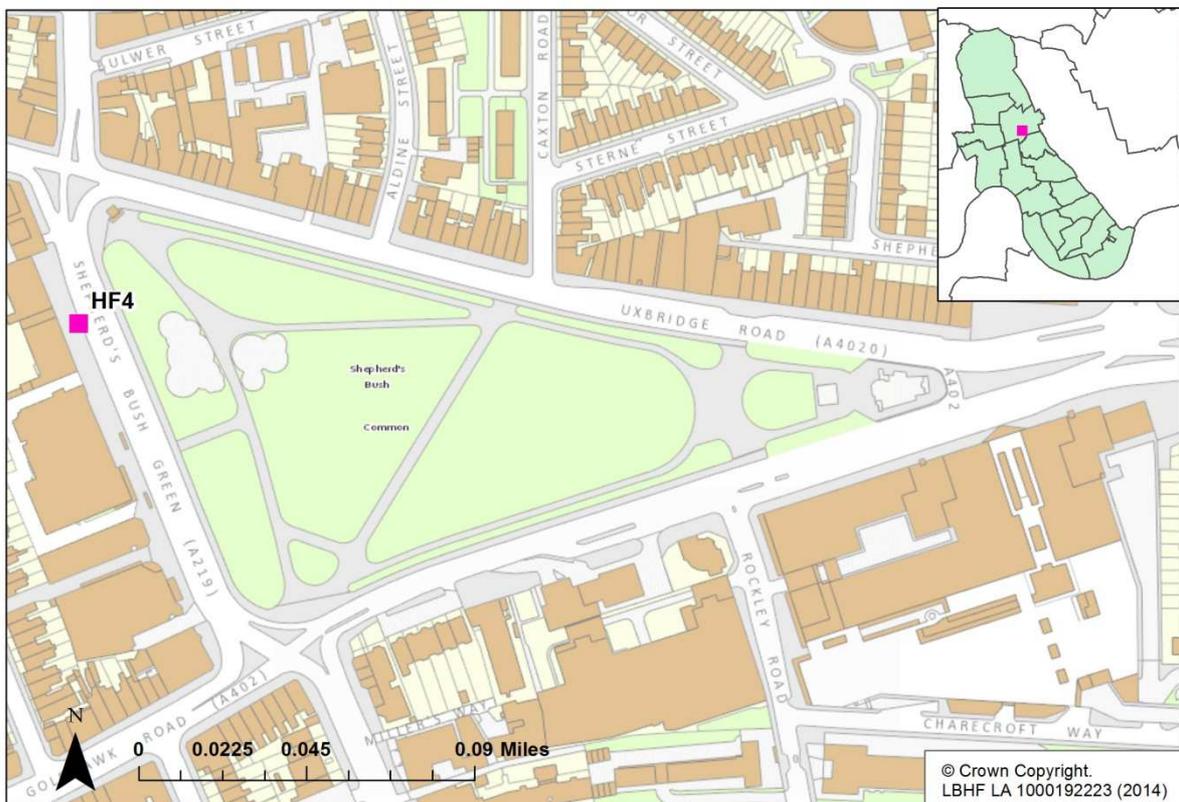


Table 2.1 Details of Automatic Monitoring Site

Site Name	Site Type	X OS Grid Ref	Y OS Grid Ref	Pollutants Monitored	In AQMA?	Monitoring Technique	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?
HF4	Shepherd's Bush	Urban Roadside	523313	179900	Y	TEOM / Chemiluminescence	Y(1m)	2.0	Y

2.1.2 Non-Automatic Monitoring Sites

During 2014, 15 diffusion tubes were used to monitor NO<sub>2</sub> levels at 8 roadside sites and 7 background sites, as shown in the map and table below. Five new sites (2 background and 3 roadside) were added in July 2013 to improve the coverage of the borough.

Figure 2.2 Map of Non-Automatic Monitoring Sites

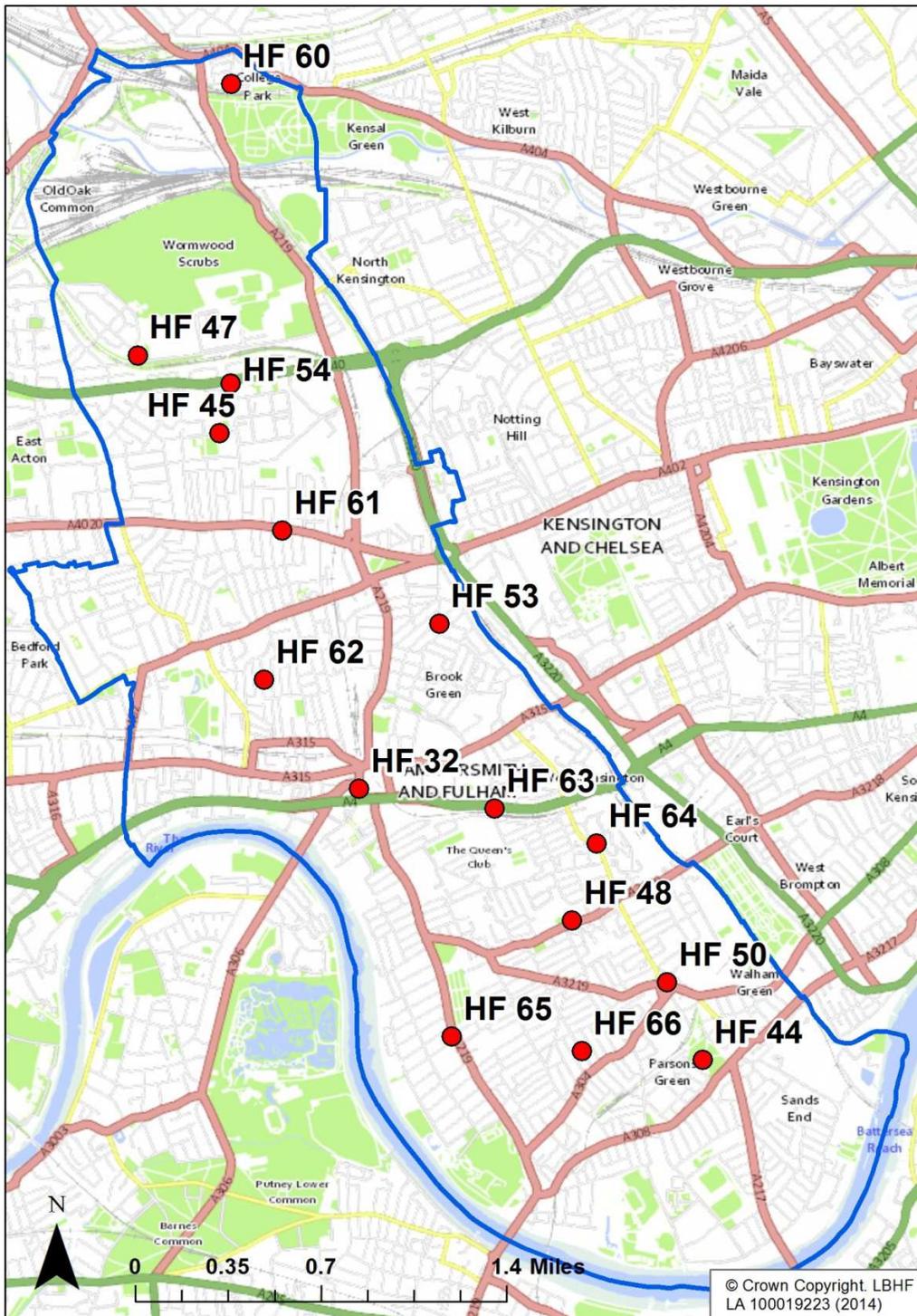


Table 2.2 Details of Non-Automatic Monitoring Sites

Site Name	Site Type	X OS Grid Reference	Y OS Grid Reference	Pollutants Monitored	In AQMA?	Is Monitoring Co-located with a Continuous Analyser (Y/N)	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?
Addison Gardens	Urban Background	523813	179491	NO <sub>2</sub>	Y	N	Y (5m)	1m	N
Bryony Road	Urban Background	522479	180656	NO <sub>2</sub>	Y	N	Y (6m)	1m	N
Eel Brook Common	Urban Background	525413	176828	NO <sub>2</sub>	Y	N	N	50m	N
Fulham Broadway	Urban Roadside	525197	177302	NO <sub>2</sub>	Y	N	Y (15m)	2m	Y
Hammersmith Broadway	Urban Roadside	523327	178484	NO <sub>2</sub>	Y	N	N	4m	Y
Radipole Road	Urban Background	524680	176880	NO <sub>2</sub>	Y	N	Y (4m)	1m	N
Talgarth Road	Urban Roadside	524150	178363	NO <sub>2</sub>	Y	N	Y (14m)	1m	Y
Uxbridge Road	Urban Roadside	522861	180061	NO <sub>2</sub>	Y	N	Y (3m)	1m	N
Westway A40	Urban Roadside	522548	180960	NO <sub>2</sub>	Y	N	Y (20m)	3m	Y
Wulfstan Street	Urban Background	521984	181132	NO <sub>2</sub>	Y	N	Y (13m)	1m	N

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<b>Site Name</b>	<b>Site Type</b>	<b>X OS Grid Reference</b>	<b>Y OS Grid Reference</b>	<b>Pollutants Monitored</b>	<b>In AQMA?</b>	<b>Is Monitoring Co-located with a Continuous Analyser (Y/N)</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>
Cardross street	Urban Background	522750	179150	NO <sub>2</sub>	Y	N	Y (3m)	1m	N
Fulham Palace Road	Urban Road-side	523890	176970	NO <sub>2</sub>	Y	N	Y (6m)	1m	Y
Lillie Road	Urban Road-side	524620	177680	NO <sub>2</sub>	Y	N	Y (4m)	1m	Y
North End Road	Urban Road-side	524770	178150	NO <sub>2</sub>	Y	N	Y (13m)	1m	Y
Waldo Road	Urban Back-ground	522550	182790	NO <sub>2</sub>	Y	N	Y (4m)	1m	N

**The lab supplying and analysing the diffusion tubes is Gradko, who use a 50% TEA in acetone preparation method. Full details of QA/QC procedures are included in Appendix A.**

## 2.2 Comparison of Monitoring Results with Air Quality Objectives

### 2.2.1 Nitrogen Dioxide

#### Automatic Monitoring Data

Unfortunately the data capture for HF4 was only 21% for 2014 due to the site being involved in a vehicle collision mid-way through 2013.

During the period of reinstatement the council co-ordinated major groundworks and the removal of site services for health and safety reasons. This was followed by the reinstatement of underground earthing cables, power cables and electrical services. When the electrical services had been reinstated contractors were instructed to reinstate the air quality analysers to the new monitoring station housing – a second hand cabin was purchased. Onsite testing was then undertaken by our data management unit and LSOs to ensure that the required Quality Assurance/Quality Control specification had been reached so that the site could rejoin the London Air Quality Network (LAQN). The station was recommissioned at the beginning of Oct 2014 and operational from the 18<sup>th</sup> October.

The annual mean data has not been annualised as the technical guidance for air quality states that the procedure should only be used if there is at least 3 months data available. Less than 3 months monitoring for NO<sub>2</sub> was achieved in 2014. Consequently limited information can be drawn from the automatic monitoring data presented in Table 2.3. Table 2.4 shows that the 99.8th percentile of 1-hour mean concentrations does not exceed 200µg/m<sup>3</sup> and that there were 0 exceedences of the 200µg/m<sup>3</sup> hourly mean within the 2.5 month monitoring period.

Shepherds Bush Green is a very busy location. There are 4 lanes of traffic immediately adjacent to the monitoring station and this road is also a major bus route. The data shows an increase in annual mean concentration from 2013, however due to the very low data capture this increase may not accurately represent air quality conditions. The site can be considered to be representative of relevant public exposure as it is located in Shepherds Bush town centre where residents and visitors could be exposed both in the short and long term.

As the monitoring station was only established at this site late in 2011, limited data from previous years is available and 2013 and 2014 have both experienced low data capture due to a vehicle collision with the monitoring unit.

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

Site ID	Site Type	Within AQMA?	Valid Data Capture for period of monitoring % <sup>a</sup>	Valid Data Capture 2014 % <sup>b</sup>	Annual Mean Concentration $\mu\text{g}/\text{m}^3$				
					2010	2011	2012	2013 <sup>c</sup>	2014
HF4	Roadside	Y	99	21	No data	No data	92	76.2	80.3

<sup>a</sup> i.e. data capture for the monitoring period.

<sup>b</sup> i.e. data capture for the full calendar year

<sup>c</sup> Means “annualised” as in Box 3.2 of TG(09), as monitoring was not carried out for the full year.

**Table 2.4 Results of Automatic Monitoring for Nitrogen Dioxide: Comparison with 1-hour mean Objective**

Site ID	Site Type	Within AQMA?	Valid Data Capture for period of monitoring % <sup>a</sup>	Valid Data Capture 2014 % <sup>b</sup>	Number of Exceedences of Hourly Mean (200 µg/m <sup>3</sup> )				
					2010	2011	2012	2013 <sup>c</sup>	2014 <sup>c</sup>
HF4	Roadside	Y	99	21	No data	No data	74	11(203.1)	0 (179.1)

<sup>a</sup> data capture for the monitoring period, in cases where monitoring was only carried out for part of the year.

<sup>b</sup> data capture for the full calendar year

<sup>c</sup> The 99.8<sup>th</sup> percentile of hourly means in brackets, as the period of valid data is less than 90%

### Diffusion Tube Monitoring Data

Five new NO<sub>2</sub> diffusion tube sites were established in the Borough in July 2013. There are now 15 NO<sub>2</sub> diffusion tube sites in total. Results are shown in Table 2.5, alongside results from the previous 4 years in Table 2.6. The data is adjusted to take into account any potential difference between continuous monitoring and the diffusion tube methods. The bias adjustment factor is calculated by Bureau Veritas using data collected at the Royal Borough of Kensington and Chelsea AURN affiliated site (this local bias adjustment factor was chosen over the National Bias Adjustment Factor as it is considered to be more representative of local conditions). The bias adjustment factor for 2014 has been calculated as 1.03. Details of the analytical laboratory and bias adjustment methodology are described in Appendix A.

In 2014, 1 out of 7 Background sites failed to meet the annual mean objective. All Roadside sites exceeded the annual mean targets with 3 out of the 8 sites showing annual mean concentrations that indicate that the hourly target could also have been exceeded (Fulham Broadway, Hammersmith Broadway and the Westway).

All sites showed reduced levels of NO<sub>2</sub> in 2014 than in 2013. Although of the 10 locations which were present in 2012, 4 sites recorded higher levels than in 2012, these sites were Hammersmith Broadway, Wulfstan Street, Westway A40 and Uxbridge Road.

Table 2.5 Results of Nitrogen Dioxide Diffusion Tubes in 2014

Site ID	Location	Site Type	Within AQMA?	TriPLICATE or Collocated Tube	Data Capture 2014 (Number of Months or %)	Data with less than 9 months has been annualised (Y/N)	Confirm if data has been distance corrected (Y/N)	Annual mean concentration (Bias Adjustment factor = 1.03)
								2014 ( $\mu\text{g}/\text{m}^3$ )
HF32	Hammersmith Broadway	Urban Roadside	Y	N	12	n/a	N	<b>78.83</b>
HF44	Eel Brook Common	Urban Background	Y	N	12	n/a	N	29.61
HF45	Bryony Rd	Urban Background	Y	N	12	n/a	N	35.11
HF47	Wulfstan St	Urban Background	Y	N	12	n/a	N	<b>46.01</b>
HF50	Fulham Broadway	Urban Roadside	Y	N	12	n/a	N	<b>64.97</b>
HF53	Addison Gardens	Urban Background	Y	N	12	n/a	N	32.53
HF54	Westway A40	Urban Roadside	Y	N	12	n/a	N	<b>80.67</b>
HF61	Uxbridge Rd	Urban Roadside	Y	N	11	n/a	N	<b>45.81</b>
HF63	Talgarth Rd	Urban Roadside	Y	N	11	n/a	N	<b>56.10</b>
HF66	Radipole Rd	Urban Background	Y	N	12	n/a	N	33.24
HF62	Cardross Street	Urban Background	Y	N	12	n/a	N	31.81
HF65	Fulham Palace Road	Urban Roadside	Y	N	12	n/a	N	<b>57.69</b>

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Site ID	Location	Site Type	Within AQMA?	Triplicate or Collocated Tube	Data Capture 2014 (Number of Months or %)	Data with less than 9 months has been annualised (Y/N)	Confirm if data has been distance corrected (Y/N)	Annual mean concentration (Bias Adjustment factor = 1.03)
								2014 ( $\mu\text{g}/\text{m}^3$ )
HF48	Lillie Road	Urban Roadside	Y	N	12	n/a	N	<b>49.08</b>
HF64	North End Road	Urban Roadside	Y	N	12	n/a	N	<b>58.59</b>
HF60	Waldo Road	Urban Background	Y	N	12	n/a	N	39.24

**Bold text indicates an exceedence of the NO<sub>2</sub> annual mean AQS objective of 40 $\mu\text{g}/\text{m}^3$ . Underlined text indicates an annual mean > 60 $\mu\text{g}/\text{m}^3$ , which could lead to a potential exceedence of the NO<sub>2</sub> hourly mean AQS objective.**

Table 2.6 Results of Nitrogen Dioxide Diffusion Tubes (2010 to 2014)

Site ID	Site Type	Within AQMA?	Annual mean concentration (adjusted for bias) $\mu\text{g}/\text{m}^3$				
			2010* (Bias Adjustment Factor = 0.93)	2011* (Bias Adjustment Factor = 0.94)	2012* (Bias Adjustment Factor = 1.01)	2013* (Bias Adjustment Factor = 1.14)	2014 (Bias Adjustment Factor = 1.03)
HF32	Urban Roadside	Y	<u>72</u>	<u>64</u>	<u>77</u>	<u>89.55</u>	<u>78.83</u>
HF44	Urban Background	Y	33	26	35	37.89	29.61
HF45	Urban Background	Y	35	27	36	<b>42.60</b>	35.11
HF47	Urban Background	Y	38	35	<b>41</b>	<b>49.66</b>	<b>46.01</b>
HF50	Urban Roadside	Y	<u>64</u>	<u>61</u>	<u>71</u>	<u>75.34</u>	<u>64.97</u>
HF53	Urban Background	Y	34	27	36	<b>41.61</b>	32.53
HF54	Urban Roadside	Y	<u>70</u>	<b>54</b>	<u>77</u>	<u>98.42</u>	<u>80.67</u>
HF61	Urban Roadside	Y	<b>42</b>	35	<b>43</b>	<b>50.10</b>	<b>45.81</b>
HF63	Urban Roadside	Y	<b>59</b>	<b>48</b>	<b>56</b>	<u>65.16</u>	<b>56.10</b>
HF66	Urban Background	Y	34	27	33	38.07	33.24
HF62	Urban Background	Y	-	-	-	34.69 <sup>a</sup>	31.81
HF65	Urban Road-side	Y	-	-	-	<u>63.60</u> <sup>a</sup>	<b>57.69</b>
HF48	Urban Road-side	Y	-	-	-	<b>50.47</b> <sup>a</sup>	<b>49.08</b>

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Site ID	Site Type	Within AQMA?	Annual mean concentration (adjusted for bias) $\mu\text{g}/\text{m}^3$				
			2010* (Bias Adjustment Factor = 0.93)	2011* (Bias Adjustment Factor = 0.94)	2012* (Bias Adjustment Factor = 1.01)	2013* (Bias Adjustment Factor = 1.14)	2014 (Bias Adjustment Factor = 1.03)
HF64	Urban Road-side	Y	-	-	-	<u>64.64<sup>a</sup></u>	58.59
HF60	Urban Back-ground	Y	-	-	-	42.80 <sup>a</sup>	39.24

**Bold text indicates an exceedence of the NO<sub>2</sub> annual mean AQS objective of 40 $\mu\text{g}/\text{m}^3$ . Underlined text indicates an annual mean > 60 $\mu\text{g}/\text{m}^3$ , which could lead to a potential exceedence of the NO<sub>2</sub> hourly mean AQS objective. <sup>a</sup> indicates that the means have been “annualised” as full calendar year data capture is less than 75%.**

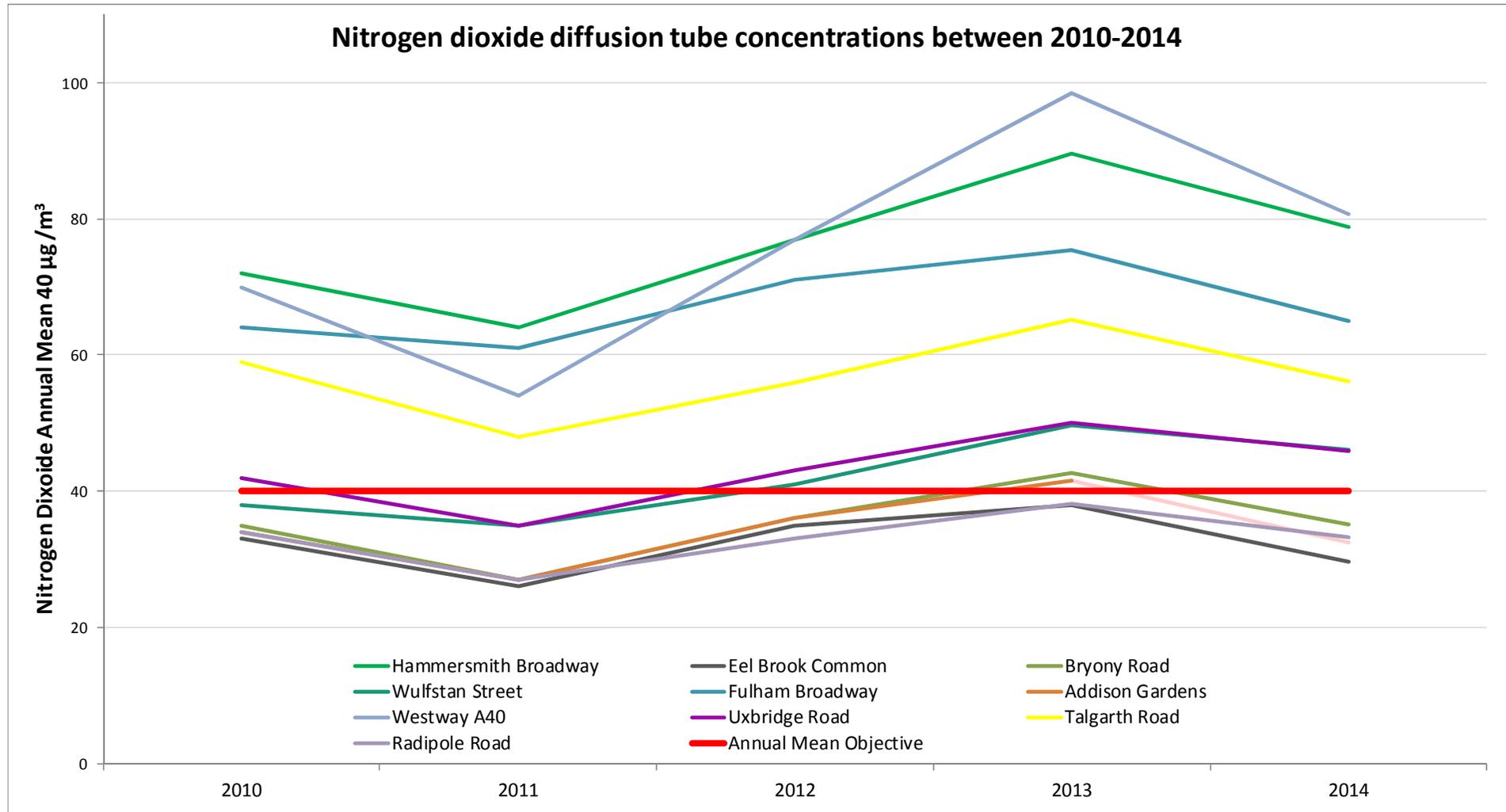
Figure 2.4 shows the annual mean NO<sub>2</sub> concentration trends over the last 5 years at 10 diffusion tube sites. The results from 2013 for the five new diffusion tube sites are not included on the chart due to only one year and 6 months data being available.

As expected, the lowest concentrations tend to be found each year at the Background sites (Addison Gardens, Eel Brook Common, and Radipole Road), most of which have met the 40  $\mu\text{g}/\text{m}^3$  annual mean objective in recent years.

The highest concentrations continue to be found in the town centres (Hammersmith Broadway and Fulham Broadway) and alongside the busiest roads such as the Westway A40. As well as exceeding the annual mean objective, these sites could also exceed the short-term hourly objective.

All sites are representative of relevant public exposure, mostly being residential streets, town centre areas or public parks.

Figure 2.4 Trends in Annual Mean Nitrogen Dioxide Concentrations measured at Diffusion Tube Monitoring Sites



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

As shown in Tables 2.7 and 2.8, the automatic monitoring station did not measure an exceedence of the Government's annual mean objective or daily PM<sub>10</sub> objective in 2014.

The data capture for HF4 was 8% for 2014 due to the site being involved in a vehicle collision mid-way through the monitoring year. The PM10 automatic monitor was only operational from the 3rd through to the end of December. The annual mean data has not been annualised in accordance with the Technical Guidance as the guidance advises this is not appropriate for monitoring periods of less than 3 months.

The data presented here have been adjusted to gravimetric equivalent, using the Volatile Correction Method developed by King's College London. The data was adjusted using the Volatile Correction Model web portal and used FDMS data from Westminster, Horseferry Road (WM0), Kensington and Chelsea, Cromwell Road (KC2) and an average of the remaining FDMS sites within range.

The site can be considered to be representative of relevant public exposure as it is located in Shepherds Bush town centre where residents and visitors could be exposed both in the short and long term.

Table 2.7 Results of Automatic Monitoring of PM<sub>10</sub>: Comparison with Annual Mean Objective

Site ID	Site Type	Within AQMA?	Valid Data Capture for monitoring Period % <sup>a</sup>	Valid Data Capture 2014 % <sup>b</sup>	Confirm Gravimetric Equivalent (Y or NA)	Annual Mean Concentration µg/m <sup>3</sup>				
						2010	2011	2012	2013 <sup>c</sup>	2014
HF4	Roadside	Y	99 (3rd-31st December 2014)	8%	Y	No data	No data	38	36.4	26.5

<sup>a</sup> i.e. data capture for the monitoring period, in cases where monitoring was only carried out for part of the year.

<sup>b</sup> i.e. data capture for the full calendar year

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Table 2.8 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 % <sup>a</sup>	Valid Data Capture 2014 % <sup>b</sup>	Confirm Gravimetric Equivalent	Number of Exceedences of 24-Hour Mean (50 µg/m <sup>3</sup> )				
						2010	2011	2012	2013 <sup>c</sup>	2014 <sup>c</sup>
HF4	Roadside	Y	99 (3rd-31st December 2014)	8%	Y	No data	No data	67	33(59.5)	0(38.2)

<sup>a</sup> i.e. data capture for the monitoring period, in cases where monitoring was only carried out for part of the year.

<sup>b</sup> i.e. data capture for the full calendar year

<sup>c</sup> 90<sup>th</sup> percentile of 24-hour means in brackets, where data capture is less than 90%

### 2.2.3 Sulphur Dioxide

There was no sulphur dioxide monitoring in Hammersmith & Fulham in 2014.

### 2.2.4 Benzene

There was no benzene monitoring in Hammersmith & Fulham in 2013.

### 2.2.5 Other pollutants monitored

No other pollutants were monitored in Hammersmith & Fulham in 2013.

### 2.2.6 Summary of Compliance with AQS Objectives

Hammersmith and Fulham council has examined the results from monitoring in the borough.

#### Nitrogen dioxide

For NO<sub>2</sub>, exceedences of the annual mean objective continue at all roadside sites being monitored, with the hourly mean objective very likely to be exceeded at the busiest locations. Four of the 16 monitoring locations recorded annual means above 60ug m<sup>3</sup>. One of the background locations failed to meet the annual mean objective.

Concentrations were lower than in 2013 but results at 4 sites showed increased concentrations compared to 2012. There is no clear trend in concentrations.

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

For PM<sub>10</sub>, the limited data collected for the year showed that both the daily and annual mean objectives have been met at the council's roadside site. However, the amount of data collected is not sufficient to establish that the PM<sub>10</sub> objectives have been achieved.

It is likely that there are other locations in the borough that are close to or above the objective level for the daily mean objective, but we are only able to comment on those areas where monitoring is in place.

Given the levels recorded, the whole borough AQMA will remain in place for now for this pollutant. No Detailed Assessment is required at this stage.

## **3 Road Traffic Sources**

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

The Defra Updating and Screening Checklist has been followed (as outlined in LAQM Technical Guidance LAQM.TG(09)) and no new congested streets have been identified.

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

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

The Defra Updating and Screening Checklist has been followed (as outlined in LAQM Technical Guidance LAQM.TG(09)) and no new busy streets have been identified.

Hammersmith and Fulham Council confirms that there are no new/newly identified busy streets where people may spend 1 hour or more close to traffic.

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

The Defra Updating and Screening Checklist has been followed (as outlined in LAQM Technical Guidance LAQM.TG(09)) and no new roads with a high flow of buses and or HGVs have been identified.

Hammersmith and Fulham Council confirms that there are no new/newly identified roads with high flows of buses/HGVs.

### **3.4 Junctions**

The Defra Updating & Screening Assessment checklist has been followed (as outlined in LAQM Technical Guidance LAQM.TG(09)) and no new busy junctions have been identified.

Hammersmith and Fulham Council confirms that there are no new/newly identified busy junctions/busy roads.

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

The Defra Updating and Screening Checklist has been followed (as outlined in LAQM Technical Guidance LAQM.TG(09)) and no newly constructed roads have been identified.

Hammersmith and Fulham Council confirms that there are no new/proposed roads.

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

The Defra Updating and Screening Checklist has been outlined in LAQM Technical Guidance LAQM.TG(09)) and no new roads with significantly changed traffic flows have been identified

Hammersmith and Fulham Council confirms that there are no new/newly identified roads with significantly changed traffic flows.

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

The Defra Updating and Screening Checklist has been followed (as outlined in LAQM Technical Guidance LAQM.TG(09)) and no new bus/coach stations have been identified.

Hammersmith and Fulham Council confirms that there are no relevant bus stations in the Local Authority area.

## 4 Other Transport Sources

### 4.1 Airports

There is no airport within Hammersmith or Fulham or within a distance of 1000m so there is no relevant exposure due to aircraft emissions. Emissions from aircraft flying over the borough do not have any significant impact on ground level concentrations.

Hammersmith and Fulham Council confirms that there are no airports in the Local Authority area.

### 4.2 Railways (Diesel and Steam Trains)

#### 4.2.1 Stationary Trains

There are no stations in the borough that are used by diesel or steam trains. Diesel trains used to stop at Kensington Olympia but these have been phased out. The sidings and depots in the north of the Borough are isolated from residential areas and are not used regularly by diesel or steam trains.

Hammersmith and Fulham Council confirms that there are no locations where diesel or steam trains are regularly stationary for periods of 15 minutes or more, with potential for relevant exposure within 15m.

#### 4.2.2 Moving Trains

The First Great Western service running from Paddington to Swansea runs through the borough and this has been identified as a line where emissions from diesel Intercity trains need to be considered. However, as highlighted in the council's previous USA, the track does not pass within close proximity to residential properties.

Hammersmith and Fulham Council confirms that there are no locations with a large number of movements of diesel locomotives, and potential long-term relevant exposure within 30m.

### 4.3 Ports (Shipping)

The borough's southern boundary is the River Thames and several wharves remain in operation. However, in terms of the size of the vessels and the number in operation specified in guidance document LAQM.TG09, assessments are only likely to be necessary for large commercial ports where 5,000+ movements of large ships such as ferries, container ships etc are common. The level of shipping activity and types of vessels using the Thames in this area are well outside the level which requires further assessment.

Hammersmith and Fulham Council confirms that there are no ports or shipping that meet the specified criteria within the Local Authority area.

## 5 Industrial Sources

### 5.1 Industrial Installations

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

There are no relevant industrial processes that have become operational or that have been given planning permission since the last round of review and assessment.

Hammersmith and Fulham Council confirms that there are no new or proposed industrial installations for which planning approval has been granted within its area or nearby in a neighbouring authority.

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

There are no relevant existing industrial processes that meet this criteria.

Hammersmith and Fulham Council confirms that there are no industrial installations with substantially increased emissions or new relevant exposure in their vicinity within its area or nearby in a neighbouring authority.

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

There are no relevant existing industrial processes that meet this criteria.

Hammersmith and Fulham Council confirms that there are no new or proposed industrial installations for which planning approval has been granted within its area or nearby in a neighbouring authority.

### 5.2 Major Fuel (Petrol) Storage Depots

There are no major petrol storage depots in the Borough.

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

### **5.3 Petrol Stations**

The potential for emissions from petrol stations to affect local air quality has been assessed before, including a detailed assessment of one petrol station in the Borough. The assessment showed that no further action was required. There are no new petrol stations in the Borough that need to be assessed for this USA report.

Hammersmith and Fulham Council confirms that there are no petrol stations meeting the specified criteria.

### **5.4 Poultry Farms**

There are no poultry farms in the Borough.

Hammersmith and Fulham Council confirms that there are no poultry farms meeting the specified criteria.

## **6 Commercial and Domestic Sources**

### **6.1 Biomass Combustion – Individual Installations**

The council is not aware of biomass combustion from any individual larger installations.

Hammersmith and Fulham Council confirms that there are no biomass combustion plant in the Local Authority area.

### **6.2 Biomass Combustion – Combined Impacts**

The council is aware of only one biomass installation which is less than 50kw that may be operational, so combined impacts of biomass installations have not been considered.

Hammersmith and Fulham Council confirms that there are no biomass combustion plant in the Local Authority area.

### **6.3 Domestic Solid-Fuel Burning**

The whole borough is covered by a smoke control area and local knowledge and professional judgement indicates that significant domestic burning of solid fuels is not undertaken across the local authority area.

Hammersmith and Fulham Council confirms that there are no areas of significant domestic fuel use in the Local Authority area.

## 7 Fugitive or Uncontrolled Sources

A detailed assessment was carried out in 2005 for PM<sub>10</sub> emissions from existing processes in the industrialised part of the borough with the intention of determining whether or not they are making a significant contribution to PM<sub>10</sub> levels in the local area. In summary, only a small amount of PM<sub>10</sub> was identified as being possibly from the neighbouring industrial estate. The main source of emissions was an authorised process that closed down after the Detailed Assessment was completed.

There are no other existing processes with substantially increased emissions of PM<sub>10</sub> within the borough or in neighbouring local authority areas since the last round of review and assessment.

Hammersmith and Fulham Council confirms that there are no potential sources of fugitive particulate matter emissions in the Local Authority area.

## **8 Conclusions and Proposed Actions**

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

The new monitoring data for 2014 shows that exceedences of the NO<sub>2</sub> annual mean objective continued at roadside sites, with some also likely to be exceeding the hourly mean objective as well. Concentrations were lower than in 2013 but 4 sites showed increased concentrations than in 2012, there is no clear trend.

Only a small amount of monitoring was completed for PM<sub>10</sub>, so it is not possible to draw any conclusions in this report. Further assessment of PM<sub>10</sub> levels in the borough will be possible in the next Progress Report of 2016 when more data will be available.

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

The potential for air quality impacts from a range of specific sources has been considered, concentrating on assessing any new sources that were not covered by previous assessments. The whole Borough is already declared as an Air Quality Management Area for NO<sub>2</sub> and PM<sub>10</sub> and there are no new significant sources of these pollutants that would require a detailed assessment.

### **8.3 Proposed Actions**

The Updating and Screening Assessment has not identified the need to increase monitoring of pollutants at any location and there is no need at this stage to carry out a detailed assessment at any location or for a particular source or make changes to the AQMA. The next stage in terms of air quality review and assessment work is to prepare and submit the next Progress Report, including an air quality action plan review in April 2016.

## 9 References

London Atmospheric Emissions Inventory 2010, released 2013.

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Local Air Quality Management Technical Guidance (LAQM.TG(09)), DEFRA, 2009.

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Air Quality (England) Regulations 2000 (SI 928).

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Air Quality Progress Report, LBHF, 2005, 2007, 2008, 2010, 2011, 2013, 2014.

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Air Quality Management Area Order, LBHF, 2000.

Stage 1 Air Quality Review and Assessment, LBHF, 1998.

Stage 2 Air Quality Review and Assessment, LBHF, 1999.

Stage 3 Air Quality Review and Assessment, LBHF, 2000.

Stage 4 Air Quality Review and Assessment, LBHF, 2003.

Carbon Management Plan 2009-2016, April 2010.

London Borough of Hammersmith and Fulham Core Strategy, Oct 2011.

Development Management Local Plan, July 2013.

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Planning Guidance Supplementary Planning Document, July 2013.

LBHF Sustainable Construction Supplementary Planning Document, 2007.

LBHF Local Implementation Plan 2 (2011-2031).

# Appendices

## Appendix A: QA:QC Data

### Diffusion Tube Bias Adjustment Factors

The NO<sub>2</sub> diffusion tubes used for the passive monitoring work are supplied and analysed by Gradko International Ltd. The preparation method used is 50% TEA v/v in Acetone. The bias adjustment factor for the 2014 data is 1.03. Further details are provided below.

### Factor from Local Co-location Studies (if available)

The council does not have any NO<sub>2</sub> diffusion tubes co-located with its real-time monitoring station. However a local bias adjustment factor calculated using data from the Royal Borough of Kensington and Chelsea AURN affiliated site at North Kensington was chosen to be used rather than the National Bias Adjustment Factor.

### Discussion of Choice of Factor to Use

The bias adjustment factor is calculated by Bureau Veritas using data collected at the Royal Borough of Kensington and Chelsea AURN affiliated site (this local bias adjustment factor was chosen over the National Bias Adjustment Factor as it is considered to be more representative of local conditions). The bias adjustment factor for 2014 has been calculated as 1.03.

### PM Monitoring Adjustment

All PM<sub>10</sub> data presented in this report have been corrected to gravimetric equivalent using the Volatile Correction Model.

### Short-term to Long-term Data adjustment

No data adjustment of this type is included in this report.

### QA/QC of Automatic Monitoring

The council's automatic monitoring station is part of the London Air Quality Network (LAQN), which is run by the Environmental Research Group at King's College London. All real-time data from the monitoring station is therefore independently collected and validated on a daily basis. A combination of automatic and manual checks is used to assess data, identify and diagnose potential equipment faults and adjust data to take account of calibration tests. Automatic overnight calibrations are supplemented with regular manual calibrations of analysers. The procedures used conform to the requirements of the UK Automatic Urban and Rural Network Management and Co-ordination Units.

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All data is also formally ratified. During this process the validation decisions can be ratified with the benefit of hindsight and using greater information, such as service records, calibration records and the results of station audits. Station audits are carried out every 6 months by the National Physical Laboratory, which is UKCAS (United Kingdom Accreditation Service) accredited.

### QA/QC of Diffusion Tube Monitoring

Diffusion tube analysis is carried out in Gradko's UKAS accredited laboratory. Laboratory preparation and analysis of the tubes is strictly controlled and Gradko participate in 2 major independent schemes to assess their performance.

#### 1) Workplace Analysis Scheme for Proficiency (WASP) and AIR PT

Gradko participates in the AIR proficiency testing for NO<sub>2</sub> diffusion tube scheme on a quarterly basis. AIR PT is a new scheme, started in April 2014, operated by LGC Standards and supported by the Health and Safety Laboratory (HSL). AIR PT has combined two long running proficiency testing schemes LGC Standards. STACKS PT scheme and HSL WASP PT scheme. AIR is a recognised performance-testing programme for labs undertaking NO<sub>2</sub> diffusion tube analysis as part of the UK NO<sub>2</sub> monitoring network. Further information on proficiency testing can be found at Defra's Local Air Quality Management webpages.

**Table - Gradko International Laboratory Summary Performance for WASP/ AIR NO<sub>2</sub> PT Rounds 124 and 001,003 and 004, 2014**

WASP Round	WASP R124	AIR PT AR001	AIR PT AR003	AIR PT AR004
Round conducted in this period	January-March 2014	April-May 2014	July-August 2014	October-November 2014
Gradko International	100%	100%	100%	100%

#### 2) Network Field Inter-comparison Exercise

This exercise is operated by the National Physical Laboratory (NPL) and tests the performance of the diffusion tubes and lab analysis procedures and involves the regular exposure of a triplet of tubes at an Automatic Urban Network (AUN) site where real-time NO<sub>2</sub> levels are also measured using a chemiluminescent analyser.

Gradko operates well within the required level of performance in terms of accuracy and precision, as shown by the results below. The NPL performance criterion for precision is that the mean coefficient of variation for the full year should not exceed 10%, should this be achieved the precision is given a score of 'good'.

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Table- Summary of NO2 Network Field Inter-Comparison Results 2014

Annual Mean Bias		Precision	
Performance Target	Gradko Annual Mean Bias	Performance Target	Gradko Precision
±25%	+14.8%	10%	Good

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### Appendix B: Automatic Site Monitoring Results 2014

Nitrogen Dioxide diffusion tube results 2014 $\mu\text{g}/\text{m}^3$ (unadjusted)														
Site Codes		Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Annual mean
HF32	Hammersmith Broadway	81.35	74.89	85.77	72.89	77.02	81.44	76.70	66.43	87.38	75.70	75.70	63.15	76.53
HF44	Eel Brook Common	38.38	26.44	41.42	26.58	25.60	27.97	22.28	19.34	35.54	26.65	26.65	28.07	28.74
HF45	Bryony Rd	41.16	34.09	41.30	33.82	28.28	28.97	28.06	23.35	40.02	35.69	35.69	38.58	34.08
HF47	Wulfstan St	50.64	43.73	49.88	40.50	40.67	40.82	40.33	39.29	47.53	49.91	49.91	42.81	44.67
HF50	Fulham Broadway	60.19	69.41	63.32	53.35	55.17	56.80	56.59	60.19	60.17	79.26	79.26	63.25	63.08
HF53	Addison Gardens	37.90	31.11	40.17	33.34	29.46	33.57	31.44	25.44	41.30	20.21	20.21	34.82	31.58
HF54	Westway A40	35.42	51.65	92.70	84.34	77.46	106.58	105.44	67.83	124.25	64.32	64.32	65.50	78.32
HF61	Uxbridge Rd	47.15	41.13	46.17	44.92		44.28	41.37	40.26	52.29	42.56	42.56	46.57	44.48
HF63	Talgarth Rd	56.54	44.79	61.82	59.52	54.75	63.96	62.93	47.49		51.85	51.85	43.58	54.46
HF66	Radipole Rd	39.08	34.90	42.17	30.09	25.51	28.21	25.41	21.07	39.73	34.41	34.41	32.23	32.27
HF62	Cardross Street	35.72	30.91	40.61	29.53	22.64	27.19	24.51	23.54	36.73	32.50	32.50	34.22	30.88
HF65	Fulham Palace Road	71.93	60.67	67.28	50.15	67.56	46.88	42.17	35.59	51.56	61.75	61.75	54.81	56.01
HF64	North End Road	51.30	57.20	58.52	55.51	62.07	57.65	47.42	46.74	65.47	62.75	62.75	55.20	56.88
HF48	Lillie Road	76.16	43.77	60.38	40.70	43.14	42.83	37.01	32.44	52.40	49.24	49.24	44.50	47.65
HF60	Waldo Road	46.17	41.11	43.65	34.70	30.78	29.47	29.03	37.68	39.97	38.31	38.31	48.04	38.10

Appendix C: Action Plan Progress

Action Plan Measure	Original Timescale	Previously reported Progress	Previously Reported Outcomes	New Progress, Outcomes and Additional Comments for 2014/15
<b>REDUCING EMISSIONS AT SOURCE</b>				
1. Encourage improved availability of alternative fuels	Summer 2003	<p>a) There continues to be 2 service stations in the borough where forecourt LPG is available – BP Connect on Talgarth Road by Hammersmith Flyover and BP Connect Shepherd’s Bush Green.</p> <p>b) Six electric vehicle charging points were installed as part of the SWELTRAC project (2 points at 3 sites: Hammersmith Hospital, Charing Cross Hospital and Kings Mall Shopping Centre). There are also 30 Charging points at the Westfield shopping centre in Shepherds Bush.</p> <p>c) Diesel vehicles continue to use 5% biodiesel fuel. Fleet MOT emissions tests have shown a reduction in smoke</p>	<p>a) The London Plan includes a policy that requires 1 in 5 parking spaces in major new developments to provide an electrical charging point to encourage the uptake of electric vehicles. This policy is implemented by the council.</p> <p>b) No further expansion of the off-street charging infrastructure. Consideration of installing on-street charging points have not been pursued due to parking stress in the borough. However off street charging points are required as part of major planning applications in line with London Plan policy.</p> <p>c) Diesel vehicles continue to use 5% biodiesel fuel.</p>	<p>a) The London Plan policy continues to be implemented by the Council.</p> <p>b) Electric Vehicle Charging: The council has been negotiating with Source London on the provision of on street charging points and expect to reach agreement with them shortly, following which it intends to introduce a small number of charging points (up to 5) on street.</p> <p>c) Diesel vehicles continue to use 5% biodiesel fuel.</p>

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Action Plan Measure	Original Timescale	Previously reported Progress	Previously Reported Outcomes	New Progress, Outcomes and Additional Comments for 2014/15
		emissions.		
2. Provide incentives for use of alternative fuels	From Summer 2003 onwards	<p>a) Impacts are difficult to assess – BP does not like to provide sales figures for LPG or any off their fuels due to commercial confidentiality.</p> <p>b) 650 ‘green’ parking permits issued for electric, gas or dual fuel cars in 2010/11; 743 issued in 2011/12; 764 issued in 2012/13.</p>	<p>a) As previously reported. No new activities for this measure.</p> <p>b) In 2013/14, 849 ‘green’ parking permits issued.</p>	<p>a) As previously reported. No new activities for this measure.</p> <p>b) In 2014/15, 950 ‘green’ parking permits issued. This continues year on year increase</p>
3. Promote travel plans to encourage a switch to low emission vehicles	Ongoing from 2002 for the duration of the AQAP	<p>In 2011/12, 62 new workplace travel plans were secured. 24 workplace travel plans were initiated or reviewed in 2010/11. The first 4 voluntary workplace travel plans had also been completed.</p> <p>In 2012/13, 52 new workplace travel plans were secured.</p>	In 2013/14, 43 new workplace travel plans were secured.	2014/5: 55 new workplace travel plans were secured.
4. Reduce emissions from the council fleet	Ongoing from 2002	a) Use of biodiesel continues to help emissions from the council’s diesel vehicles to be as low as	a) The council is currently reviewing its FORS membership.	a) The council is not a member of FORS.

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Action Plan Measure	Original Timescale	Previously reported Progress	Previously Reported Outcomes	New Progress, Outcomes and Additional Comments for 2014/15
		<p>possible. The number of vehicles in the council fleet continues to reduce as services are contracted out. The council has also signed up to TfL's Freight Operators Recognition Scheme (Bronze level) which offers training and guidance in a number of areas relating to vehicle and fleet management. In 2010/11, 27 new mini-buses that utilise Mercedes' 'stop/start' technology to reduce idling emissions were added to the fleet.</p>	<p>b) The Bi-Borough Parks Police have leased a new electric vehicle as one of their fleet which will reduce emissions of NO<sub>x</sub> and PM<sub>10</sub>.</p>	
<p>5. Seek a reduction in emissions from the bus fleet</p>	<p>To be agreed with TfL and bus operators</p>	<p>TfL continues to trial buses running on alternative fuels such as electric-diesel. Bus route H91 (Hammersmith to Hounslow West) became a hybrid service, with plans for route 211 (Hammersmith to Waterloo) to follow in July 2012.</p> <p>Route 27 has now been converted to hybrid operation and Route 11 will be</p>	<p>Routes 9,10, 22, 94 and 148 have been converted to the new Routemaster operation</p> <p>TfL is well on its way to having Europe's largest fleet of hybrid buses. These vehicles use a combination of an ordinary diesel engine and an electric motor and reduce emissions of local pollutants and CO<sub>2</sub> by 30% compared to conventional</p>	<p>No update since the last report</p>

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		<p>converted to operation by the new hybrid-driven Routemaster in September 2013.</p>	<p>buses. There are now too many to list individually in LBHF</p> <p>A new Routemaster Bus has been introduced in London. The bus uses the latest green diesel-electric hybrid technology and is the best performing bus of its kind in the world. In test conditions the New Routemaster produced around half the carbon dioxide and a quarter of the particulate matter and nitrogen oxides of conventional diesel buses and is more fuel efficient</p> <p>A battery pack powers the electric motor which drives the wheels on the bus. The battery is charged by a generator and through regenerative braking (where the system recycles the energy lost during the braking motion). Stop-start technology means the engine only runs when it needs to</p>	

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			<p>charge the battery.</p> <p>Within LBHF, the following new Routemasters operate:-  route 11, which runs between Liverpool Street station and Fulham Broadway, route 9 (Hammersmith to Aldwych), route 148 (Camberwell Green to White City bus station) and route 10 (Hammersmith bus station to King's Cross St. Pancras).</p>	
6. Encourage the use of vehicles with smaller, more efficient engines	From Summer 2003 onwards	<p>a) Produced a public information leaflet (Drive Down Pollution) which included information on benefits of smaller vehicles. Information also appeared in HFM, the council web site and information poster. Also distributed at events such as the west London Green Festival etc.</p> <p>b) The Environment Services Department has use of a Smart car for council business which is used for site</p>	<p>a) The information leaflet encourages people to consider smaller, more fuel efficient cars.</p> <p>b) The Smart car is a visual reminder to people that such small, efficient cars are ideal for city driving conditions.</p>	<p>a) As previously reported. See above (action 2) for update on discount parking permit scheme.</p> <p>b) The Smart car is still available for use by Council staff for council business.</p>

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		visits etc.		
7. Seek to reduce emissions from larger vehicles (Low Emission Zone)	The report on the outcome of the LEZ study is due in mid 2003. Any scheme would need to be co-ordinated with other boroughs etc.	a) Most vehicles are complying with the LEZ requirements and emissions from HGVs (over 3.5t), buses and coaches are expected to be reducing in London as a result. All council vehicles comply with the LEZ emission standards as required.	a) The next phase of the LEZ came into force in January 2012 which requires larger vehicles to be Euro 4 compliant for PM10. Vans/mini-buses have come into the scheme for the first time and have to be Euro 3 compliant for PM10.	a) The LEZ remains in place.  b) Council Officers continue to be involved in discussions with TfL and the GLA regarding the proposed Ultra Low Emission Zone, however the zone is currently not proposed to cover the LBHF.
8. Seek to reduce emissions from badly maintained vehicles	Roadside testing is likely to start in 2003; to be co-ordinated with other participating boroughs	a) During 2003/04, 468 vehicles were tested, out of which 12 failed the emissions test. No test since then.	a) No further vehicle emission testing carried out.	a) No further vehicle emission testing carried out.
9. Encourage more environmentally friendly driving behaviour	Implementation to be co-ordinated with other participating boroughs. Aim for	a) Opening of the extension to Hammersmith bus station in March 2008 has removed buses from an on-street bus stand where buses had on occasion been seen with engines running unnecessarily	a) No recent complaints received about emissions from buses stationary at bus stands. TfL are now running a London-wide awareness and enforcement campaign on idling vehicles.	a) No further progress on this action.

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	summer 2003	whilst parked.		
10. Seek a reduction in emissions of small particles from construction sites	Ongoing from 2002 for the duration of the AQAP	<p>a) Complaints of dust nuisance investigated as and when reported.</p> <p>b) Large scale developments are required to submit a construction code of practice, which will include measures on minimising dust emissions. SPD on Sustainable Construction adopted in November 2007 to provide advice on how to reduce dust and pollution impacts during construction /demolition works on large sites.</p>	<p>a) Complaints continue to be investigated as required. 22 complaints received in 2011/12 and 90 in 2013/14 about construction / demolition dust. Informal warning/advice usually effective in securing improvements.</p> <p>b) Developers are advised to follow guidance in the council's SPD on Sustainable Construction and submit details on how dust/PM10 emissions will be minimised. The GLA/London Councils Best Practice Guidance on Control of Dust and Emissions from Construction and Demolition is also recommended.</p>	<p>a) Complaints continue to be investigated as required. 99 complaints received in 2014/15 about construction / demolition dust. Informal warning/advice usually effective in securing improvements.</p> <p>b) We continue to require a construction management plan for major development sites, including measures to minimise dust emissions and advised to follow SPD/BPG guidance, including the Mayor's "The Control of Dust and Emissions During Demolition and Construction 2014"</p>
11. Seek a reduction in emissions from domestic and commercial	Ongoing from 2002 for the duration of the AQAP	a) In 2011/12, an additional 35 home composters were ordered and distributed. We also ran 4 composting workshops where we gave	a) In 2012/13, an additional 24 home composters were ordered and distributed. A Green Johanna trial was also undertake, with 80 subsidised	2013/14 data was not available in 2014 progress report, so this is reported this year. .

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<b>Action Plan Measure</b>	<b>Original Timescale</b>	<b>Previously reported Progress</b>	<b>Previously Reported Outcomes</b>	<b>New Progress, Outcomes and Additional Comments for 2014/15</b>
properties		<p>away 136 compost bins in total. In 2011/12 the following green waste was sent for composting:</p> <ul style="list-style-type: none"> <li>- 53 tonnes of Christmas trees</li> <li>- 360 tonnes of leaf fall from public highways</li> <li>- 10 tonnes from the council's parks. This is the tonnage delivered to Western Riverside Waste Authority. The Councils parks contractor is composting much of the green waste arising from parks within the parks themselves.</li> </ul> <p>b) Informal warning/advice usually effective in securing improvements. 44 complaints about smoke from bonfires in 2011/12. Advice was given and improvements secured. No notices were served. No</p> <p>c) A number of projects to improve energy efficiency have been implemented in 2011/12 for the council's corporate sites. We have so</p>	<p>units being taken up and 4 workshops conducted. In 2012/13 the following green waste was sent for composting:</p> <ul style="list-style-type: none"> <li>- 60 tonnes of Christmas trees</li> <li>- 103 tonnes of leaf fall from public highways</li> <li>- 178 tonnes from the council's parks. This is the tonnage delivered to Western Riverside Waste Authority. The Councils parks contractor is composting much of the green waste arising from parks within the parks themselves.</li> </ul> <p>b) In 2012/13 there were 44 complaints about smoke from commercial/domestic properties, including from bonfires. 21 sites were warned/advised in writing. No abatement notices were served.</p> <p>b) In 2013/14 there were 39</p>	<p>In 2013/14, 32 home composters were ordered and distributed via Straight PLC. A community compost scheme was also set up on one estate with two blocks of one estate composting food waste for a community garden. We are looking to expand this in 2015/16.</p> <p>In 2013/14 the following green waste was sent for composting:</p> <ul style="list-style-type: none"> <li>- 60 tonnes of Christmas trees</li> <li>- 0 tonnes of leaf fall from public highways were composted after the Environment Agency reclassified the materials in 2013.</li> <li>- 120 tonnes from the council's parks. This is the tonnage delivered to Western Riverside Waste Authority. The Councils parks contractor is composting some of the green waste arising from parks within the parks themselves.</li> </ul> <p>In 2014/15, 37 home composters were ordered and distributed via</p>

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		<p>far delivered approx 4,000 tonnes of CO2 savings since the carbon management plan was implemented (a 41% reduction against the target). Carbon reduction initiatives have been implemented in the council's IT strategy.</p> <p>d) The council has compiled information on its emissions for 2011/12 and they will be published on <a href="http://www.lbhf.gov.uk/co2">www.lbhf.gov.uk/co2</a> in August. In general a 17% reduction in electricity use was found for 2011/12 when comparing with previous year (probably due to closure/sale of council buildings, however total emissions from schools (from gas and electricity) increased compared to 2010/11 and this was probably due to new schools (Hammersmith Academy and a number of new free schools in the borough). Total GHG emissions reported for 2011/12 are calculated as</p>	<p>complaints about smoke from commercial/domestic properties, including from bonfires. No abatement notices were served.</p> <p>c) In 2012/13 the council implemented projects which provided 695 tonnes of carbon savings (an extra 7.11% against the target). A number of projects were also included during 2012-13 which will bring extra reduction of approx 700 tonnes of CO2 – however a number of these have now been moved back to the 2013-14 programme.</p> <p>d) The latest Greenhouse Gases (GHG) report is due at the end of July 2013. This has not been compiled yet as DECC is considering revising the reporting regime, so we are waiting for clarification on this before compiling our next report.</p>	<p>Straight PLC.</p> <p>In 2014/15 the following green waste was sent for composting:</p> <ul style="list-style-type: none"> <li>- 65 tonnes of Christmas trees</li> <li>- 23.64 tonnes from the council's parks. This is the tonnage delivered to Western Riverside Waste Authority. The Councils parks contractor is composting much of the green waste arising from parks within the parks themselves – 2014/15 saw more leaf fall diverted to the parks composting schemes.</li> </ul> <p>In 2014/15 there were 43 complaints about smoke from commercial/domestic properties, including from bonfires. No abatement notices were served.</p> <p>The latest Greenhouse Gases (GHG) report calculated that there was a total of 32% reduction in gross carbon emissions (reporting from 2009/10 baseline from scope 1,2 and 3 related emissions). There was however a total 10% increase in school related emissions which</p>

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		<p>25,299 tCO<sub>2</sub>e. One main difference since 2010/11 is that reporting for 2011/12 included fugitive air-conditioning emissions which calculated as 866 tCO<sub>2</sub>e. By removing this it can be seen that total GHG emissions have reduced by c. 500 tCO<sub>2</sub>e.</p>		<p>reflected the expansion of school buildings and new schools in the borough.</p> <p>Since 2009, LBHF has made strong progress in reducing its emissions since participating in the Carbon Trust's Local Authority Management Programme. There was a 23% reduction in carbon emissions between 2010/11 and 2011/12, although there was an increase by 14.5% between 2011/12 and 2012/13. This increase was attributed to a particularly harsh winter.</p> <p>A new project for 2014-15 is the Greening Business Programme which aims to reduce the environmental impact from SME's in the borough. Recruitment of businesses is starting now and the Council is looking for 11 smes in LBHF to work with over the next few months.</p>
12. Seek to control and minimise	Ongoing from 2002 for the duration of	Continued regulation and reduction of emissions to atmosphere through the	Regulation duties continued in line with the LAPPC requirements. No complaints	Regulation duties continued in line with the LAPPC requirements. No complaints were received in

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emissions from industrial premises	the AQAP	<p>LAPPC regime and clean air regulations.</p> <p>5 complaints were received in 2010/11 regarding emissions from industrial sites regulated by the council. No evidence found of non-compliance – no action required.</p> <p>Regulation duties continued in line with the LAPPC requirements. 2 complaints were received in 2012/13 regarding emissions from industrial sites regulated by the council. No notices were served.</p>	were received in 2013/14 regarding emissions from industrial sites regulated by the council. No notices were served.	2014/15 regarding emissions from industrial sites regulated by the council. No notices were served.
<b>REDUCING THE NEED TO TRAVEL</b>				
13. Sustain and improve town & local centres, facilities and employment areas	UDP review to be complete in 2003	a) Work has started on the Local Development Framework which will replace the UDP. Over the past couple of years, the Council has been reviewing and refining its proposed LDF Core Strategy. Reducing traffic congestion and the need to travel remain	a) The council's Core Strategy includes strategic policies supporting the regeneration of key parts of the borough including the White City Opportunity Area, Earls Court and West Kensington, South Fulham Riverside and Old Oak	(a) The Core Strategy continues to be implemented and progress continues on the regeneration of the White City Opportunity Area, Earls Court and West Kensington, South Fulham Riverside and Old Oak Common. Regeneration of these sites in key parts of the borough will help improve local centre, reducing

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		strategic objectives.	Common. Regeneration of these sites in key parts of the borough will help improve local centre, reducing the need for residents to travel to get the key services they require	the need for residents to travel to get the key services they require. (b) We have also commissioned and completed first phase of studies into Hammersmith "Flyunder", which would significantly reduce emissions in the Town Centre.
14. Seek to reduce the air quality impact of new development	Ongoing from 2002 for the duration of the AQAP	a) The council's Core Strategy contains a policy on air quality which requires air quality assessments for major developments and implementation of mitigation measures, if there is a need to reduce impacts.  b) H&F guidance is in use by Development Control officers.	a) More detailed policies relating to air quality have been drafted for inclusion in the council's DM DPD which has been consulted on and will be adopted in July 2013.  b) Supplementary Planning Guidance on air quality issues has been drafted and consulted on and will formally be adopted in July 2013.	a) The wording of our air quality policy within our Development Management Plan is currently being amended, in order to include all developments that have the potential to impact on local air quality (previously restricted to major developments). The current policy continues to be implemented on all relevant planning applications.  b) We refer all applicants to our Supplementary Planning Document that was adopted in July 2013 to ensure the correct information is submitted with regards to air quality.
<b>ENCOURAGING A SWITCH TO LESS POLLUTING FORMS OF TRANSPORT</b>				
15. Promotion of bus services	Ongoing from 2002 for the duration of the AQAP	Bus service improvements achieved on a number of routes including: Route 316 - extended from North	No significant changes to bus services took place in 2013/14 other than minor changes to improve	No new bus services were introduced in LBHF in 2014/15 but LBHF is pressing for improvements to routes 266 and 424 to increase

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		<p>Kensington to White City, via the Edward Woods estate, from November 2008; New route 228 - introduced January 2009. (Both in association with Westfield); A new Sunday service was introduced on route 607 from April 2010; A full time bus stop for southbound traffic was constructed in North End Road (junction with Racton Road) - previously a bus stop at this location operated only in the evenings and on Sundays. Installed 50 metres of northbound bus lane/bus only road at the north end of Fulham Palace Road as part of the Fulham Palace Slip Road/ Hammersmith gyratory scheme which has produced substantial benefits for buses and other traffic.</p> <p>From December 2011, articulated buses were replaced by double decker vehicles with increased frequency on route 207</p>	<p>reliability.</p> <p>Progress has been made by the Council's Highways department in bringing the total of fully accessible bus stops up to 237 out of the 270 in the Borough.</p> <p><u>Putney to Blackfriars River Service</u></p> <p>On 9 September 2013, TfL launched a new timetable to provide extra journeys to customers on the Putney to Blackfriars river bus service serving the south of the Borough. Patronage on the recently retendered service has continued to exceed forecasts, boosted by quicker journey times, an increased number of departures and more modern vessels.</p>	<p>reliability and passenger attractiveness.</p> <p>Bus passengers are benefitting from continuing improvements in real time information which lets them know when the next services are expected.</p>

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		<p>(Uxbridge Road) and frequencies were increased on Friday and Saturday nights on the N207. From January 2012 increased frequency was introduced in the peak periods on bus route 220.</p>		
<p>16. Promotion of other forms of public transport</p>	<p>Ongoing from 2002 for the duration of the AQAP</p>	<p>Shepherds Bush rail station opened in September 2008 and a new tube station at Wood Lane opened in October 2008. Imperial Wharf station was opened in September 2009.</p> <p>The council is promoting a Crossrail interchange station with the West London Line in the Old Oak Common/Mitre Bridge area, linked to a possible High Speed Rail hub station.</p> <p>The council continues to work with HS2, the GLA/TfL and neighbouring boroughs on plans for HS2 and the draft Environmental Statement. The OAPF for the area has been</p>	<p>The Council is submitting a petition on the HS2 bill to include connections from Old Oak Common station to the West London Line and the West Coast mainline, better bus and cycle connections and protection for Wormwood Scrubs.</p>	<p>Petition is due to be heard by Parliamentary Select Committee in July and the council expects to reach agreement with HS2 on most of these issues before then.</p>

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		issued for consultation.		
17. Promotion of cycling	Ongoing from 2002 for the duration of the AQAP	<p>Initial work has been undertaken on extending the Mayor's Cycle Hire scheme to the borough, with the funding agreement signed and planning permissions granted for a number of docking stations. The scheme is set to go live in December 2013.</p> <p>Cycle hire scheme went live in December 2013 and by February 2014 there were 26,000 hires per month.</p> <p>New, increased cycle parking standards have also been adopted.</p>	<p>Since the London Cycle Hire Scheme was introduced in LBHF in December 2013, the number of journeys has increased dramatically. In the first month of the scheme, 13,000 journeys were made in the borough. But in January, the number of cycle hire journeys doubled to more than 26,000 in the scheme's second month – an average of about 866 journeys a day. By March 2014, the hire and docking usage was up to 51,064 per month and rising.</p> <p>At least 171 cycle stands were introduced on street as part of the Council's programmes.</p> <p>A full programme of cycle training and maintenance classes continued along with the award – winning "Exchanging Places" scheme</p>	<p>At least 226 cycle stands were introduced on street as part of the Council's programme. The Council has also started a programme to assist with residential cycle parking – including Bikehangers. Residential cycle parking was supplied at Lancaster Court and Lime Grove. Consultation took place on a revised Cycle Strategy which is expected to be launched in the Summer of 2015.</p>

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			to reduce conflict between cyclists and large goods vehicles.	
18. Promotion of Walking	Ongoing from 2002 for the duration of the AQAP.	<p>a) The council promoted the 'Walking Works' activities, with again more than 1,000 individuals taking part. We also promoted walking at the Grand Union Canal Fest.</p> <p>Council Road Safety Officers visit infant, junior and secondary schools throughout the borough to raise awareness of road safety and provide training. 17,010 pupils have received road safety education from the team in the last 3 years.</p> <p>We also completed the first stage of pedestrian signing in the Borough by erection of TfL's Legible London type signage in Shepherd's Bush town centre.</p> <p>The Borough continues to</p>	<p>Significant pedestrian crossing improvements in 2013/14 included the provision of PCaTS (Pedestrian Countdown at Traffic lights) in Uxbridge Road, Goldhawk Road and Fulham Palace Road.</p> <p>In addition our Neighbourhood programme has continued to see sizeable decluttering and removal of barriers to pedestrians. In 2013/14 we removed 78 (non-illuminated) bollards, 28 illuminated bollards, 73 sign posts, and 24 metres of guard rail.</p>	<p>The programme of decluttering continued with the removal of unnecessary bollards and guardrails.</p> <p>The most exciting potential for walkers, cyclists and air quality is the preparation work that has been going on in preparation for consultation on a Borough-wide 20mph speed limit.</p>

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		<p>work extensively on de-cluttering the street environment in Hammersmith and Fulham – e.g. removal of unnecessary signposts, bollards and guardrails. “Legible London” signage has been installed in Hammersmith Town Centre. One pelican crossing converted to puffin (giving more time to cross to those who need it.</p> <p>The council worked to save the pedestrian cut-through across the railway at Kensington Olympia station – TfL had planned to install ticketed barriers but they will now provide a bypass for local people to walk across the bridge.</p>		
19. Encourage a reduction in car use for the journey to school	Ongoing from 2002 for the duration of the AQAP	<p>STAR (School Travel Accredited and Recognised) – Online award scheme</p> <p>2007: 5 accredited schools 2008: 4 accredited schools</p>	Not including independent nurseries (which do not have to do travel plans) all 75 schools in the borough have now completed their school travel plans, with 51 of these	Not including independent nurseries (which do not have to do travel plans) all 75 schools in the borough have now completed their school travel plans, with 66 of these currently ‘valid’ (i.e. active and

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		2009: 1 accredited school 2010: 4 accredited schools 2011: 15 accredited schools 2012: 44 accredited schools 2013: 36 accredited schools 2014: 26 accredited schools	currently 'valid' (i.e. active and reviewed within past 12 months). Of the 24 schools with out of date STPs, 19 schools are currently in the process of reviewing and 5 schools appear to have abandoned their plans.  Travel modes to school: Active travel (cycle/buggy/scooter/walk) is now up to 52%, and car use has fallen to below 15%	reviewed within past 12 months). Of the remaining ten, one is a new school with STP drafted; two are updating; seven are apparently abandoned.  **Will detail number of STAR accredited schools when this information is available June 24 <sup>th</sup> 2015 and will include this prior to publication of report.
20. Encourage a reduction in car use for the journey to work and business trips	Ongoing from 2002 for the duration of the AQAP	a) As above: Funding for the Travel Plan Co-ordinator post has been extended.	a) By 2009/10, 78 workplace travel plans were listed on iTrace for the borough. 24 workplace travel plans were initiated or reviewed in 2010/11. The first 4 voluntary workplace travel plans had also been completed.  A Travel Plan business network is developing in Hammersmith Town Centre.	a) See measure 3.
21. Control provision of on and off street parking to deter	Ongoing – parking best value review to be	a) Double yellow lines implemented across all informal crossing points with dropped kerbs in the	a) Parking bays maximised, signage de-cluttered and double yellow lines installed around informal crossings in	a) Parking controls to be extended throughout the week in Zone J, with discounts for residents' visitors. Consultation underway on Zone E

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car commuting into and within the borough	complete by mid 2003	<p>borough's largest CPZ (Zone V). Stakeholders of CPZs V, B and C were consulted on parking controls in 2011/12. The smart visitor permit was introduced in Zone V to provide discounted parking for residents and visitors and Richmond Way (in Zone B) opted for extended parking controls. Parking consultations carried out in CPZs V, B and C in order to gauge whether stakeholders want extended parking controls as a mechanism of controlling parking stress and the availability of parking spaces.</p> <p>b) Parking standards applied to new developments to ensure adequate provision without increasing 'parking stress'.</p> <p>c) Parking controls reviewed in 2012/13 in Zones Q, W and F.</p>	<p>2012/13 in Zones Q, W and F.</p> <p>In 2013/14, Parking bays maximised, signage de-cluttered and double yellow lines installed around informal crossings in Zones S, U and Z.</p> <p>Parking consultations were also carried out in Zones C and J, and part of Zone Q (Novello St), which became a one-street sub-zone to discourage intra-zonal commuter parking.</p> <p>The Zone J parking consultation offered additional match day parking controls. The results are being analysed. If the majority of respondents opt for match day parking controls this would mean that there would likely be a significant reduction in football fans parking in residential roads on match</p>	<p>as residents experiencing pressure from intensified use of Olympia.</p> <p>b) The council has adopted higher standards than the GLA for office cycle parking, to enable a higher proportion of staff to cycle to work.</p>

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			<p>days. This would reduce parking stress and congestion in the Uxbridge Road area, which is a key route.</p> <p>b) GLA parking standards adopted.</p>	
<p>22. Encourage freight to be transported in a sustainable manner</p>	<p>2004</p>	<p>a) The Council is now a member of FORS (Freight Operators Recognition Scheme) and we encourage the development of Servicing and Delivery Plans and the use of rail and water for freight via the planning process. Waiting and loading reviews are ongoing boroughwide (Zones H,Q,T and North End Road in particular).</p> <p>b) The home delivery scheme is included in the WLFQP three year programme; we will follow this up together with the partnership.</p> <p>c) 3 bicycle rickshaws have been purchased for potential</p>	<p>2013/14: Waiting and loading reviews are ongoing boroughwide (Zones H,Q,T and North End Road in particular).</p> <p>We are working towards Gold Standard FORS (Freight Operator) recognition</p>	<p>In 14-15 waiting and loading reviews were completed for Zones K and N.</p>

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		<p>use in such a scheme. Rickshaws have already been used by the council to transport mail/ goods and for local school deliveries. The freight rickshaw tricycle is currently used by Hammersmith BID.</p> <p>a) Waiting and loading reviews carried out in Zones Q,W and F reviewed in 2012/13.</p> <p>2013/14: Waiting and loading reviews are ongoing boroughwide (Zones H,Q,T and North End Road in particular).</p> <p>b) Westtrans is working on a freight plan which will have several elements in it to reduce the environmental impacts of deliveries.</p> <p>c) The council has set up a lorry driver-cyclist awareness training course to improve the quality of HGV driving in the</p>		

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		borough and to reduce the danger to cyclists – this has won a London Cycling Campaign award.		
<b>MAKING MORE EFFICIENT USE OF ROAD TRANSPORT</b>				
23. Encourage car sharing	From Summer 2003 onwards	Share the car software installed Spring 2004. Car share scheme is up and running. 2 Car Clubs operate in Hammersmith & Fulham: City Car Club, and Zipcar (now incorporating Streetcar).  There are now a total of 51 on-street car club parking bays in the borough.	There are 26 Car Club Bays in the borough. (reduction due to consolidation in numbers of car clubs).  In April 2014 the Council introduced an electronic parking permit for Car Clubs in order to make the renewal of permits easier.	Still 26 car club bays but we are working with operators to introduce more.
24. Discourage short journeys	From Summer 2003 onwards	a) The “small zone” system mentioned under action 21 discourages intra-borough car journeys. Discouragement of short journeys is at the heart of the travel planning process. The school travel planning process has generated a positive modal shift with fewer short journeys being reported	a) As previously reported. See also updates for measures 19, 20 and 21.	a) As previously reported. See also updates for measures 19, 20 and 21.

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<b>OTHER MEASURES TO REDUCE ROAD TRAFFIC AND EMISSIONS</b>				
25. Reduce the amount of road traffic in residential areas and town centres	Ongoing from 2002 for the duration of the AQAP	<p>a) There are now 16 20mph zones in the borough. The innovative “drive over chicane” in the North End Road East zone was Highly Commended at the London Transport Awards 2009. An innovative 20mph zone without physical measures was piloted in 2010/11 in the Wendell Park area. The Wendell Park scheme has now been fully implemented, increasing the number of 20mph zones in the borough to 17.</p> <p>Reviews of neighbourhood traffic calming schemes were carried out in the Old Oak, Charing Cross Hospital and Fulham Palace Road (East and West) Areas.</p> <p>b) The relevant London Plan policies are applied as and when appropriate.</p> <p>The council’s Development</p>	Schemes have been implemented in the St Mary’s Cemetery, Hammersmith Grove, Sulgrave Road, White City and Cathnor Park Neighbourhoods in 2013-14.	<p>The council has been researching the feasibility of a boroughwide 20mph speed limit and are about to start consultation on it. .</p> <p>The council has also introduced a pilot “Play Street” (where roads are closed to traffic to allow children to play at certain dates and times), in Roxwell Road and now plan to introduce the scheme elsewhere in the borough.</p>

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		Management DPD (due for adoption in July 2013) includes a policy on car parking standards aimed at reducing additional car travel and encouraging more sustainable travel methods.		
26. Promote the use of trees to help improve local air quality	Work on the Biodiversity Action Plan will begin in early 2003	In 2010/11, a total of 371 trees were planted. Planting in new developments continues as previously reported. For some development sites, where planting etc is planned as part of the soft landscaping developers may be advised to investigate the use of vegetation/trees as a barrier helping to filter out pollution.	In 2012-13, the council planted 147 new street trees and 151 replacement street trees – a total of 298 trees planted on highway sites. We planted 44 new trees and 2 replacement trees on housing estates and 5 new trees and 3 replacement trees in parks. This is a total of 54 trees on non-highway sites.	In 2014-15, the council planted 62 new street trees and 201 replacement street trees – a total of 263 trees planted on highway sites. 5 new trees and 14 replacement trees were planted on housing estates.
27. Reduce the amount of traffic on the A4 and A40	From Summer 2003	a) Partner in a bid for 'Greening the A4' project funding with Hounslow, Kensington & Chelsea and others. Bid includes travel demand management, alternative fuels, and road safety measures. However, no funding available to	a) A successful bid has been made for funds from the Mayor's Air Quality Fund to pay for a project that will help improve green infrastructure in Hammersmith town centre. Additional funds are being sought from Defra to supplement this funding	A large part of the site originally agreed upon for greening was sold and the new owner, although not interested in implementing the Council and Hammersmith BID's original plan for the site, are planning to build a pocket park and introduce their own greening.

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		implement.		The focus has shifted to introduce green landscaping along a cycling and pedestrian walkway along the Talgarth Road adjacent to the Westway. A contractor has been appointed, the concept designs have been submitted and a monitoring plan has been agreed. The infrastructure is due to be installed in the autumn of 2015.
<b>MEASURES TO RAISE AWARENESS OF THE LINKS BETWEEN AIR QUALITY AND HEALTH</b>				
28. Provide information to allow people to make informed choices about travel behaviour	From Summer 2003 onwards	a) As previously reported. AirTEXT information distributed and presentations given to school nurses group and local Breathe Easy group.	<p>As previously reported. 135 Hammersmith &amp; Fulham residents have now signed up for AirTEXT pollution alerts.</p> <p>There are now 148 subscribers for AirTEXT pollution alerts relating to LBHF. The majority of these subscribers receive alerts by text message.</p> <p>Air Quality officers attended 7 sessions with local schools at the Lillia Hussett Urban Studies Centre to provide</p>	<p>There are now 228 subscribers for AirTEXT pollution alerts relating to LBHF. The majority of these subscribers receive alerts by text message.</p> <p>Air Quality officers attended 7 sessions with local schools at the Lillia Hussett Urban Studies Centre to provide information to school children about air pollution and how their travel choices can reduce emissions.</p> <p>AQ officers assisted in air quality teaching sessions in a school to contribute to the LBHF event</p>

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			<p>information to school children about air pollution and how their travel choices can reduce emissions.</p>	<p>'Children's Parliament on the Environment 2014'</p> <p>In the period between March 2014 – April 2015, 96 users subscribed to the airTEXT service, there were 137 text alert users, 30 voice alert users and 61 email alert users. The total number of subscribers is 228.</p> <p>General Info for all boroughs : There is currently no way of obtaining borough specific stats for these modes of download.</p> <p>For the period between March 2014 – Oct 2014 the total number of downloads of the airTEXT service iPhone app was 2022. For the same period, the total number of downloads of the airTEXT service Android app was 875. There is currently no way of obtaining the number of subscribers receiving SMS alerts through the Twitter delivery channel.</p>
<p>29. Provide information so people can make informed</p>	<p>From Summer 2003 onwards</p>	<p>a) A leaflet on cutting pollution from car use was produced, but production of domestic emissions information leaflet</p>	<p>a) No new publicity material produced.</p>	<p>a) No new publicity material produced.</p>

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choices about reducing pollution from domestic activities		was delayed and not carried out.		
30. Continue to monitor air quality and make info. available	Ongoing from 2002 for the duration of the AQAP	<p>During 2010/11, the annual NO<sub>2</sub> objective was exceeded at 5 sites out of 10, mainly at the roadside sites. No PM<sub>10</sub> monitoring took place during 2010/11. Real-time monitoring of NO<sub>2</sub> and PM<sub>10</sub> re-started in October 2011 at the council's new monitoring site at Shepherds Bush Green. Detailed information on monitoring results is included in the council's annual Air Quality report.</p> <p>For 2012, the real time monitor at Shepherds Bush Green measured an annual mean NO<sub>2</sub> concentration of 91µg/m<sup>3</sup> and an annual mean PM<sub>10</sub> concentration of 39µg/m<sup>3</sup>. There were 57 exceedences of the NO<sub>2</sub> hourly objective and 69 exceedences of the daily</p>	<p>For 2013, the real time monitor at Shepherds Bush Green measured an annual mean NO<sub>2</sub> concentration of 76.2 µg/m<sup>3</sup> and there were 11 exceedences of the NO<sub>2</sub> hourly objective. However the data for 2013 needs to be treated with caution as the monitoring station was only functioning for 6 months due to it being involved in a vehicle collision.</p> <p>For PM<sub>10</sub> the annual mean remained below the national objective at 36.4 and 33 daily means exceeded the 50µg/m<sup>3</sup>. Should monitoring have continued for the entire year, it is likely that the daily mean objective would have been exceeded for PM<sub>10</sub>.</p>	Real time monitoring at Shepherds Bush Green resumed after vehicle collided with monitor. Please see Updating and Screening Assessment 2015 for limited 2014 data.

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		objective for PM10. Of these 4 objectives, 3 were exceeded and 1 (the PM10 annual mean) was met in 2012.		