London Borough of Ealing

Air Quality Progress Report

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Residential Services
Environmental Health and Trading Standards
London Borough of Ealing
April 2007

www.ealing.gov.uk

Contents

Executive Summary

The Environment Act 1995 requires Local Authorities to periodically review and assess local air quality against the air quality objectives contained in the Air Quality Regulations. Local Authorities are currently undertaking the third round of the review and assessment process. The third round is undertaken in two stages. Initially an Updating and Screening Assessment (USA) is carried out. Where a significant risk of exceeding one or more of the air quality objectives is identified, or a significant change has occurred, then it will be necessary for the Local Authority to proceed to a Detailed Assessment. USAs are required every three years. Periodically, local authorities are required to produce air quality Progress Reports.

This document forms the Air Quality Progress Report for the London Borough of Ealing. In writing this report the Council has had regard to the Government's published guidance contained in Progress Report Guidance LAQM.PRG(03).

The London Borough of Ealing completed the first round of air quality review and assessments in 2000. This concluded that the levels of two pollutants, Particulates (PM_{10}) and nitrogen dioxide (NO_2), would not meet the objectives laid out within the Air Quality Regulations in many parts of the borough. The whole borough was declared an Air Quality Management Area in December 2000 and an Air Quality Action Plan was published in April 2003. Progress Reports on the implementation of this Action Plan were submitted in April 2004 and April 2005. 2006's Action Plan Progress Report can be found in Appendix 2 of this document.

Ealing's Updating and Screening Assessment (USA), produced in April 2004, formed part of the second round of review and assessment. The results of this assessment again showed that the levels of PM_{10} and NO_2 were expected to exceed the relevant air quality objectives. However the USA also highlighted a potential risk of exceedance in the vicinity of EWS Goods Yard, Horn Lane, Acton due to dust generated by a number of industrial and commercial activities located there. This had not been identified during the first round of review and assessments and so it was necessary to proceed to a Detailed Assessment of PM_{10} in that area. Monitoring as part of this commenced on 2nd February 2005 for 12 months

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This report provides the latest air quality monitoring results for 2006 from all air quality monitoring sites in Ealing. It also provides an overview of the results from monitoring undertaken as part of the Detailed Assessment of PM_{10} in Horn Lane, Acton. Appendix 2 provides a progress report on the implementation of Ealing's Air Quality Action Plan.

1.0 **Background to Air Quality Review and Assessment**

The Environment Act 1995 introduced the Local Air Quality Management (LAQM) process. It requires local authorities to undertake a periodic review and assessment of air quality with respect to air quality objectives set out within the Air Quality Regulations 2000.

The first and second rounds of the air quality review and assessment process are complete and local authorities are now undertaking the third round. This involves reassessing the sources of emissions to air to identify whether the situation has changed since the second round, and if so, what impact this may have on predicted exceedances of air quality objectives.

The third round of air quality review and assessments is made up of two stages. The first is an Updating and Screening Assessment (USA), which is carried out for all pollutants identified in the Air Quality Regulations. If a significant risk of exceedence is identified for a pollutant or where any significant changes from the second round are identified, then it will be necessary for the local authority to proceed to the second stage of the review and assessment process and produce a Detailed Assessment.

A timetable for future rounds of review and assessment has been set, whereby Updating and Screening Assessments are required at least every three years. Periodically, local authorities are required to produce a Progress Report. Defra guidance advises that those local authorities that also need to report progress on Air Quality Action Plans produce a single Progress Report covering both review and assessment and Action Plan reporting requirements.

1.1 **Progress Reports**

The overall aim of the Air Quality Progress Report is to:

- Report progress on implementing local air quality management; and
- Report progress on achieving, or in many cases maintaining, concentrations below the air quality objectives.

It is considered that the best way to achieve this is by addressing two matters:

- New monitoring results; and
- New local developments that might affect local air quality

The benefits to local authorities of producing an Air Quality Progress Report include:

- To provide a readily accessible source of up to date information on air quality, which may be useful to the local authority when dealing with enquiries from members of the public, developers carrying out environmental assessments, and to assist in other areas such as transport and land use planning.

- To retain the profile of LAQM within the local authority including the retention of officers with knowledge of air quality issues.
- Helping to get maximum value from the air quality monitoring carried out by the local authority.

Although air quality Progress Reports are not designed to represent a further Updating and Screening Assessment, any significant changes identified within the report that may signify a risk of an air quality exceedance can be acted upon immediately by proceeding to a Detailed Assessment rather than waiting until the next full round of review and assessment.

This document fulfils two requirements. The first is for the Air Quality Progress Report for the London Borough of Ealing. In writing this report the Council has had regard to the Government's published guidance contained in Progress Report Guidance LAQM.PRG(03). The second forms the requirement for an Air Quality Action Plan Progress Report as laid out under section 84(2) of the Environment Act 1995. This report follows the recommended format as set out within Local Air Quality Management - Progress Report Guidance LAQM. PRG(03). This can be found in Appendix 2.

1.2 **Air Quality Objectives**

The Air Quality Strategy sets out air quality standards for seven main air pollutants. These provide a means by which objectives and timescales for the achievement of these objectives can be set.

Those objectives included in the Air Quality Regulations 2000 and (Amendment) Regulations are set out in Table 1. These provide the statutory basis for the system of LAQM. Further provisional objectives for 2010 and 2015 are also included as well as the relevant EU limit values.

Table 1 Objectives included in the Air Quality Regulations 2000, EU Limit values and provisional objectives.

Pollutant	Air Quality Objective		Date to be achieved by
	Concentration	Measured as	
Benzene	16.25µg/m^3	Running annual mean	31.12.2003
	5µg/m^3 (1.54 ppb)	Annual mean	31.12.2010
1,3-Butadiene	2.25µg/m^3	Running annual mean	31.12.2003
Carbon monoxide	10.0 mg/m^3 (8.6 ppm)	Maximum daily running 8-hour mean	31.12.2005
Lead	0.5µg/m^3	Annual mean	31.12.2004
	0.25µg/m^3	Annual mean	31.12.2008
Nitrogen dioxide (1)	200µg/m^3not to be exceeded more than 18times a year	1-hour mean	31.12.2005
	40µgm3	Annual mean	31.12.2005
Particles PM_{10} (gravimetric) (2)	50µg/m^3not to be exceeded more than 35 times a year	24-hour mean	31.12.2004
	40µg/m^3	Annual mean	31.12.2004

Pollutant	Air Quality Objective		Date to be achieved by
	Concentration	Measured as	
Particles PM10 (gravimetric) (2) New objectives (3)	50µg/m^{3}not to be exceeded more than 10times a year	24 hour mean	31.12.2010
	23µg/m^3	Annual mean	31.12.2010
	20 µg/m^3 (5)	Annual mean	2015
Sulphur dioxide	350µg/m^{3}not to be exceeded more than 24times a year	1-hour mean	31.12.2004
	125µg/m^{3}not to be exceeded more than 3 times a year	24-hour mean	31.12.2004
	266µg/m^{3}not to be exceeded more than 35 times a year	15- minute mean	31.12.2005
Ozone (4)	120µg/m3 not to be exceeded more than 25 times per year averaged over 3 years.	8-hour mean	31.12.2010

Units of measurement:
µg/m^3: micrograms per cubic metre
mg/m^3: milligrams per cubic metre
ppb: parts per billion
ppm: parts per million

(1) The objectives for nitrogen dioxide are provisional.
(2) Measured using the European gravimetric transfer sampler or equivalent.
(3) The new objectives for particulates are not currently included in the regulations for the purposes of LAQM.
(4) Value is a target value rather than a binding limit value.
(5) An aspirational target to work towards after 2010 with the aim of achieving it by 2015 where cost-effective and local action can be identified.

1.3 Conclusions of previous review and assessment

The London Borough of Ealing completed the first round of air quality review and assessments in 2000. This concluded that the Air Quality Strategy objectives were likely to be met by the required dates, for five of the pollutants covered by the Air Quality Strategy: carbon monoxide, benzene, 1,3-butadiene, lead and sulphur dioxide.

However, it also concluded that the levels of two pollutants, particulates (PM_{10}) and nitrogen dioxide, would not meet the objectives laid out within the Air Quality Regulations in many parts of the borough. This prompted Ealing Council to declare the whole borough an Air Quality Management Area in December 2000. Such a declaration required Ealing to undertake a further review and assessment of air quality to refine the outcomes of previous assessments, and to produce an Air Quality Action Plan, setting out measures that the Council intends to take in order to work towards achieving the objectives. This was published in April 2003.

For the third round of air quality review and assessment, the London Borough of Ealing produced its Updating and Screening Assessment (USA) in April 2006. As in the first and second rounds of review and assessment, the USA found that the Air Quality Objectives for particulates (PM_{10}) and nitrogen dioxide would not be met. The second USA identified a potential risk of exceedance in the vicinity of EWS Goods Yard, Horn Lane, Acton due to dust generated by a number of industrial and commercial activities located there. This had not been identified during the first round of review and assessments

and so it was necessary to proceed to a Detailed Assessment in that area. Monitoring as part of this commenced in February 2005 for 12 months.

2.0 Monitoring in Ealing

The London Borough of Ealing currently operates 5 continuous air quality monitoring stations located around the borough. In addition one extra air quality monitoring station was sited at Court Way Acton on 19th April 2005 (see section 2.1). Monitoring at this site ceased on 1st June 2006 due to financial constraints related to the hire of the air quality analyser. Apart from Ealing 8, which is operated by TRL Ltd, these sites are managed and operated on the Council's behalf by the Environment Research Group (ERG), King's College London. All sites form part of the London Air Quality Network (LAQN). All aspects of local site operation are undertaken by ERG, including fortnightly calibration, regular QA/QC audits, maintenance of analysers and the replacement of consumables. Data from the sites is downloaded direct to ERG and real time information is displayed on the LAQN web site at http://www.londonair.org.uk/ london/—asp/home.asp. Data ratification and other QA/QC information can also be obtained from this site.

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Ealing also has a long term monitoring programme that consists of 103 diffusion tubes monitoring nitrogen dioxide at 87 locations around the borough. Eight of these sites have three tubes exposed (known as triplicate sites), four of which also happen to be the sites of continuous air quality monitoring stations. This acts as a quality control measure and enables a comparison between the two methods of monitoring so that bias adjustment factors for the diffusion tubes can be calculated.

Long term monitoring of benzene has been carried out at three sites in the borough, again using diffusion tubes.

2.1 Automatic Monitoring Sites

Ealing Town Hall Air Quality Monitoring Station

Since 1995, Ealing Council has operated an urban background air pollution monitoring station at Ealing Town Hall, Uxbridge Road, London, W5 (grid reference 517440, 180700). The site is designated as **Ealing 1** on the London Air Quality Network (www.londonair.org.uk).

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The site monitors nitrogen dioxide, sulphur dioxide and ozone and is currently equipped with the following continuous analysers:-

1 x Environnement NO_x analyser
1 x Environnement SO_2 analyser
1 x Environnement O_3 analyser

The station location is marked on the map in Figure 1.

Acton Town Hall Air Quality Monitoring Station

Since 1996, Ealing Council has operated a roadside air pollution monitoring station at Acton Town Hall, at the junction of High Street and Winchester Street, London W3 (grid reference 520300, 180050). The site is designated as **Ealing 2** on the London Air Quality Network (www.londonair.org.uk).

The site monitors nitrogen dioxide, carbon monoxide, PM_{10} particulates and $PM_{2.5}$ particulates, and is currently equipped with the following continuous analysers:-

1 x Rupprecht and Pataschnick TEOM with $PM_{2.5}$ inlet
1 x Rupprecht and Pataschnick TEOM with PM_{10} inlet
1 x Environnement NO_x analyser
1 x Environnement CO analyser
1 x R. & P. Series 8500 Filter Dynamics Measurement System[1]
1 x Casella Monitor ML9810 Ozone Analyser

In addition the site also has an R & P Partisol Plus 2025 Dichotomous sampler.

The station location is marked on the map in Figure 1.

Hanger Lane Air Quality Monitoring Station

Since August 2003, Ealing Council has operated a roadside air pollution monitoring station at Hanger Lane, at the junction of Twyford Abbey Road, London W5 (grid reference 518539, 182709). The site is designated as **Ealing 6** on the London Air Quality Network (www.londonair.org.uk).
The site monitors nitrogen dioxide and is currently equipped with the following continuous analyser:-

1 x Environnement NO_x analyser

The station location is marked on the map in Figure 1.

Blair Peach Primary School Air Quality Monitoring Station

Since July 2004, Ealing Council has operated an urban background air pollution monitoring station at Blair Peach Primary School, Beaconsfield Road, Southall, London UB1 1DR (grid reference 511688, 180070). The site is designated as **Ealing 7** on the London Air Quality Network (www.londonair.org.uk).

The site monitors nitrogen dioxide and PM_{10} particulates and is currently equipped with the following continuous analysers:-

[1] Installed on 29th April 2005

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1 x Rupprecht and Pataschnick TEOM with PM_{10} inlet
1 x Monitor Labs NO_x analyser

The station is also equipped with weather monitoring sensors. The station location is marked on the map in Figure 1.

Horn Lane Air Quality Monitoring Station

This monitoring station was commissioned as part of a Detailed Assessment of fine particulate matter (PM_{10}), due to dust generated by a number of industrial and commercial activities. Monitoring commenced on 2nd February 2005 for 12 months for the assessment and has continued thereafter. This industrial air pollution monitoring station is located on Horn Lane, Acton, London W3 (grid reference 520474, 181429). The site is designated as **Ealing 8** on the London Air Quality Network (www.londonair.org.uk).

The site monitors PM_{10} particulates and is currently equipped with the following continuous analysers:-

1 x Rupprecht and Pataschnick TEOM with PM_{10} inlet
1 x Turnkey Osiris particulate monitor

Three Frisbee deposit gauges were also set up at 3 sites in the area between May 05 and February 06 in parallel with the PM_{10} monitoring undertaken as part of the Detailed Assessment. An anemometer was also positioned within the Yeoman Aggregates site to collect wind speed and direction data.

The station location is marked on the map in Figure 1.

Court Way Air Quality Monitoring Station

The site monitored nitrogen dioxide between 19th April 2005 and 1st June 2006. The air pollution monitoring station was located on Court Way, Acton, London (grid reference 520468, 181831). The site was designated as **Ealing 9** on the London Air Quality Network (www.londonair.org.uk).
It was located 20.5 m from the edge of nearest kerb of the A40 and 31.5 to centre of the A40 dual carriageway. The height of the inlet from ground level was 1.5 m. The site monitored NO_x and was equipped with following continuous analyser:-

1x Monitor Europe ML9841 Nitrogen Oxide Analyser

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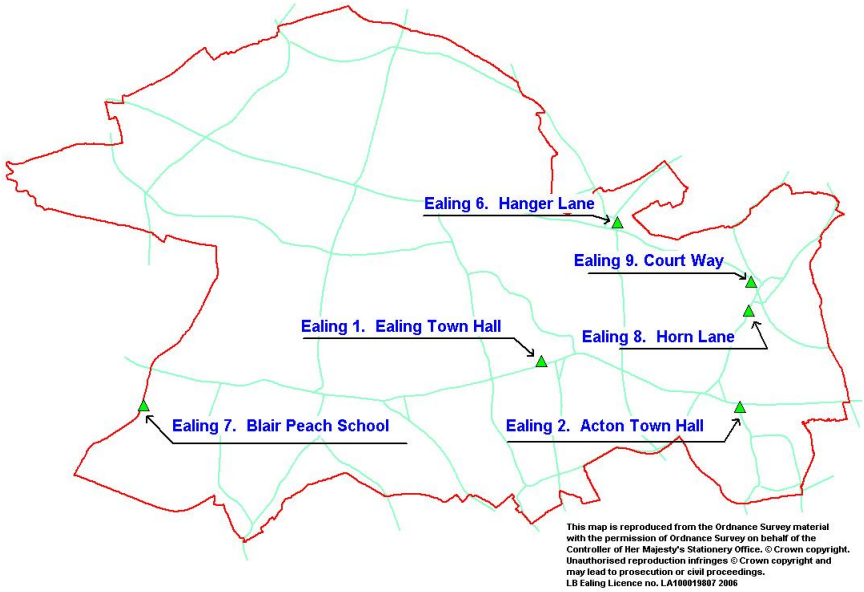
Figure 1. Map of automated monitoring sites in Ealing



2.1.1 **Monitoring results from automatic sites**

Ealing's USA, published in April 2006, investigated monitored data in 2005. This report will focus on 2006 data, not only as an update from the USA, but also to allow easy comparison with the AQS objectives.

Ealing 8 was commissioned as part of Ealing's Detailed Assessment of fine particulate matter (PM_{10}) with regard to emissions associated with several industrial and commercial activities near to Horn Lane, Acton. The findings are included within this report.

Ealing 9 ran for just over a year from 19th April 2005 to 1st June 2006.

2.1.2 **Nitrogen dioxide**

A summary of annual values for nitrogen dioxide in 2006 can be found in Table 2. Data relating to previous years can be found in Appendix 1. Table 2 shows the data capture rate for each site and compares each site against the two air quality objectives. It should be noted that data for 2006 has not been

fully ratified at present. As Ealing 9 ran for just over a year, data is presented for one year, with the period defined as 1st May 05 – 1st May 06 in Table 3. For comparison, data from other sites over the same period is presented.

Box 6.7 in LAQM.TG(03) provides correction factors to be applied to measured data from roadside sites in order to estimate annual average nitrogen dioxide concentrations in future years. 2006 measured data was used for the basis of future trends as being representative of past year's results. Table 2 also provides the estimated concentrations for the Objective year 2010.

Table 2 Hourly and annual nitrogen dioxide concentrations for 2006 and predicted values for 2010.

Site	Data Capture rate %	No more than 18 occurrences of hourly mean >200µg/m^3	Annual mean not exceeding 40µg/m^3	2010 estimated annual mean µg/m^3
Ealing 1 Ealing Town Hall W5	91	0	39.9	35.1
Ealing 2. Acton Town Hall W3	95	22	63.1	55.4
Ealing 6. Hanger Lane W5	87	242	94.7	83.3
Ealing 7 Blair Peach Primary School	89	0	32.4	28.5

Key

= Roadside Site = Urban Background Site = Industrial Site

Table 3 Hourly and annual nitrogen dioxide concentrations for Ealing 9 and the other continuous monitoring sites, 1st May 05-1st May 06

Site	Data Capture rate %	No more than 18 occurances of hourly mean >200µg/m^3	Annual mean not exceeding 40µg/m^3
Ealing 1. Ealing Town Hall	99	0	39.4
Ealing 2. Acton Town Hall	93	6	59.4
Ealing 6. Hanger Lane	82	210	92.3
Ealing 7. Blair Peach Primary School	93	0	33.4
Ealing 9. Court Way	92	0	40.9

Key

= Roadside Site = Urban Background Site = Industrial Site

As Table 2 shows, all continuous monitoring sites apart from Ealing 1 and Ealing 7 failed to achieve the annual mean objective in 2006. The two roadside sites, Ealing 2 and Ealing 6 failed to meet the hourly mean objective and will fail to meet the 2010 annual objective. Table 3 shows that the Ealing 9 continuous monitoring site failed to meet the annual mean objective over the period 1st May 2005-1st May 2006.

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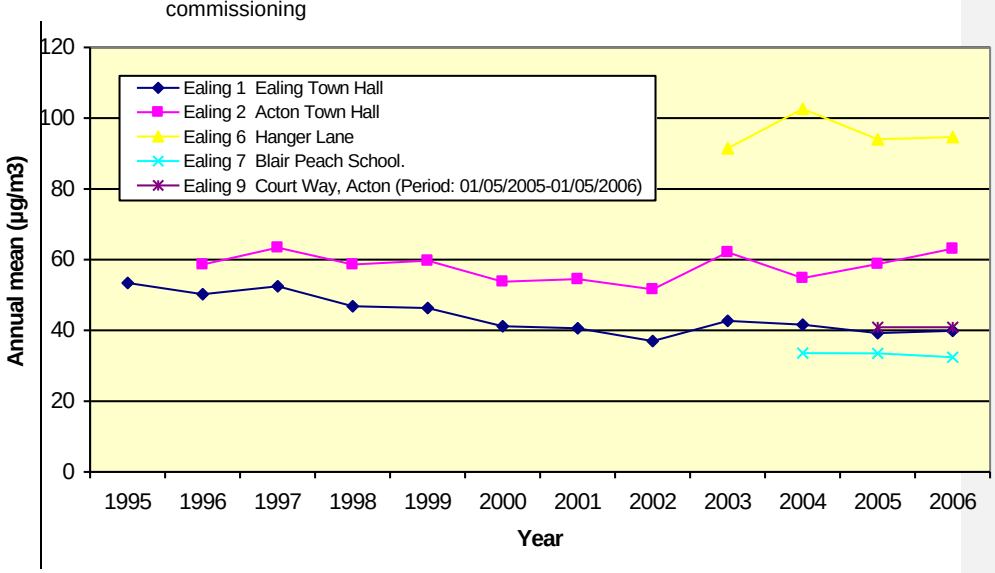
Graph 1 gives an indication of trends for all continuous monitoring stations since they were commissioned. All sites have recorded higher annual mean concentrations than 2005, apart from the Blair Peach school site. Although Ealing 1 and 7 are showing a general downward trend, Ealing 2 and 6 (roadside sites) are reporting higher annual mean concentrations than the first year of their commissioning. However, results for the Hanger Lane and Blair Peach School sites should be treated with care due to the low data capture rates achieved (87% and 89% respectively).

Graph 1 Nitrogen dioxide annual mean results from all continuous monitoring sites since commissioning



Details about data capture at Ealing 6 and Ealing 7 is provided in Appendix 3.

2.1.3 **Particulates (PM_{10})**

A summary of annual values for particulates in 2006 can be found in Table 4. Data relating to previous years can be found in Appendix 1. Table 4 shows the data capture rate for each site and compares each site against the two air quality objectives. It should be noted that data for 2006 has not been fully ratified at present. Technical guidance LAQM.TG(03) advises that for data collected using a TEOM, then a default factor of 1.3 should be applied to the data to estimate the gravimetric concentration to compare against the air quality objectives. For the FDMS reading at Ealing 2, a default factor of 1 is has been applied to estimate the gravimetric concentration to compare against the air quality objectives.

Box 8.7 of LAQM.TG(03) provides a methodology for calculating annual mean concentrations for future years. This is shown in Table 4, with 2006 data extrapolated to estimate annual mean concentrations for the objective year of

2010. From this calculated annual mean concentration, the number of 24-hour exceedances of 50µg/m^3 in 2010 can be derived using the graph in Figure 8.1 of LAQM.TG(03).

Table 4 Annual PM_{10} and $PM_{2.5}$ concentrations for 2006 and predicted values for 2010

Site	Data Capture Rate %	2006		2010	
		Annual mean less than 40µg/m^3	No more than 35 days where daily mean >50µg/m^3	Estimated annual mean µg/m^3 (less than 23 µg/m^3)	No more than 10 days where daily mean >50µg/m^3
Ealing 2. Acton Town Hall FDMS	99	26.5	24		
Ealing 2. Acton Town Hall	96	30.4	20	27.1	18
Ealing 7. Blair Peach Primary School	40	25.1	4		
Ealing 8. Horn Lane	99	74.3	224		

Key

= Roadside Site = Urban Background Site = Industrial Site

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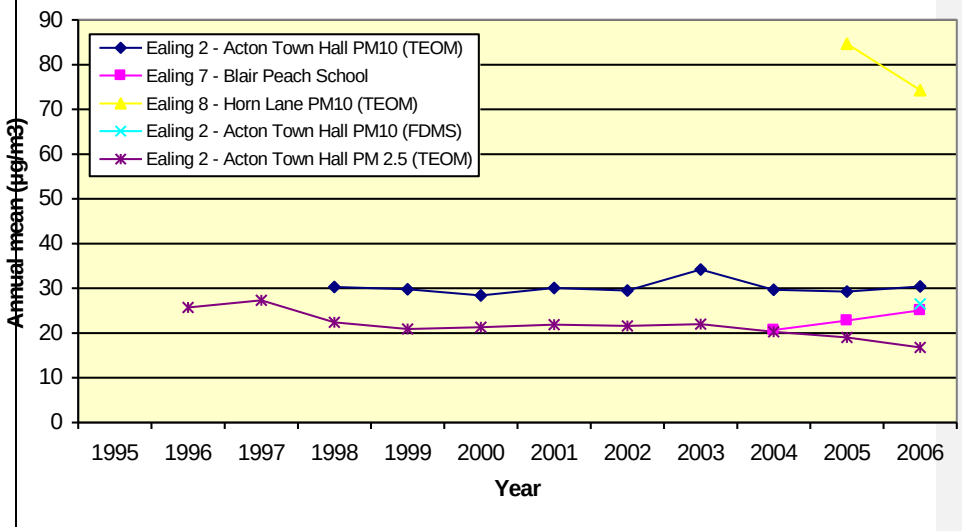
Table 4 shows that all sites met both PM_{10} Objectives during 2006, apart from Ealing 8 (Horn Lane), which failed both objectives. The annual mean objective for 2010 will also be met at Acton Town Hall, however the number of 24-hour exceedances of 50µg/m^3 is estimated to be 18 days per annum, which exceeds the provisional objective of 10 days per annum.

Graph 2 gives an indication of trends for all continuous monitoring stations that monitor for particulates. Apart from 2003, Acton Town Hall site shows little change in levels over the past 7 years. The $PM_{2.5}$ fraction is more encouraging with a slight decline over the 9 years of monitoring. Horn Lane has started a general downward trend, but the site at Blair Peach is showing a general upward trend.

Graph 2 Particulate annual mean results from all continuous monitoring sites



Details about Ealing 7's data capture is provided in Appendix 3.

2.1.4 **Detailed Assessment of PM_{10}**

Ealing's Updating and Screening Assessment in 2004 concluded that there was a need to proceed with a Detailed Assessment of fine particulate matter (PM_{10}) in relation to emissions associated with various industrial and commercial activities located on Horn Lane, Acton. Faber Maunsell Ltd were commissioned to carry out the Detailed Assessment on Ealing's behalf. Twelve months of monitoring involved using the equipment identified in section 2.1, complemented by a dispersion modelling study.

The monitoring programme commenced on 2nd February 2005. Initial results were reported in the 2005 Progress Report, to comply with statutory reporting requirements and an Interim Detailed Assessment Progress Report was submitted separately to DEFRA and the GLA. The final Detailed Assessment Report was submitted to the GLA and DEFRA on 5th June 2006. Further to recommendations from the GLA and DEFRA regarding the report, a gravimetric adjustment for the TEOM is presented in Table 5, even though two techniques were shown to agree very closely (as stated in the report produced by Faber Maunsell)- the TEOM mean was slightly higher than the Partisol mean, but the Partisol recorded one more exceedance day.

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The following provides an overview of the findings of the Detailed Assessment, produced in May 2006.

Table 5 summarises the PM_{10} data collected. It should be noted that all data has been ratified according to procedures outlined in LAQM.TG(03).

Table 5. Particulate results from Horn Lane monitoring site

Partisol (µg/m^3)			TEOM (µg/m^3)			
Data Capture Rate	12 month Mean (µg/m^3)	No. of daily exceedences	Data Capture Rate	12 month Mean (µg/m^3)	12 month Mean (µg/m^3, gravimetric)	No. of daily exceedences
97	60.1	202	100	61.6	80.08	201

Results are reported for the entire monitoring period from the TEOM and Partisol analysers in Table 5. Very high data capture rates were obtained for both the Partisol and TEOM instruments.

The results in Table 5 show that both air quality objectives for PM_{10} were not being met. Annual mean concentrations were above 60 µg/m^3, and exceedences of the daily mean standard were recorded on over 54 % of the monitored days. The annual means are also higher than the provisional 2010 London annual mean objective (23 µg/m^3) and more than 5 times as many exceedance days than those permitted (35) were recorded. 43 days had daily PM_{10} concentrations of 80-100 µg/m^3 and seven days had daily PM_{10} concentrations of 130-180 µg/m^3, as recorded by the Partisol.

Average PM_{10} monthly concentrations were recorded[2] as higher (above 75 µg/m^3) in the summer months[3] than in the winter months[4] (below 55 µg/m^3). This is largely due to rainfall removing particulates from the air. Precipitation occurs more often in the winter months than summer months.

Weekday and weekend concentrations rose from 7 am and reached peaks of 150-160 µg/m^3 between 2-5 pm in the weekdays and 70 µg/m^3 at midday on weekends. Increases in windspeed resulted in particulates of a larger size and weight becoming airborne, until a speed of 5-6 m/s. Particulate concentrations were observed to have dropped above a 6 m/s speed as strong winds are associated with rainfall, which removes particulates from the air.

The Frisbee deposition gauges were located at: Horn Lane (N) (Site 1); opposite the industrial sites on Horn Lane (Site 2); and to the north of the Yeoman Aggregates site on a quiet residential road (Site 3) for ten four-week periods. Site 2 recorded the highest deposition rates of the three sites (944 mg/m^2/day), followed by Site 1 (676 mg/m^2/day), and Site 3 (372 mg/m^2/day). Site 2 also recorded the highest levels of calcium, due to calcium-rich particulates arising from the handling of materials at the Yeoman Aggregates,

[2] Based on averaged 15-minute TEOM results
[3] June-September 2005
[4] October 2005-February 2006

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Hanson Premix and Gowing & Pursey sites. Data capture for all three sites was good and, as expected, deposition rates fell during the wetter periods of the year. Deposition rates were also lower since October 2005 due to increased road sweeping, performed by a vehicle owned by Gowing & Pursey. The Detailed Assessment also indicates that emissions of the majority of the metallic elements analysed are unlikely to be elevated in the future in the study area.

Analysis of daily traffic flows and concentrations of PM_{10} resulted in the conclusion that stronger correlations existed between concentrations of PM_{10} and Horn Lane traffic associated with the industrial premises, than with general Horn Lane traffic. Concentrations dropped in the late afternoon at around the same time as drops in traffic flow to and from industrial premises.

A source apportionment study was carried out to determine the relative contributions of the main emission source categories to the predicted PM_{10} concentrations on Horn Lane. 67% of emissions were apportioned as coming from fugitive emissions from industrial premises and the re-suspension of dust by vehicles on Horn Lane, and 3% and 30% coming from road traffic and background sources respectively. These contributions were calculated at the façade of a property (grid reference 520421, 181348), a sensitive receptor opposite the industrial site entrance where the highest concentration is predicted (2205: 81 $\mu g/m^3$).

Exceedances of the 24-hour objective were predicted at all properties along Horn Lane to the north of the railway bridge, at several properties on Noel Road (where it meets Horn Lane), and the majority of properties on York Road and Leamington Park.

2.1.4.1 Action on Detailed Assessment Recommendations

Following the recommendations made by Faber Maunsell in the Detailed Assessment Report, Ealing Council has continued monitoring PM_{10} in Horn Lane. Of the preventative and mitigative controls suggested as being employed to help reduce fugitive emissions by approximately 90% (an annual mean decrease of 49 $\mu g/m^3$ to ensure both 2004 objectives are met), a wheel-washer was installed at the Gowing & Pursey site on 26th August 2006. Hanson Premix has not yet replaced their dry-batch concrete plant with a wet-batch system. As 2.1.3 shows, the objectives are still not being met. Ealing Council is currently investigating the reasons as to why PM_{10} levels remain high and will introduce schemes to tackle fugitive emissions from industrial sources in a revised Air Quality Action Plan, which is due to be published by the end of 2006. These measures are also in accordance with recommendations from the GLA (ref: LB10/LT/060810) and DEFRA (ref: DA-261; ref: USA3-045), received as part of their review of the 2006 Detailed Assessment report and DEFRA's review of the 2006 Updating and Screening Assessment report.

2.1.5 **Sulphur dioxide**

A summary of annual values for sulphur dioxide in 2006 can be found in Table 6. Data relating to previous years can be found in Appendix 1. Table 5 shows the data capture rate for the Ealing Town Hall urban background site and compares data measured against the three air quality objectives. The annual mean for 2006 is also given. It should be noted that data for 2006 has not been fully ratified at present.

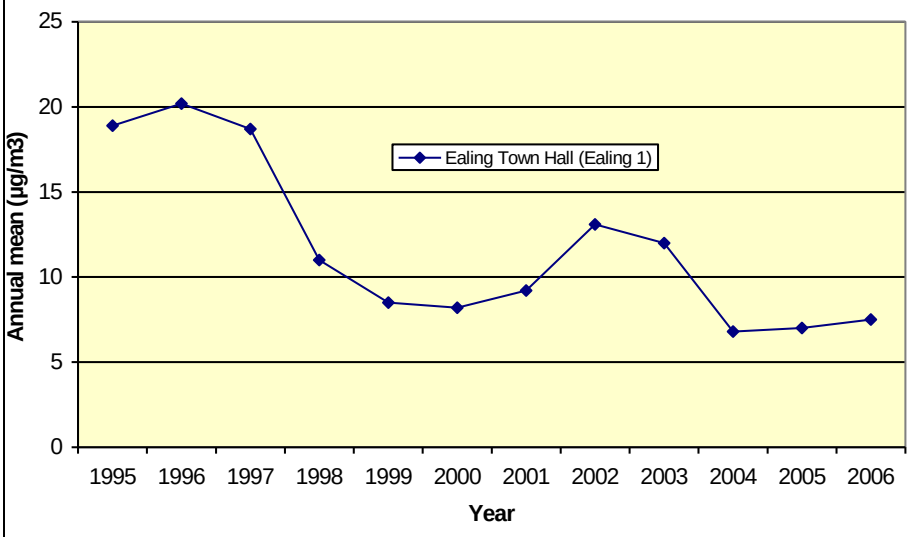
Table 6 Hourly, daily and 15-min mean sulphur dioxide concentrations for 2006.

Site	Data capture rate %	No more than 24 occurrences of hourly mean >350µg/m^3	No more than 3 days where daily mean >125µg/m^3	No more than 35 occurrences of 15 min mean >267µg/m^3	2006 Annual Mean µg/m^3
Ealing 1. Ealing Town Hall	89	0	0	0	7.5

Table 6 shows that the Ealing Town Hall site met all the sulphur dioxide Objectives during 2006. It is likely that the objectives in 2007 will be met as well.

Graph 3 gives an indication of SO_2 trends for the Ealing Town Hall site since it was commissioned. Overall, SO_2 levels have decreased gradually over the past 9 years, however SO_2 levels have increased slightly since 2004.

Graph 3 Annual mean concentrations of sulphur dioxide at Ealing Town Hall since 1995



Details about Ealing 1's data capture is provided in Appendix 3.

2.1.6 **Carbon monoxide**

A summary of annual values for carbon monoxide in 2006 can be found in Table 7. Data relating to previous years can be found in Appendix 1. Table 7 shows the data capture rate for the Acton Town Hall roadside site and compares data measured against the air quality objectives. The average 8-hour mean and running 8-hour maximum concentration for 2006 is also given as an indication of how below the objective measured concentrations are. It should be noted that data for 2006 has not been fully ratified at present.

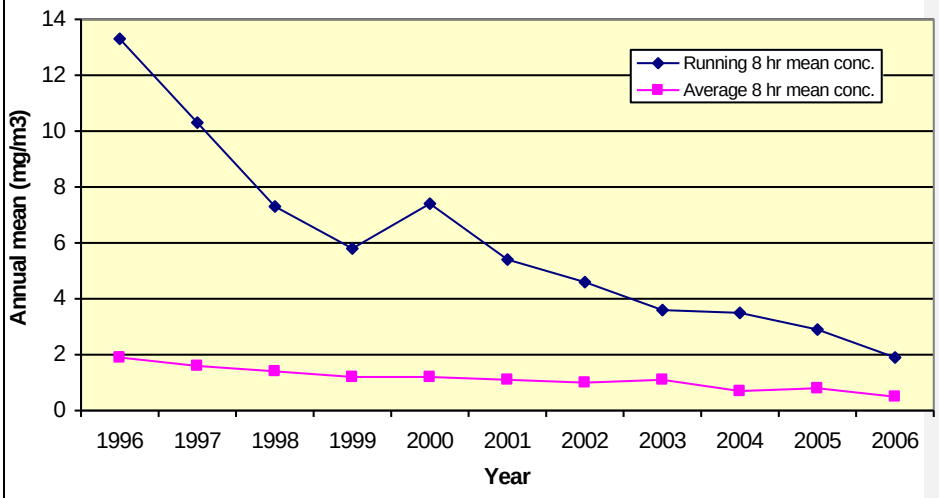
Table 7. 8-hour mean carbon monoxide concentrations for 2006.

Site	Data Capture Rate %	No occurrences of rolling 8hr mean >10mg/m^3	Average 8-hour mean mg/m^3	Running 8-hour maximum concentration mg/m^3
Ealing 2. Acton Town Hall	93	0	0.5	1.9

Table 6 shows that the Ealing Town Hall site met all the CO Objectives during 2006, and it is likely that the objective in 2007 will be met as well.

Graph 4 gives an indication of carbon monoxide trends for the Acton Town Hall site since 1996. Carbon monoxide levels have decreased dramatically over the past 10 years.

Graph 4. Carbon monoxide concentrations at Acton Town Hall (Ealing since 1996



2.1.7 **Ozone**

Although the National Air Quality Strategy set an objective for ozone, it does not fall to local authorities to meet it as it is recognised as a national and international issue rather than a local one. This is because of the particular

nature of ozone and its chemistry in the atmosphere. Ozone is not directly emitted from any man made source, but is formed by chemical reactions, mainly involving volatile organic compounds and nitrogen oxides, in the atmosphere under the influence of sunlight. Formation takes place over hours or days, persists for a similar period, and may arise hundreds or thousands of kilometres from the original source of the contributing pollutants.

A summary of annual values for ozone in 2006 can be found in Table 8. Data relating to previous years can be found in Appendix 1. Table 8 shows the data capture rate for the Ealing Town Hall site and compares data measured against the air quality objectives. The number of days above 100µg/m^3, the running 8-hour mean and the running 8-hour maximum concentration for 2006 is also given. It should be noted that data for 2006 has not been fully ratified at present.

Table 8. Ozone measured against various parameters during 2006.

Site	Data Capture Rate %	No more than 10 days where maximum rolling 8hr mean>100µg/m^3	Running 8-hour mean µg/m^3	Running 8-hour maximum concentration µg/m^3
Ealing 1. Ealing Town Hall	99	202	37.7	158.9
Ealing 2. Acton Town Hall	91	11	27.7	107.3

Key
= Roadside Site
= Urban Background Site

Graph 5 gives illustrates ozone concentrations measured at Ealing Town Hall and Acton Town Hall. As can be seen, there has been little change in the running 8-hour mean concentrations over that time. However, the running 8-hour maximum concentrations are showing a slight upward trend at both sites.

Graph 5 Ozone concentrations at Ealing Town Hall and Acton Town Hall

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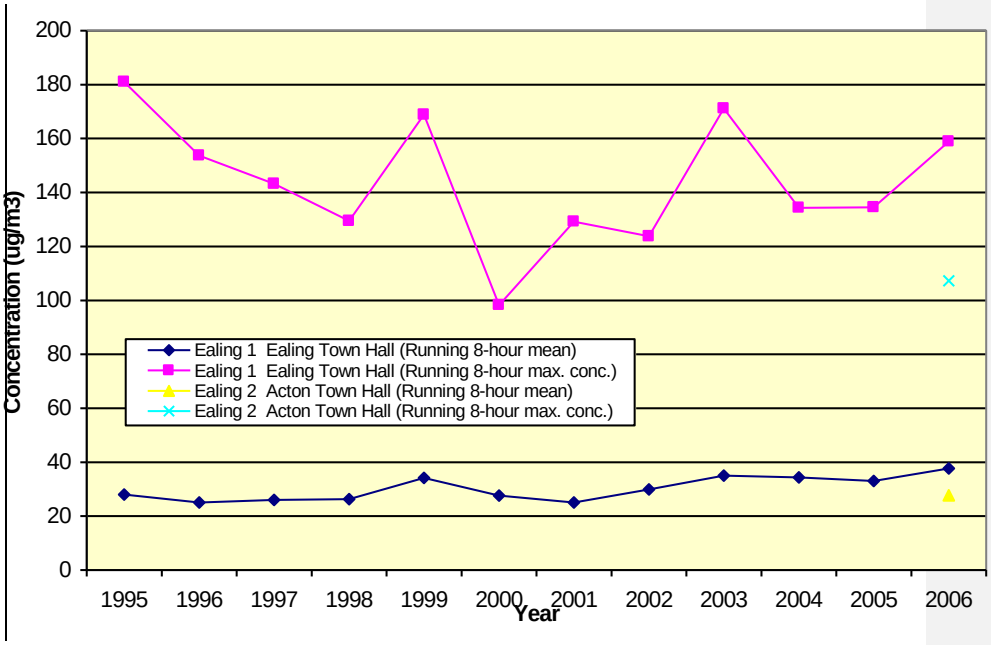


2.2 Non-Automatic Monitoring

Diffusion tubes are a simple and cost-effective method of monitoring air quality. In Ealing they are used to monitor for nitrogen dioxide and benzene. They give a good general indication of average pollutant levels across the borough and any long-term trends that may be occurring. They are however not reliable indicators of monthly concentrations and so are generally averaged over a year. Even then there can still be an uncertainty in the results of 25%.

2.2.1 Nitrogen dioxide diffusion tube monitoring

There are currently 103 diffusion tubes monitoring nitrogen dioxide at 87 locations around the borough. Eight of these sites are triplicate sites, 4 of which are co-located with the Council's continuous monitoring stations. Four sites are operated as part of the UK Nitrogen Dioxide Network.

The tubes are supplied and analysed by Gradko International Ltd, a UKAS accredited laboratory and who participates in both the Health and Safety Laboratory's WASP programme for diffusion tubes and the UK NO_2 Network Field Intercomparison Exercise. The tubes were prepared using a 20% TEA/Water solution.

Figure 2 shows the location of the tube sites around the borough. The largest source of nitrogen dioxide emissions in Ealing is road traffic. Therefore it is to be expected that diffusion tubes located near main roads will have higher results than those located further away. The sites therefore have been classified into three categories according to how far they are located from a

main road using guidance from the Air Quality Archive (http://www.airquality.co.uk/archive/no2caldr.php):

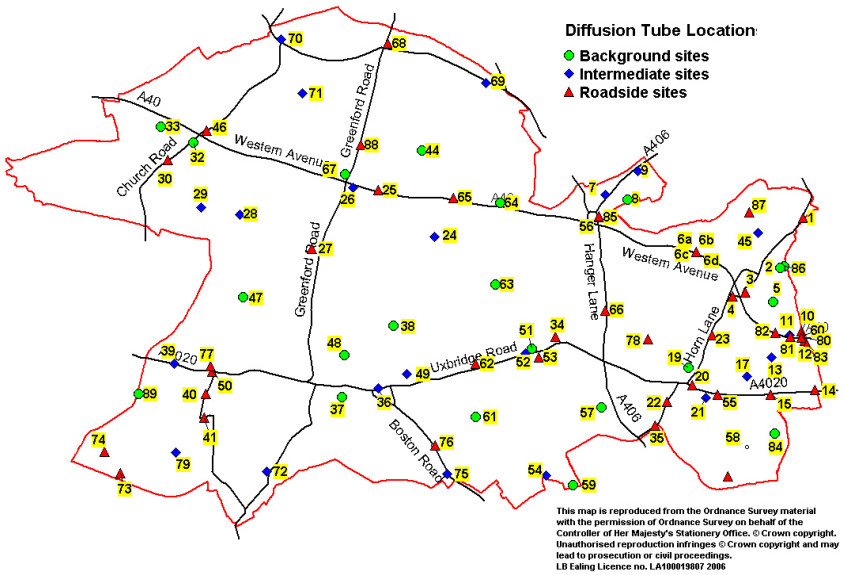
Roadside (R)- 1-5 metres from a busy road.
Intermediate (I)- 20-30 metres from a busy road
Background (UB)- >50 metres from a busy road

There are 44 roadside sites, 22 intermediate, and 21 urban background sites around the borough.

This is different from the classification of sites from the 2005 Progress Report, which classified sites as the following:

Roadside (R) - 0 – 10 metres from a main road
Intermediate (I) -10 – 40 metres from a main road
Background (UB) - >40 metres away from a main road.

Figure 2. Location of nitrogen dioxide diffusion tube sites.



The monitoring sites are located at schools, nurseries, on the facades of resident's houses and on lampposts. Diffusion tubes have been located at 13 sites since 1997, with the other sites commissioned in April 2001.

Four of the triplicate diffusion tube sites are co-located with the Council's continuous monitoring stations. This enables the Council to compare the annual mean NO_2 concentrations from both monitoring methods. Because the data from the monitoring station is of much greater accuracy and has been quality assured to national standards, the ratio between the differing monitoring results is used to provide a local bias adjustment factor for the diffusion tubes.

The calculation for the bias adjustment factor can be found in Table 9. This methodology is derived from LAQM.TG(03). A bias adjustment factor was determined from tubes collocated with the Acton Town Hall and the Ealing Town Hall sites to give a roadside and urban background adjustment factor respectively. Intermediate tube sites were adjusted using the urban background adjustment factor.

Table 9 Bias adjustment factors for Acton and Ealing Town Hall sites

	Acton Town Hall	**Ealing Town Hall**
Av diffusion tube concentration 2006 (DM)	54.3	38.9
Av continuous analyser concentration 2006 (CM)	63.1	39.9
Bias adjustment factor = CM/DM	1.2	1.0

The bias adjustment factor for roadside sites was 1.2 and the factor for urban background and intermediate sites was 1.0. All diffusion tube results have been adjusted for these factors unless otherwise mentioned.

Table 10 shows the annual mean NO_2 data for 2006 as well as data capture rates for each site. Box 6.7 in LAQM.TG(03) provides correction factors to be applied to measured data from sites in order to estimate annual average nitrogen dioxide concentrations in future years. Table 9 therefore provides the estimated concentrations for the objective year 2010 based on 2006 data. Care should be taken with these future intermediate and background site predictions as the methodology used is truly only applicable to background data.

Table 10 NO_2 diffusion tube concentrations for 2006 and estimated projected concentrations for the objective year of 2010. ($\mu g/m^3$)

Site No.	**Site Name**	**Type**	**2006 Annual mean**	**2006 Bias Adjusted Annual mean**	**Data Capture %**	**Estimated concentration in 2010**	**Site Type as detailed in 2005 progress report**
1	39 Old Oak Lane	R	54.4	63.2	100	55.6	R
2	101 Wells House Road,	UB	39.7	40.7	100	35.8	UB
3	Jenner Avenue	R	54.1	62.9	100	55.4	I
4	5 Leamington Park	R	50.5	58.7	100	51.7	I
5	John Perryn First and Middle School, Long Drive	UB	40.3	41.3	100	36.3	UB
6a	Wendover Court, Western Avenue- Top	R	54.4	63.2	100	55.6	R
6b	Wendover Court, Western Avenue- 2	R	60.4	70.2	91.7	61.8	R

Site No.	Site Name	Type	2006 Annual mean	2006 Bias Adjusted Annual mean	Data Capture %	Estimated concentration in 2010	Site Type as detailed in 2005 progress report
6c	Wendover Court, Western Avenue- 1	R	61.3	71.2	100	62.7	R
6d	Wendover Court, Western Avenue- Ground	R	59.3	68.9	100	60.6	R
7	45 Park Avenue	I	48.3	49.5	83.3	43.6	I
8	6 Brentmead Gardens	UB	45.6	46.8	100	41.2	I
9	Iveagh Avenue	I	44.4	45.5	91.7	40.0	I
10	57-75 Old Oak Common Lane	R	59.2	68.8	100	60.6	I
11	2 St Andrews Road	I	55.1	56.5	100	49.7	I
12	**18 Old Oak Common Lane**	R	67.7	78.7	94.4	69.3	R
13	East Acton Primary School, East Acton Lane	I	36.2	37.1	66.7	32.7	UB
14	First Avenue	R	49.5	57.5	100	50.6	I
15	Warple Way	R	56.8	66.0	100	58.1	R
17	Maples Nursery, East Churchfield Road	I	39.4	40.4	100	35.6	R
19	Lantry Court, Acton	UB	36.4	37.3	100	32.8	UB
20	Age Concern, High Street, Acton	R	65.4	76.0	100	66.9	I
21	Acton Health Centre, Church Road	I	35.9	36.8	100	32.4	UB
22	Old Acton Hospital, Gunnersbury Lane	R	54.7	63.6	91.7	56.0	I
23	156 Horn Lane	R	52.5	61.0	91.7	53.7	R
24	Peal Gardens	I	38.3	39.3	100	34.6	UB
25	17 Runnymede Gardens	R	80.8	93.9	100	82.6	R
26	5/6 Blenhelm Close	I	42.7	43.8	100	38.5	I
27	203 Windmill Lane, Greenford	R	45.1	52.4	100	46.1	UB
28	Greenford High School, Ruislip Road, Greenford	I	47.3	48.5	100	42.7	I
29	Shadwell Drive, Northolt	I	45.1	46.3	100	40.7	I
30	Bengarth Road, Northolt, UB5	R	48.5	56.4	100	49.7	R
32	Lilliput Avenue	UB	41.8	42.9	100	37.8	I
33	Northolt Primary School, Compton Crescent	UB	53.0	54.4	58.3	47.9	UB
34	8 The Broadway, Ealing	R	70.5	81.9	100	72.1	R
35	Gunnersbury Crescent	R	47.2	54.8	100	48.2	R
36	Centre for Early Years Childcare and Play, 25A Laurel Gardens	I	45.0	46.2	100	40.7	I
37	Ealing Hospital, St Bernards Wing, Uxbridge Road	UB	47.4	48.6	100	42.8	UB

Site No.	Site Name	Type	2006 Annual mean	2006 Bias Adjusted Annual mean	Data Capture %	Estimated concentration in 2010	Site Type as detailed in 2005 progress report
38	Hobbayne First School, Greenford Avenue	UB	35.1	36	100	31.7	UB
39	McDonalds Drive thru, Uxbridge Road, Southall	I	43.5	44.6	100	39.3	R
40	**Hambrough Primary and Nursery School, South Road**	R	52.8	61.4	100	54.0	I
41	4 Merrick Road, Southall	R	46.1	53.6	100	47.2	R
44	Perivale Wood	UB	33.2	34.1	83.3	30.0	UB
45	INCO, Bashley Road	I	37.3	38.3	100	33.7	UB
46	143 Church Road, Northolt	R	73.6	85.5	91.7	75.2	R
47	Jubilee Gardens Library, Jubilee Gardens	UB	37.9	38.9	100	34.2	UB
48	Brent Lodge, Church Road	UB	28.7	29.4	100	25.9	UB
49	Health Centre, Netheravon Road	I	40.8	41.8	100	36.8	UB
50	11 Uxbridge Road, Southall	R	70.0	81.3	91.7	71.6	R
51	**Ealing Town Hall, New Broadway ***	UB	38.9	39.9	100	35.1	UB
52	Perceval House, 14/16 Uxbridge Road	I	41.3	42.4	83.3	37.3	I
53	14/16 Bond Street, Ealing	R	54.5	63.3	83.3	55.7	R
54	South Ealing Cemetery	I	31.7	32.5	100	28.6	I
55	**Acton Town Hall, High Street, Acton ***	R	54.3	61.4	100	54.0	R
56	Fernlea House, Hanger Lane	R	82.1	95.4	100	84.0	R
57	106/116 St Pauls Close	UB	33.9	34.8	83.3	30.6	UB
58	44 Acton Lane	R	49.9	58.0	91.7	51.0	UB
59	Clayponds Hospital, Sterling Place	UB	34.8	35.7	100	31.4	UB
60	53 Old Oak Common Lane	R	60.8	70.7	100	62.2	R
61	15 Balfour Road	UB	34.5	35.4	100	31.2	UB
62	Kirn Road	R	50.5	58.7	100	51.7	R
63	St David's Home, 12 Castlebar Hill	UB	33.3	34.2	100	30.1	I
64	St John Fisher Primary School, Thirlmere Avenue	UB	46.8	48.0	75	42.2	UB
65	2 Horsenden Lane South, Greenford	R	61.3	71.2	100	62.7	R
66	57 Woodville Gardens	R	50.4	58.6	100	51.6	I
67	**Oldfield Primary**	UB	42.5	43.6	75	38.4	UB

Site No.	Site Name	Type	2006 Annual mean	2006 Bias Adjusted Annual mean	Data Capture %	Estimated concentration in 2010	Site Type as detailed in 2005 progress report
	School, Greenford						
68	Gainsboro Gardens	R	45.8	53.2	91.7	46.8	I
69	81 Witten Avenue East, Greenford	I	38.3	39.3	100	34.6	I
70	126 Petts Hill, Northolt,	I	40.8	41.8	100	36.8	R
71	181 Castle Road, Northolt	I	37.7	38.7	100	34.1	UB
72	2/4 Minterne Avenue	I	33.5	34.4	91.7	30.3	UB
73	**Brent Road Garages**	R	55.2	64.1	97.2	56.4	I
74	134 Brent Road, Southall, UB2	R	49.8	57.8	100	50.9	R
75	6 Boston Gardens	I	39.1	40.1	100	35.3	I
76	200 Boston Gardens	R	52.1	60.5	100	53.2	I
77	7 Greenford Avenue, Southall	R	37.9	44.0	100	38.7	UB
78	Oakley Avenue	R	45.7	53.1	58.3	46.7	R
79	Albert Dane Centre, 19-21 Western Road, Southall	I	43.4	44.5	100	39.2	I
80	6 Western Avenue	R	75.1	87.3	91.7	76.8	R
81	54 Western Avenue	R	58.1	67.5	100	59.4	I
82	98 Western Avenue	R	51.6	60.0	100	52.8	R
83	171 Old Oak Road	R	48.2	56.0	100	49.3	R
84	Southfields First and Middle School	UB	36.4	37.3	100	32.8	UB
85	**Fernlea House, Hanger Lane ***	R	73.7	85.6	100	75.3	R
86	27 Wells House Road	UB	40.5	41.5	100	36.5	I
87	94 North Acton Road	R	45.4	52.8	100	46.5	R
88	914 Greenford Road	R	43.0	50.0	100	44.0	R
89	**Blair Peach Primary School***	UB	32.7	33.5	100	29.5	UB

Key
- = Roadside Site
- = Intermediate Site
- = Urban Background Site

* Co-located sites (N.B. 2006 Continuous analyser annual mean concentrations for NO_2 at Hanger Lane and Blair Peach Primary School are 94.7 and 32.4 respectively).

Triplicate sites in **bold**

Four diffusion tube sites have changed since the 2005 Progress Report. Diffusion tubes located at 177 The Vale; Aspen Lane, Northolt; 132 Brent Road, Southall; and 119 Twyford Avenue have moved to the following locations: a drainpipe attached to facade of premises at Warple Way; and lampposts at Bengarth Road; 134 Brent Road; and Oakley Avenue, respectively. In addition, Table 11 shows that 67 of the sites failed to meet the air quality objectives in 2006, including all 44 roadside sites, 14 of the 22

intermediate, and 9 of the 21 urban background sites. This is predicted to drop to 52 sites in 2010 using the correction factors in Box 6.7 in LAQM.TG(03) to estimate annual average nitrogen dioxide concentrations for 2010. However, all continuous monitoring stations have recorded higher annual mean nitrogen dioxide concentrations than 2005, apart from the Blair Peach school site (see Tables 2 and 3). Ealing 2 and Ealing 6 (roadside sites) are reporting higher annual mean concentrations than the first year of their commissioning (see Graph 1). It is therefore realistic to assume that more than 52 sites will fail to meet nitrogen dioxide annual mean air quality objectives in 2010.

2.2.2 **Benzene diffusion tube monitoring**

There are three diffusion tube sites currently located within Ealing that monitor benzene. The tubes are supplied and analysed by Lambeth Scientific Services Ltd, a UKAS accredited laboratory. Annual mean concentrations for 2006 are shown in Table 12. LAQM.TG(03) provides a methodology for estimating the annual mean for 2010 which is also shown in Table 11.

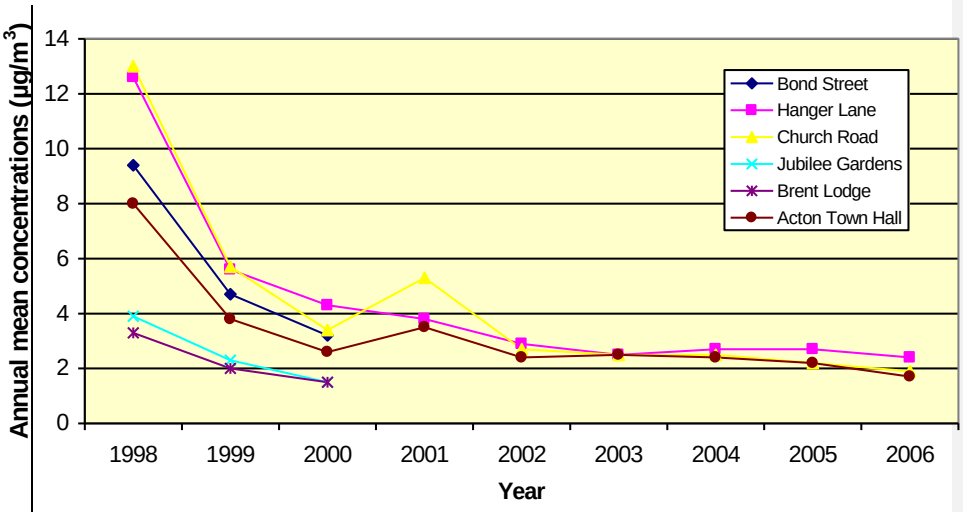
Table 12. Benzene diffusion tube concentrations measure in 2006 and estimated for 2010.

	2006 Annual mean µg/m^3	Estimated 2010 annual mean µg/m^3
Acton Town Hall	1.7	1.1
Church Road, Northolt	1.9	1.3
Hanger Lane	2.4	1.6

Table 12 shows that all sites meet the air quality objectives for benzene.

Graph 6 gives an indication of the trends in benzene concentrations for all sites since 1998. Annual mean concentrations have dropped dramatically over that time and have started to level-off at around 2 µg/m^3.

Graph 6 Annual mean benzene concentrations since 1998 (µg/m^3)



3.0 New Developments – Industrial Processes

Progress Reports are required to address any changes that might affect air quality. This includes industrial processes included in the list in LAQM.TG(03), new developments with an impact on air quality, especially those that will significantly change traffic flows, and new landfill sites, quarries etc with relevant public exposure. It is only necessary to consider developments that have actually been granted planning permission.

3.1 Part A1 Industrial Processes

There are two Part A1 installations within Ealing. Neither underwent significant change likely to increase their emissions since the Updating and Screening Assessment.

No new Part A/A1 installations were authorised for operation since the Updating and Screening Assessment.

3.2 Part A2 Industrial Processes

There are no Part A2 installations in Ealing and none have been authorised since the Updating and Screening Assessment.

3.3 Part B Industrial Processes

There are currently 63 Part B installations permitted to operate within Ealing. None have undergone significant changes likely to increase their emissions, but there has been one new bulk cement activity permitted for operation since the Updating and Screening Assessment.

The installation permitted is a depot for the storage of Bulk Cement at Tarmac Cement Depot T/A Buxton Lime Industries, Channel Gate Road, Willesden, London NW10 6TY. The installation is for the storage and distribution by road of bulk cement; the only releases to air will arise from the venting of displaced air during the changing of the silos, or from the discharge of cement to road tankers. Arrestment equipment and filters are in place and designed to limit particulate emissions from these sources. Due to the nature of the installation and activities undertaken, emissions from the site are minimal and will not lead to exceedance of the objectives and so a Detailed Assessment is not required.

Petrol stations fall into this category, and are relevant in the context of benzene emissions. Authorities are required to identify new petrol stations where –

- Petrol throughput is greater than 2000 m^3 per annum, and
- There is relevant public exposure
- There is a busy road nearby, (> 30,000 vehicles per day)
- Stage 2 vapour recovery is not installed.

There are no new petrol stations meeting these criteria in Ealing.

Since the Updating and Screening Assessment two petrol stations in Ealing have ceased operation.

3.4 **Other Industrial Sources**

There are no new landfill sites, quarries or other mineral processes in Ealing since the Updating and Screening Assessment.

3.5 **Industrial Process Closures**

No major industrial processes have closed since the Updating and Screening Assessment was completed. There have been two petrol stations that have closed.

4.0 **New Developments – Transport**

New developments relating to roads or other transport are relevant to air quality as they may have an impact on ambient levels of carbon monoxide, benzene, NO_2 and PM_{10}.

4.1 **New Road Developments**

There have been no new roads constructed or proposed since the most recent Updating and Screening Report. No roads have been identified for

which updated traffic data has revealed that the annual average daily traffic (AADT) is significantly higher (25% or more) than previously thought. No roads have been identified which have AADT greater than 10,000 vehicles per day, but which were omitted from the previous Updating and Screening Report. In addition there have been no significant changes to existing roads since the most recent Updating and Screening Report.

5.0 **New Developments – Residential, Commercial, Public**

The major new developments that were appraised for their impacts on air quality in 2005 and 2006 are set out in Ttable 13. These developments were identified in the early stages of the application process and those in sensitive areas or of a significant size were required to submit an air quality assessment.

Table 13 Major new developments appraised for their impacts on air quality in 2005 and 2006

Planning App	Address	Summary of comments from appraisal	Planning Decision (N.B. may not be related to the outcomes of the appraisal)
P/2005/4387	Phoenix House, The Green, Southall	Air Quality Objectives are not likely to be exceeded at the facade facing The Green at the proposed date of occupancy (2008) and at the height of the floors (1st and above) proposed for residential accommodation. Mitigation in relation to air quality will not be required for the residential component of the development. **No objection to this proposal on air quality grounds.** Care will be required in the siting of ventilation intakes for the (ground floor) library, which should be located at the rear of the building and I recommend a condition be attached requiring that details of the library ventilation scheme be submitted for approval prior to the commencement of the development.	Unknown
P/2005/4353	Quattro (UK) Ltd	**No objection to this application**	Unknown
P/2005/3984	The Granville, 437 Uxbridge Road, W5	**No objection to this application on air quality grounds.** Nevertheless given the proximity of the site to the Uxbridge Road I recommend that mechanical ventilation be provided to residential units with windows on the facade facing the Uxbridge Road, with the air intake being taken from the back of the building. This should be required by an appropriate condition. Care will be needed in designing the ventilation system to ensure that incoming air is not contaminated either by boiler emissions or by air extracted by ventilation systems serving the ground floor public house.	Unknown
P/2006/3615	25 Merrick Road	**Recommended refusal of LIDL Food Store application** on the following grounds:- (a) Conflict with adopted policies on reduction of air pollution levels and achievement of air quality objectives; (b) Insufficient proposals for the mitigation of air pollution impacts from customer vehicle emissions.	Unknown
P/2006/3877	Corner of Brent Road and Scotts Road, Southall	**Recommended permission is granted** with a condition attached requiring occupants who are vehicle operators to submit to the council for approval a Green Fleet Management plan.	Unknown
P/2006/4025	Cambridge Yard, Cambridge	**No objection to this application**	Unknown

Planning App	Address	Summary of comments from appraisal	Planning Decision (N.B. may not be related to the outcomes of the appraisal)
	Road, Hanwell, W7 3UP		
P/2006/4999	14-16 Bond Street, Ealing W5 5AA	**No objection is raised to the application** Recommendations: (a) That you confirm whether the use of mechanical ventilation conflicts with adopted policies and approved documents on energy and sustainability, and that the applicant is informed accordingly, and (b) That if permission is granted a condition is attached requiring the submission to the planning authority of the proposed ventilation scheme for approval prior to the commencement of development.	Unknown
P/2006/4583	Blocks F & G , Portal Way, Gypsy Corner	The proposed development would place residents at a location which is subject to elevated air pollution levels arising from its proximity to a busy road. I have reservations as to the adequacy of the mitigation proposed. **Recommended refusal of the application** on grounds of detriment to residential amenity arising from poor air quality. If the application is granted, it is requested that the following conditions, appropriately worded, be attached to the permission:- 1. Details of the proposed ventilation scheme to be submitted to the local planning authority for approval before development is commenced. 2. The applicant shall enter into an agreement to provide and maintain an automatic air quality monitoring station for nitrogen oxides at the site, to a specification and at a location agreed by the Council, for a period of five years from the date of the agreement (estimated cost: £100,000). 3. Consideration of a condition providing for a change of use from commercial to residential for the lower floors if improvements in air quality can be demonstrated.	Unknown
P/2006/4103	Orbit House Aparthotel redevelopment	The development site is subject to elevated air pollutant concentrations arising from its proximity to major road traffic emissions sources. Acceptance of the conclusions of the report that there will be no constraints on the proposal due to air quality given that adequate mitigation is already available within the building, which it is proposed to utilise in the new development. **No objection to the application.**	Conditional
P/2006/4252	50-54 Broadway, West Ealing	Would consider further submissions from the applicant if this would help to produce an acceptable proposal, assuming that there is time to do this. However, these are not adequate proposals for mitigation. **Recommended refusal of this application.**	Unknown
P/2006/1372	Plasser Ltd, Manor Road, West Ealing, W13 0JB	**No comments but suggest the following informative:-** "The applicant is advised that a permit to operate a rail vehicle recoating process at the premises would be required under The Pollution Prevention and Control (England and Wales) 2000, SI 1973 (as amended) in the event that solvent usage exceeds 5 tonnes in any period of 12 months. For further information contact Ealing Council's Environmental Quality Team on 020 8825 7226."	Conditional

Planning App	Address	Summary of comments from appraisal	Planning Decision (N.B. may not be related to the outcomes of the appraisal)
P/2006/1452	Joices Public House, Western Avenue	**Recommended permission is granted** with a condition attached:- Due proximity of the site to the A40, I endorse the assessment's recommendation that mechanical ventilation be provided to residential units, with the air intake being taken from the back of the building i.e. the south-west facing facade. Care will be needed to ensure that incoming air is not contaminated by any boiler flue emissions or by air extracted by ventilation systems serving the public house	Refused
P/2006/3690	Land between St Mary's Burial Ground and Hooper's Mews, W3	**Appraisal not required**	Unknown
P/2006/4980	200-202 Church Road, Northolt UB5 5AE	**Recommended permission is granted** with a condition attached:- 1. Requiring that a fresh air ventilation scheme (sourced from the rear of the building) for habitable rooms on the Church Road facade be submitted to the planning authority for approval prior to the commencement of development. 2. That you confirm whether the use of mechanical ventilation would conflict with adopted policies and approved documents on energy and sustainability, and that the applicant is advised accordingly.	Unknown

6.0 Conclusions and Recommendations

Since the last Updating and Screening Assessment of April 2006, monitoring from Ealing's automatic monitoring sites and non-automatic sites indicate that concentrations of PM_{10} and NO_2 are still likely to exceed the air quality objectives in some parts of the borough.

The following points were gleaned from the Detailed Assessment of PM_{10} at Horn Lane, Acton:

- The TEOM and gravimetric Partisol results showed fairly good agreement.
- Exceedances of the 24-hour objective were predicted at all properties along Horn Lane to the north of the railway bridge, at several properties on Noel Road (where it meets Horn Lane), and the majority of properties on York Road and Leamington Park.
- Annual mean concentrations were above 60 $\mu g/m^3$, and exceedences of the daily mean standard were recorded on over 54 % of the monitored days. The annual means are also higher than the provisional 2010 London annual mean objective (23 $\mu g/m^3$) and more than 5 times as many exceedance days than those permitted (35) were recorded.

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- A source apportionment study was carried out to determine the relative contributions of the main emission source categories to the predicted PM_{10} concentrations on Horn Lane. 67% of emissions were apportioned as coming from fugitive emissions from industrial premises and the re-suspension of dust by vehicles on Horn Lane, and 3% and 30% coming from road traffic and background sources respectively.

- Ealing Council has continued monitoring PM_{10} in Horn Lane and is currently investigating the reasons as to why PM_{10} levels remain high (in exceedance of objectives for PM_{10}). A wheel-washer was installed at the Gowing & Pursey site on 26th August 2006 but Hanson Premix has not yet replaced their dry-batch concrete plant with a wet-batch system. Ealing Council will introduce schemes to tackle fugitive emissions from industrial sources in a revised Air Quality Action Plan, which is due to be published by the end of 2006.

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6.1 From new local developments

In general, new local developments identified within this report are not significant with respect to their impact on air quality. However, a better understanding of the bearing that recommendations have on planning decisions regarding the air quality impacts of proposed developments is needed. It is envisaged that improved accountability and reporting process within Ealing Council will result in this, as will an assessment of the grounds that planning decisions have been made.

6.2 Recommendations

This Progress Report has not identified any other sources that require further assessment. There is therefore no need for the London Borough of Ealing to proceed to a further detailed assessment.

7.0 **References**

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Appendix 1: Air Quality Monitoring Results

Nitrogen dioxide (NO_2)

Table A1 displays the NO_2 data from those automatic sites that monitor for that pollutant. The results are compared against the relevant air quality objectives and include data capture rates.

Table A1 NO_2 results compared against relevant air quality objectives.
Objectives = Annual mean not exceeding 40µg/m^3
No more than 18 occurrences of hourly mean >200µg/m^3

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Nitrogen dioxide (NO_2)		Annual mean Concentrations (µg/m^3)	Number of days above 200µg/m^3
1997			
Ealing Town Hall	Result	52.5	16
	Data Capture %	89	89
	Objective Achieved?	**No**	**Yes**
Acton Town Hall	Result	63.4	34
	Data Capture %	98	98
	Objective Achieved?	**No**	**No**
1998			
Ealing Town Hall	Result	46.8	4
	Data Capture %	100	100
	Objective Achieved?	**No**	**Yes**
Acton Town Hall	Result	58.6	5
	Data Capture %	100	100
	Objective Achieved?	**No**	**Yes**
1999			
Ealing Town Hall	Result	46.8	0
	Data Capture %	96	96
	Objective Achieved?	**No**	**Yes**
Acton Town Hall	Result	59.7	8
	Data Capture %	96	96
	Objective Achieved?	**No**	**Yes**
2000			
Ealing Town Hall	Result	41.2	2
	Data Capture %	97	97
	Objective Achieved?	**No**	**Yes**
Acton Town Hall	Result	53.8	9
	Data Capture %	94	94
	Objective Achieved?	**No**	**Yes**
2001			
Ealing Town Hall	Result	40.6	0
	Data Capture %	99	99
	Objective Achieved?	**Yes**	**Yes**
Acton Town Hall	Result	54.5	1
	Data Capture %	99	99
	Objective Achieved?	**Yes**	**No**
2002			
Ealing Town Hall	Result	37	0
	Data Capture %	92	92
	Objective Achieved?	**Yes**	**Yes**

Nitrogen dioxide (NO_2)		Annual mean Concentrations (µg/m^3)	Number of days above 200µg/m^3
Acton Town Hall	Result	51.6	0
	Data Capture %	95	95
	Objective Achieved?	**No**	**Yes**
2003			
Ealing Town Hall	Result	42.7	0
	Data Capture %	87	87
	Objective Achieved?	**No**	**Yes**
Acton Town Hall	Result	62.1	3
	Data Capture %	94	94
	Objective Achieved?	**No**	**Yes**
2004			
Ealing Town Hall	Result	41.6	0
	Data Capture %	99	99
	Objective Achieved?	**No**	**Yes**
Acton Town Hall	Result	54.8	0
	Data Capture %	91	91
	Objective Achieved?	**No**	**Yes**
Hanger Lane	Result	101	174
	Data Capture %	77	77
	Objective Achieved?	**No**	**No**
2005			
Ealing Town Hall	Result	39	0
	Data Capture %	99	99
	Objective Achieved?	**Yes**	**Yes**
Acton Town Hall	Result	58	7
	Data Capture %	92	92
	Objective Achieved?	**No**	**No**
Hanger Lane	Result	93	157
	Data Capture %	87	87
	Objective Achieved?	**No**	**No**
Blair Peach School	Result	33	0
	Data Capture %	95	95
	Objective Achieved?	**Yes**	**Yes**
Court Way, Acton	Result	38	0
	Data Capture %	67	67
	Objective Achieved?	**Yes**	**Yes**
2006			
Ealing Town Hall	Result	39.9	0
	Data Capture %	91	91
	Objective Achieved?	**Yes**	**Yes**
Acton Town Hall	Result	63.1	22
	Data Capture %	95	95
	Objective Achieved?	**No**	**No**
Hanger Lane	Result	94.7	242
	Data Capture %	87	87
	Objective Achieved?	**No**	**No**
Blair Peach School	Result	32.4	0
	Data Capture %	89	89
	Objective Achieved?	**Yes**	**Yes**
Court Way, Acton	Result	40.9	0

Nitrogen dioxide (NO_2)		Annual mean Concentrations ($\mu g/m^3$)	Number of days above $200\mu g/m^3$
(01/05/05-01/05/06)	Data Capture %	92	92
	Objective Achieved?	**No**	**Yes**

Particulates (PM_{10})

Table A2 displays the PM_{10} data from those automatic sites that monitor for that pollutant. The results are compared against the relevant air quality objectives and include data capture rates.

Table A2 PM_{10} results compared against relevant air quality objectives.
Objectives = Annual mean less than $40\mu g/m^3$
No more than 35 days where daily mean $>50\mu g/m^3$

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Particulates (PM_{10})		Annual mean Concentrations ($\mu g/m^3$)	Number of days above $50\mu g/m^3$
1998			
Acton Town Hall	Result	30.3	22
	Data Capture %	79	79
	Objective Achieved?	**Yes**	**Yes**
1999			
Acton Town Hall	Result	29.8	25
	Data Capture %	97	97
	Objective Achieved?	**Yes**	**Yes**
2000			
Acton Town Hall	Result	28.4	19
	Data Capture %	69	69
	Objective Achieved?	**Yes**	**Yes**
2001			
Acton Town Hall	Result	30.1	29
	Data Capture %	94	94
	Objective Achieved?	**Yes**	**Yes**
2002			
Acton Town Hall	Result	29.5	19
	Data Capture %	97	97
	Objective Achieved?	**Yes**	**Yes**
2003			
Acton Town Hall	Result	34.2	61
	Data Capture %	99	99
	Objective Achieved?	**Yes**	**No**
2004			
Acton Town Hall	Result	29.7	24
	Data Capture %	100	100
	Objective Achieved?	**Yes**	**Yes**
2005			

Acton Town Hall	Result	29	20
	Data Capture %	89	89
	Objective Achieved?	**Yes**	**Yes**
Blair Peach School	Result	23	4
	Data Capture %	95	95
	Objective Achieved?	**Yes**	**Yes**
Horn Lane, Acton	Result	84	230
	Data Capture %	84	84
	Objective Achieved?	**No**	**No**
2006			
Acton Town Hall	Result	30.4	20
	Data Capture %	96	96
	Objective Achieved?	**Yes**	**Yes**
Blair Peach School	Result	25.1	4
	Data Capture %	40	40
	Objective Achieved?	**Yes**	**Yes**
Horn Lane, Acton	Result	74.3	224
	Data Capture %	99	99
	Objective Achieved?	**No**	**No**

Sulphur dioxide (SO_2)

Table A3 displays the SO_2 data from those automatic sites that monitor for that pollutant. The results are compared against the relevant air quality objectives and include data capture rates.

Table A3. SO_2 results compared against relevant air quality objectives.
Objectives = No more than 24 occurrences of hourly mean >350µg/m^3
No more than 3 days where daily mean >125µg/m^3
No more than 35 occurrences of 15min mean >267µg/m^3

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Sulphur dioxide (SO2)		**Number of occurrences above >350µg/m^3**	**Number of occurrences above 125µg/m^3**	**Number of occurrences above 267µg/m^3**
1997				
Ealing Town Hall	Result	0	0	6
	Data Capture %	98	98	98
	Objective Achieved?	**Yes**	**Yes**	**Yes**
1998				
Ealing Town Hall	Result	0	0	0
	Data Capture %	94	94	94
	Objective Achieved?	**Yes**	**Yes**	**Yes**
1999				
Ealing Town Hall	Result	0	0	0
	Data Capture	98	98	98
	Objective Achieved?	**Yes**	**Yes**	**Yes**
2000				

Ealing Town Hall	Result	0	0	0
	Data Capture %	98	98	98
	Objective Achieved?	**Yes**	**Yes**	**Yes**
2001				
Ealing Town Hall	Result	0	0	0
	Data Capture %	99	99	99
	Objective Achieved?	**Yes**	**Yes**	**Yes**
2002				
Ealing Town Hall	Result	0	0	0
	Data Capture %	88	88	88
	Objective Achieved?	**Yes**	**Yes**	**Yes**
2003				
Ealing Town Hall	Result	0	0	0
	Data Capture %	92	92	92
	Objective Achieved?	**Yes**	**Yes**	**Yes**
2004				
Ealing Town Hall	Result	0	0	0
	Data Capture %	98	98	98
	Objective Achieved?	**Yes**	**Yes**	**Yes**
2005				
Ealing Town Hall	Result	0	0	0
	Data Capture %	90	90	90
	Objective Achieved?	**Yes**	**Yes**	**Yes**
2006				
Ealing Town Hall	Result	0	0	0
	Data Capture %	89	89	89
	Objective Achieved?	**Yes**	**Yes**	**Yes**

Carbon monoxide (CO)

Table A4 displays the CO data from those automatic sites that monitor for that pollutant. The results are compared against the relevant air quality objectives and include data capture rates.

Table A4 CO results compared against relevant air quality objectives.
Objectives = No occurances of rolling 8hr mean >10mg/m^3

Carbon Monoxide (CO)		Number of occurrences above 10mg/m^3
1997		
Acton Town Hall	Result	2
	Data Capture %	99
	Objective Achieved?	**No**
1998		
Acton Town Hall	Result	0
	Data Capture %	99
	Objective Achieved?	**Yes**
1999		
Acton Town Hall	Result	0
	Data Capture %	98
	Objective Achieved?	**Yes**
2000		

Acton Town Hall	Result	0
	Data Capture %	99
	Objective Achieved?	**Yes**
2001		
Acton Town Hall	Result	0
	Data Capture %	97
	Objective Achieved?	**Yes**
2002		
Acton Town Hall	Result	0
	Data Capture %	99
	Objective Achieved?	**Yes**
2003		
Acton Town Hall	Result	0
	Data Capture %	96
	Objective Achieved?	**Yes**
2004		
Acton Town Hall	Result	0
	Data Capture %	97
	Objective Achieved?	**Yes**
2005		
Acton Town Hall	Result	0
	Data Capture %	93
	Objective Achieved?	**Yes**
2006		
Acton Town Hall	Result	0
	Data Capture %	93
	Objective Achieved?	**Yes**

Ozone (O_3)

Table A5 displays the O_3 data from those automatic sites that monitor for that pollutant. The results are compared against the relevant air quality objectives and include data capture rates.

Table A5 O_3 results compared against relevant air quality objectives.
Objectives = No more than 10 days where maximum rolling 8hr mean>100µg/m^3

Ozone (O_3)		Number of occurrences above 100µg/m^3
1997		
Ealing Town Hall	Result	12
	Data Capture %	99
	Objective Achieved?	**No**
1998		
Ealing Town Hall	Result	3
	Data Capture %	100
	Objective Achieved?	**Yes**
1999		
Ealing Town Hall	Result	26
	Data Capture %	100

	Objective Achieved?	**No**
2000		
Ealing Town Hall	Result	0
	Data Capture %	97
	Objective Achieved?	**Yes**
2001		
Ealing Town Hall	Result	3
	Data Capture %	94
	Objective Achieved?	**Yes**
2002		
Ealing Town Hall	Result	3
	Data Capture %	99
	Objective Achieved?	**Yes**
2003		
Ealing Town Hall	Result	23
	Data Capture %	99
	Objective Achieved?	**No**
2004		
Ealing Town Hall	Result	14
	Data Capture %	99
	Objective Achieved?	**No**
2005		
Acton Town Hall	Result	2
	Data Capture %	58
	Objective Achieved?	**Yes**
Ealing Town Hall	Result	10
	Data Capture %	100
	Objective Achieved?	**Yes**
2006		
Acton Town Hall	Result	11
	Data Capture %	91
	Objective Achieved?	**No**
Ealing Town Hall	Result	202
	Data Capture %	99
	Objective Achieved?	**No**

Nitrogen dioxide diffusion tube monitoring results.

Table A6 Nitrogen dioxide diffusion tube (µg/m^3) data. 2001 data obtained from 9 months of monitoring.). All data adjusted for bias.

Site No.	Site Name	Site type	2001	2002	2003	2004	2005	2006
1	39 Old Oak Lane	R	43.7	51.2	64.8	53.2	57.4	63.2
2	101 Wells House Road,	UB	27.0	36.9	43.5	38.2	39.1	40.7
3	Jenner Avenue	I	39.3	58.5	54.1	52.4	51.5	62.9
4	5 Leamington Park	I	37.5	48.2	51.8	45.9	48.9	58.7
5	John Perryn First and Middle School, Long Drive	UB	24.9	34.9	40.0	39.8	39.0	41.3
6	Wendover Court, Western Avenue	R	41.2	52.4	63.4	54.5	56.2	68.4
7	45 Park Avenue	I	27.5	45.0	47.0	46.1	50.4	49.5
8	6 Brentmead Gardens	I	26.7	38.7	40.5	40.7	41.4	46.8
9	Iveagh Avenue	I	26.4	42.1	49.9	46.0	45.9	45.5
10	57-75 Old Oak Common Lane	I	44.5	48.3	58.3	53.7	56.2	68.8
11	2 St Andrews Road	I	33.5	55.1	53.6	50.4	49.3	56.5
12	**18 Old Oak Common Lane**	R	45.3	64.0	78.0	67.2	69.2	78.7
13	East Acton Primary School, East Acton Lane	UB	31.6	36.6	38.7	38.0	35.8	37.1
14	First Avenue	I	36.4	45.5	50.7	44.6	47.4	57.5
15	Warple Way	R						66.0
15	177 The Vale	R	42.4	52.8	60.1	58.5	62.2	
17	Maples Nursery, East Churchfield Road	R	33.5	37.3	44.3	39.8	42.9	40.4
19	Lantry Court, Acton	UB	29.6	36.1	36.9	35.2	36.3	37.3
20	Age Concern, High Street, Acton	I	34.1	51.3	59.1	58.8	56.8	76.0
21	Acton Health Centre, Church Road	UB	22.7	39.9	37.4	39.5	37.5	36.8
22	Old Acton Hospital, Gunnersbury Lane	I	46.1	60.9	61.5	56.0	55.2	63.6
23	156 Horn Lane	R	42.8	44.9	57.1	51.4	54.5	61.0
24	Peal Gardens	UB	34.9	38.5	45.2	41.2	35.8	39.3
25	17 Runnymede Gardens	R	44.7	69.7	83.0	81.2	79.8	93.9
26	5/6 Blenhelm Close	I	29.5	39.5	46.0	42.6	39.8	43.8
27	203 Windmill Lane, Greenford	UB	37.3	43.7	51.4	43.1	46.1	52.4
28	Greenford High School, Ruislip Road, Greenford	I	28.1	42.2	43.1	43.4	45.1	48.5
29	Shadwell Drive, Northolt	I	34.5	42.0	45.5	42.5	42.8	46.3
30	Aspen Lane, Northolt	UB	28.1	39.1	41.8	38.6		
30	Bengarth Road, Northolt	R					49.3	56.4
32	Lilliput Avenue	I	29.9	39.9	39.5	42.1	42.5	42.9
33	Northolt Primary School, Compton Crescent	UB	33.2	40.9	39.1	33.2	39.4	54.4
34	8 The Broadway, Ealing	R	52.9	68.9	85.3	80.7	78.9	81.9
35	Gunnersbury Crescent	R	30.6	37.9	49.3	45.7	49.3	54.8
36	Hanwell Nursery, 25A Laurel Gardens	I	33.0	39.1	50.5	44.4	44.8	46.2
37	Ealing Hospital, St Bernards Wing, Uxbridge Road	UB	30.3	40.5	48.5	45.9	48.0	48.6
38	Hobbayne First School, Greenford Avenue	UB	26.4	33.8	37.3	35.9	34.8	36
39	McDonalds Drive thru, Uxbridge Road, Southall	R	33.1	42.8	48.4	47.1	43.6	44.6
40	**Hambrough Primary and Nursery School, South Road**	I	34.0	44.9	53.2	48.5	50.4	61.4
41	4 Merrick Road, Southall	R	34.9	41.2	49.2	46.4	43.8	53.6
44	Perivale Wood	UB	26.8	31.2	30.3	28.4	27.9	34.1

Site No.	Site Name	Site type	2001	2002	2003	2004	2005	2006
45	INCO, Bashley Road	UB	42.6	39.5	41.5	36.9	37.8	38.3
46	143 Church Road, Northolt	R	56.6	60.0	78.9	69.2	74.2	85.5
47	Jubilee Gardens Library, Jubilee Gardens	UB	29.2	33.0	34.3	32.6	32.3	38.9
48	Brent Lodge, Church Road	UB	27.6	29.2	31.5	29.1	27.8	29.4
49	Health Centre, Netheravon Road	UB	36.9	39.0	43.8	40.4	40.1	41.8
50	11 Uxbridge Road, Southall	R	55.2	55.6	70.0	70.5	73.2	81.3
51	**Ealing Town Hall, New Broadway ***	UB	41.0	36.9	43.4	41.1	39.2	39.9
52	Perceval House, 14/16 Uxbridge Road	I	35.9	36.9	44.8	40.2	41.3	42.4
53	14/16 Bond Street, Ealing	R	47.5	49.1	61.3	56.1	51.2	63.3
54	South Ealing Cemetery	I	33.5	30.3	35.0	35.3	31.6	32.5
55	**Acton Town Hall, High Street, Acton ***	R	53.9	47.2	60.9	54.7	58.3	61.4
56	Fernlea House, Hanger Lane	R	67.9	69.1	86.5	79.5	80.5	95.4
57	106/116 St Pauls Close	UB	30.2	37.4	37.5	34.3	34.1	34.8
58	44 Acton Lane	UB	41.4	48.1	53.0	55.0	50.8	58.0
59	Clayponds Hospital, Sterling Place	UB	27.2	30.9	37.2	35.6	32.8	35.7
60	53 Old Oak Common Lane	R	50.3	52.7	67.5	62.1	59.2	70.7
61	15 Balfour Road	UB	30.6	36.8	37.6	37.3	34.8	35.4
62	Kirn Road	R	41.6	47.9	62.5	55.7	54.0	58.7
63	St David's Home, 12 Castlebar Hill	I	30.1	35.0	39.6	34.3	30.0	34.2
64	St John Fisher Primary School, Thirlmere Avenue	UB	29.5	43.4	44.1	41.7	41.0	48
65	2 Horsenden Lane South, Greenford	R	41.8	50.4	66.1	62.0	58.6	71.2
66	57 Woodville Gardens	I	41.1	44.7	53.4	49.4	47.4	58.6
67	**Oldfield Primary School, Greenford**	UB	33.1	38.7	43.6	40.6	39.2	43.6
68	Gainsboro Gardens	I	33.4	40.7	47.1	50.0	48.5	53.2
69	81 Witten Avenue East, Greenford	I	31.7	36.8	41.3	37.0	35.8	39.3
70	126 Petts Hill, Northolt,	R	35.2	37.6	48.7	43.1	41.6	41.8
71	181 Castle Road, Northolt	UB	25.1	42.7	43.6	38.4	36.5	38.7
72	2/4 Minterne Avenue	UB	30.6	33.0	36.8	37.4	36.2	34.4
74	**Brent Road Garages**	I	39.7	45.4	53.5	53.5	50.9	64.1
74	132 Brent Road, Southall	UB	41.5	42.1	49.1	46.3	45.1	
74	134 Brent Road, Southall, UB2	R						57.8
75	6 Boston Gardens	I	34.2	36.6	40.1	40.3	40.0	40.1
76	200 Boston Gardens	I	32.2	48.4	56.8	56.4	51.4	60.5
77	7 Greenford Avenue, Southall	UB	31.9	35.3	38.6	38.8	35.6	44.0
78	119 Twyford Avenue	UB	31.9	40.2	46.5	46.9	43.7	
78	Oakley Avenue	R						53.1
79	Albert Dane Centre, 19-21 Western Road, Southall	I	37.4	39.5	43.3	43.2	40.0	44.5
80	6 Western Avenue	R	59.9	65.7	81.0	74.4	70.4	87.3
81	54 Western Avenue	I	48.9	47.5	54.3	54.2	56.1	67.5
82	98 Western Avenue	R	52.2	43.8	61.7	53.2	55.0	60.0
83	171 Old Oak Road	R	35.8	43.3	59.8	51.2	53.7	56.0
84	Southfields First and Middle School	UB	31.4	37.3	40.6	35.8	38.1	37.3
85	**Fernlea House, Hanger Lane ***	R	55.8	62.4	78.0	70.6	74.0	85.6
86	27 Wells House Road	I	38.6	39.8	46.3	38.6	40.2	41.5
87	94 North Acton Road	R	40.6	40.0	51.5	44.5	46.2	52.8
88	914 Greenford Road	I	30.5	45.3	43.5	43.4	41.4	50.0
89	Blair Peach School	UB					27.7	33.5

Benzene diffusion tube monitoring results.

Table A8 Monthly benzene results since 2002 from the three diffusion tube locations around Ealing. ($\mu g/m^3$)

Date	Hanger Lane Gyratory	Church Road	Acton Town Hall
Jan-02	3.9	3.9	3.3
Feb-02	2.6	2.9	1.6
Mar-02	3.9		2.0
Apr-02	2.3		
May-02	2.0	2.9	2.9
Jun-02	2.9	2.6	2.0
Jul-02	2.9	2.6	2.0
Aug-02	2.3	2.0	2.0
Sep-02	3.3	3.6	2.9
Oct-02	3.3	2.6	2.3
Nov-02	3.3	2.0	3.3
Dec-02	2.6	2.0	2.3
2002 Average	**2.9**	**2.7**	**2.4**
Jan-03	2.6	3.3	2.6
Feb-03	3.9	3.3	
Mar-03	2.3	2.6	2.6
Apr-03	2.6	2.0	2.3
May-03	1.6	2.6	2.3
Jun-03	1.6	1.6	2.6
Jul-03	2.3	2.3	2.0
Aug-03	2.6	2.6	2.6
Sep-03	3.3	2.9	2.9
Oct-03	2.0	2.0	2.3
Nov-03	2.9	2.9	2.9
Dec-03	2.6	2.6	2.3
2003 Average	**2.5**	**2.5**	**2.5**
Jan-04	2.9	3.3	2.6
Feb-04	2.3	2.6	2.3
Mar-04	1.0	1.0	1.0
Apr-04	2.3	2.0	2.3
May-04	3.3	2.9	2.0
Jun-04	2.0	1.6	1.6
Jul-04	3.3	2.9	2.9
Aug-04	2.9	2.6	2.6
Sep-04	2.6	2.6	2.6
Oct-04	2.6	2.6	2.6
Nov-04	4.2	2.9	3.9
Dec-04	2.6	2.6	2.6
2004 Average	**2.7**	**2.5**	**2.4**
Jan-05	2.9	2.9	2.6
Feb-05	3.3	2.9	2.9
Mar-05	2.9	2.3	2.6
Apr-05	2.6	1.6	1.6
May-05	2.6	2.0	1.6
Jun-05	2.6	1.6	2.3
Jul-05	1.6	1.6	1.3
Aug-05	1.6	2.3	2.0
Sep-05	2.6	2.3	2.0
Oct-05	2.6	2.0	2.3
Nov-05	3.3	2.6	2.9

Date	Hanger Lane Gyratory	Church Road	Acton Town Hall
Dec-05	3.3	2.9	2.9
2005 Average	**2.7**	**2.2**	**2.2**
Jan-06	3.6	3.3	2.9
Feb-06	2.9	2.6	2.3
Mar-06	2.3	1.6	1.6
Apr-06	2.9	2.6	1.6
May-06	2.6	2.3	1.6
Jun-06	2.0	2.3	
Jul-06	2.1	2.0	0.7
Aug-06	2.2	1.9	1.2
Sep-06	2.2	1.8	1.6
Oct-06	2.9	2.5	2.2
Nov-06			2.4
Dec-06	2.6		2.2
2006 Average	**2.4**	**1.9**	**1.7**

Appendix 2: Air Quality Action Plan Progress Report

Action Plan Measure	Original Timescale	Progress with measure	Outcome to date	Comments
Cleaner technologies and alternative fuels				
1) Support and contribute to a feasibility study for the proposed Low Emission Zone (LEZ) for London and if appropriate implement such a scheme in LB Ealing.	Initial study completed April 2002. Final feasibility report due early 2003. Implementation unlikely before 2007.	Feasibility report published July 2003. Feasibility review completed in February 2005. The Mayor subsequently instructed TfL to deliver a LEZ scheme.	TfL are currently consulting on a London-wide LEZ. Responded to the consultation which ended on 24th April 2006. Results to be reported to the Mayor during the Summer. July 2006 (post-consultation)- London Mayor published relevant revisions to the London Transport and Air Quality Strategies. Current consultation (13/11/06-2/2/07) on the Scheme Order which provides the legal authority for the LEZ Charging Scheme.	Studies have concluded that there would be air quality benefits from a London-wide scheme. Earliest implementation date would be early 2008.
2) Consider adopting new powers to carry out roadside vehicle exhaust emission testing and issue penalty fines on those vehicles failing emission standards.	Implementation Spring 2003	A London-wide programme of testing commenced in Aug 2003 and finished in March 2004. 11 days of testing carried out in Ealing. 546 vehicles tested with a failure rate of 8.6%.	Three days of voluntary testing carried out in March 2006 at a supermarket car park. A total of 64 cars were tested, of which 2 failed.	Funding not available to continue London-wide programme. Funding obtained to carry out a small number of voluntary test days during 2005/6.
3) Issue penalty notices on the drivers of stationary vehicles who leave their engines running unnecessarily.	Implementation Spring 2003	Parking attendants issued with advisory leaflets to hand out to drivers of idling vehicles and requesting engines be turned off.	Consideration been given to issuing these leaflets to street wardens, with the possibility that these enforce the measure in future. 600+ awareness-raising leaflets disseminated to park wardens, street wardens and traffic wardens for further dissemination; and the public.	As yet no enforcement action to be taken, but ideas of how this can be effectively implemented currently being explored.

4)	Erect signs at appropriate locations informing motorists to switch their engines off whilst stationary	Spring 2003	50 signs produced, of two sizes	40 signs erected around Southall, Greenford, Perivale and Acton. A number of signs erected in park car parks at request of LBE's Parks & Countryside service. Also at level crossing on Bollo Lane, Acton at request of residents. 10 remaining signs will be placed around Ealing at strategic locations by the end of March 07	Some signs yet to be sited at Haven Green, Acton.
5)	Work with companies in order to increase the number of retail outlets for clean alternative fuels in Ealing.	2003 - 2006	West London Alliance working together to examine the role of alternative fuels and vehicles in West London.	West London 'New Solutions to shared pollution' report published in 2004. As a result of this report WLA now working to identify existing fleet operators in the region and current refuelling capabilities.	Work funded through TfL. Looking into possibility of coordinating efforts with West London Freight Quality Partnership.
6)	Work with the Greater London Authority and fleet operators in order to further promote the take-up of cleaner vehicles and fuels within LB Ealing	2003 - 2006		Details of food premises sent to Proper Produce, KP Living Fuels and Energy Solutions in early 2007 to assist with the marketing of their waste oil collections; and dialogue about bio-diesel fuel provision has started.	Implementation of LEZ likely to accelerate this process. Will include the details of the following TfL alternative fuel weblink on LBE's webpages by 12/07: http://www.tfl.gov.uk/businessandpartners/freight/1308.aspx
7)	Review the Council's Waste Minimisation and Recycling Strategy and introduce measures to ensure contractors vehicles meet specified	2003	Ealing's new Waste Collection Strategy published in September 2003.	Ealing's integrated Clean and Green recycling, waste collection and street cleansing contract began in 2004 and includes conditions requiring contractors vehicles to be as clean as possible. A new fleet meeting Euro 3 standard was	

emission standards and encourage the use of alternative fuels.			purchased in 2005 by ECT (Ealing's domestic waste collection contractor). Approximately 10% of ECT's fleet now meet Euro 4 standard.	No abatement equipment has been fitted to the Euro 3 trucks to date (March 07). ECT has already rescheduled part of its services to improve vehicle efficiency and is in the process of rescheduling the rest. The drivers are instructed in the proper use of the vehicles and how to drive them in a fuel efficient manner. ECT are considering fittingelematic equipment to the vehicles to monitor performance in real time which will help ECT run the fleet in an efficient manner.
Environmentally friendly transport				
Public Transport				
8) Work closely with other stakeholders to develop and extend the London Bus Priority Network (LBPN).	2003 - 2006	Although schemes identified under the London Bus Initiative are nearing completion, studies and works under the London Bus Priority Network continue, including Generation 3 studies.	During 2005/06, mostly minor schemes completed on routes 72, 65, 92, 120, 140, E2/7/9 and E11. Programme of schemes will continue over future years. During 2006/07, several small schemes completed on routes 65, 120 and E2/7/9 and feasibility work carried out on others. Programme of mostly minor schemes will	£456 000 has been allocated to Ealing by TfL for bus priority schemes in financial year 2006/07. £354 000 has been allocated to Ealing by TfL for bus priority schemes in financial year 2007/08.

			continue over future years.	
9) Continue to work closely with partners to bring about improvements to bus movements under the 'London Bus Priority Network'.	2003 - 2006	This scheme has been largely superseded by Bus Accessibility to facilitate access onto and off buses, reaching the bus stop and to enable the bus to pull up along side the kerb.	During 2005/06 works were carried out at some 55 bus stops, including installing clearways, raising kerb height and providing dropped kerbs. Work was carried out at approximately 60 stops during 2006/07, including installing clearways, raising kerb height and providing dropped kerbs.	TfL has allocated Ealing £300 000 for further works during 2006/07. TfL has allocated Ealing £188 000 for further works during 2007/08, a twentieth of the allocation across London.
10) Continue to work with the West London Alliance councils to develop the West London Integrated Transport Strategy.	2003 - 2006	Ealing continuing to play an active part of the West London Transport Strategy Group. Ealing officers lead the WestTrans transport officers group and have been instrumental in the establishment and working of the West London Partnership's "Strategic Transport Group".	The council, as co-promoter, is working with TfL to finalise the development of the scheme to enable the application for an order under the Transport and Works Act 1992 in summer 2006. Maintain an annual programme of cycle, walking, rail access and bus measures and promotion of travel planning. Contribute to the development of London Plan, Transport 2025 etc. from a West London sub-regional viewpoint. Maintains strategic dialogue between councils, business, voluntary and health sectors	The TfL Board is
11) Continue to investigate the feasibility of a West London Transit scheme along the Uxbridge Road.	2003 - 2006	Baseline study complete. Environmental Impact Assessment is currently being carried out.	Awaiting results of detailed modelling. Ealing Council Cabinet have withdrawn support for the tram. As at January 2007 no decisions have been made about the future of the project and TfL have completed a 2007 consultation on the project.	Earliest construction start date will be 2009, with completion in 2013. More information can be found at (website): http://www.tfl.gov.uk/
12) Encourage improvements to all railway stations and public transport	2003 - 2006	Ealing working closely with TfL on Public Transport hubs.	Major improvements to many stations on Great Western Main Line, including Ealing Broadway, proposed as part of the Crossrail project.	TfL funding still in place for 06/07for pedestrianisation of Ealing Broadway forecourt but currently awaiting legal

interchanges.			Access and facility improvement schemes at Castlebar Park and Hanwell and Acton Central stations are being developed with TfL support and further ones will be brought forward in subsequent years.	agreements from all parties before work can begin.
13) The Council, as the local planning authority, will facilitate the development of major transport projects consistent with the objectives of the UDP.	2003 - 2006	Measure introduced into Ealing's UDP, which came into force in October 2002.	West London Transit scheme, Crossrail and A40 Green Corridor are three projects currently being actively pursued.Ealing Council Cabinet have withdrawn support for the Tram (effective as of May 06). Support for other schemes continues.	
14) Require the provision for bus service improvements with appropriate new developments.	2003 - 2006	Measure introduced into Ealing's UDP, which came into force in October 2002.	New developments for which provision obtained include the Diageo site (L.B. Brent), Chiswick Park (L.B. Hounslow) and Grand Union Village developments. As at March 2007 Southall Gas Works and South Acton Estate are two redevelopment sites which will involve transport considerations (namely improving bus linkage and facilities).	Service level enhancement agreements are in place with London Buses in respect of Diageo (Park Royal) and Grand Union Village developments.
Cycling				
15) Continue it's support for the London Cycle Network (LCN+)	2003 - 2006	Currently have a programme for comprehensive route upgrade.	Two CRISP (Cycle Route Implementation & Stakeholder Plan) feasibility studies carried out. Implementation of works on Uxbridge Road and on 2 north/south routes.	Similar commitment for the coming year.
16) Continue to support cycle training, including on-road cycle training for primary and secondary school children.	2002 - 2007	Ongoing. Committed to providing on-road cycle training at 40% of primary schools and 30% of secondary schools by 2007.	In 04/05 432 children taught according to new National Standard of Cycle Training. In this year LB Ealing taught more children to the National Standard than any other London Borough, as well as teaching adults	The English Cycling Regional Development Team (ECDRT) stated in 2003 that in its survey of cycle training in Britain, Ealing was one of only two Councils that

			In 05/06 550 children taught according to National Standards of Cycle Training at 43 primary and 3 secondary schools and 4 other youth group courses. In 06/07 LB Ealing taught more children to the National Standard than any other London Borough, as well as teaching adults, Individual classes : 99 children, 208 adults	attained the maximum standard of Provision. LB Ealing has won 2 major awards for its work based on cycle training
17) Implement new traffic management measures to aid cyclists and improve safety, and upgrade existing cycle facilities	2002 - 2007	Measures include speed Limit cuts to 30mph and less on many routes, and exceptions for cyclists on one-way streets	04/05 saw one-way exemptions on 8 streets introduced. 2 more completed in 05/06. Another two more completed in 06/07	A recent byelaw amendment permits cycling in parks 'with reasonable excuse'.
18) The Council will, subject to successful bids for funding, install 100 new cycle stands across the borough every year for the next five years.	2002 - 2007	Approximately 200 new cycle stands installed across the borough during 03/04.	100 new cycle stands in each of 04/05 and 05/06. Approximately 150 new cycle stands installed across the borough during 06/07. 100 planned for 07/08	Ongoing. Plan to install 100 new cycle stands in 06/07 plus new covered parking.
19) Introduce policies in its UDP to ensure appropriate developments to have in place facilities for safe and secure cycle parking.	2003 - 20017	Measure introduced into Ealing's UDP, which was adopted in October 2004.	Ealing currently negotiate such facilities through the use of appropriate planning conditions. All significant developments incorporate provision for cycle parking and cycle lanes. Gypsy Corner and Waitrose, West Ealing developments are 2 recent examples where	Review UDP to ensure that quality of cycle parking is properly specified. Policies/standards in the UDP will ultimately be replaced by the emerging

20) Ensure that development proposals meet standards for adequate provision for cyclists.	2003 - 20017	Measure introduced into Ealing's UDP, which came into force in October 2002.	provision has been secured. March 07- ALL new developments now require cycle parking facilities.	LDF Current bridge development in Chiswick for both pedestrians and cyclists.
21) Work to improve the network of cycle paths and footpaths in Major Open Areas and along the canal network within the borough.	2003 - 20017	Measure introduced into Ealing's UDP, which came into force in October 2002.	Work to improve canal towpath and access rights with Park Royal partnership and British Waterways. New East-West route through Brent Valley Park and resurfacing of Horsenden Hill shared use cycle pedestrian path done in 2005. British Waterways resurfaced about 2Km of towpath in 05/06. Work to improve canal towpath and access rights with Park Royal partnership and British Waterways. New route north east of Greenford Station in progress in 06/07, High Lane resurfaced in 06/07, Baillies Walk in 06/07, path along A40 in 06/07 Route in Pitshanger Park planned	Green Corridor funding awarded to create an off-road route between Greenford and North Greenford, and to resurface a path parallel to the A40.
Walking				
22) Provide more pedestrian crossings along busy roads, at bus stops and outside local railway stations.	2002 - 2006	Pedestrian crossing upgrade programme included 22 new pelican crossings across the borough during 2003/4	14 new crossings installed in 04/05, and a further 5 installed in 05/06 across the borough.	Ongoing
23) Initiate a rolling programme of high quality pedestrian routes into town centres.	2002 - 2006	Funding now secured for 3 years from 2007 for ALG funded Walkability Project.	ALG funded Walkability study produced for Hanwell Town Centre. Ealing has taken this on board and has used it as the basis of a funding bid to TfL in 06/07.	It is hoped that if successful this will instigate a rolling programme of such improvements.

			Various measures from this will be progressed in more detail and consulted upon in the next financial year. There is also an Ealing Town Centre Master Plan study underway, funded by TfL, part of which will include pedestrian routes to and around Ealing town centre. Funding has also been agreed for a similar walkability study in Greenford town centre	
24) Carry out street lighting improvements to enhance walking environments and increase personal safety for pedestrians. (This is on-going as part of the 5 year PFI column replacement programme).	2002 - 2006	Three Street lighting Improvement schemes initiated 03/04 (now complete or in progress). Merrick Rd Area, Acton Green and Cuckoo Estate. These schemes are completed as of March 07.	A total of 750 street lighting columns erected in 04/05. A further 911 erected in 05/06.	PFI Street lighting Project to start July 05. The first five years will see 14,783 street lighting columns being replaced and a further 5,000+ new columns installed.
25) Improve the network of cycle paths and footpaths in Major Open Areas within the borough.	2002 - 2006	Measure introduced into Ealing's UDP, which came into force in October 2002.	Work to improve canal towpath and access rights with Park Royal partnership and British Waterways. New East-West route through Brent Valley Park and resurfacing of Horsenden Hill shared use cycle pedestrian path done in 2005. British Waterways resurfaced about 2Km of towpath in 05/06.	
26) Ensure that development proposals make provision for pedestrian routes/footpaths that are safe, attractive, well-lit, comfortable and	2003 - 2017	Measure introduced into Ealing's UDP, which came into force in October 2002.	Ealing currently negotiate the provision of such facilities as part of development proposals through the use of appropriate planning conditions.	

accessible for all.				
Traffic reduction				
27) Consult on ten new Controlled Parking Zones (CPZs) per year for the next five years.	2002 - 2006	Continue to consult on and implement new CPZs.	Seven CPZs implemented in 05/06 with another 2 scheduled for completion by May 06.	
28) Develop new Home Zones every two years for the next six years, subject to winning the necessary funding.	2001 - 2007	No funding obtained to continue Home Zone development. The only Home Zone (Five Roads) in the borough was implemented as a DfT funded national pilot. The zone was introduced in Sept. 2003.	Continuing to install 20mph zones across the borough as part of a rolling programme mainly funded by Transport for London (TfL). As of April 07, the installation of 20mph zones is happening where practicable.	Costs of installation seem to have seen such Home Zones fall out of favour nationally. However, we do not have any objection to Homes Zones being incorporated as part of new developments and regeneration projects where the prospect of securing funding as part of an overall package is high.
29) Develop and adopt a Green Travel Plan and Green Fleet Management Plan.	2003	Green Travel Plan agreed by Cabinet in Nov 2003.	Lack of funding prevented implementation. However Green Travel plan and potential implementation currently being re-examined. Short-term Action Plan for LBE's Travel Plan developed and ratified late 2006. LBE Cabinet have decided to develop a long-term travel plan for the council. The plan is being viewed as helping to overcome problems with the loss of parking space at Dickens Yard.	The current redevelopment of Perceval House and the proposed redevelopment of Dickens Yard will dramatically reduce car parking space for Council Staff. Developments in the council regarding mitigating the council's impact on climate change (as of March 07) may involve a fleet audit.
30) Ensure appropriate developments have in place green travel plans covering all aspects of	2003 - 2017	Measure introduced into Ealing's UDP, which came into force in October 2002.	For all 'Major Developments' (i.e. over 1000 sq. m., developers are required to prepare Green Travel Plans.	Ealing currently negotiate GTPs as part of development proposals through the use of appropriate planning

vehicle movements.			Supplementary Planning Guide (SPG 21) on Green Travel Plans was adopted in October 2004.	conditions.
31) Produce guidance for developers and business on Green Travel Plans.	2003 - 2006	Produced 2004	Supplementary Planning Guide (SPG 21) on Green Travel Plans was adopted in October 2004.	
32) Promote the concept of Green Travel Plans and Fleet Management Plans to organisations and businesses within the borough.	2003 - 2006	Ongoing.	Ealing works closely with Park Royal Partnership who have established a Travel Centre in the area to provide business with such information. BEST event in Sept 06 featured a talk about travel plans by, and contact details for, the West London Travel Plan Coordinator (WESTRANS are currently preparing their voluntary travel plan strategy)	
33) Encourage schools to prepare and adopt their own travel plans.	2003 - 2006	LBE now has a team of two dedicated School Travel Advisers actively liaising with local schools. They are working: in partnership with Healthy Schools adviser to engage next tranche of Ealing schools, to meet the targets set by TfL for the number of schools with plans for each financial year, and to meet LA target for modal shift when it is announced	To date 16 schools have had travel plans approved by TfL and seven more have been submitted. Currently in discussion with an additional eight schools.	A Travel Plan is now a prerequisite for a school to obtain TfL funding for highway measures. Emphasis has shifted from 'Safer routes' to a modal shift in travel journeys. The importance of the environment and childrens' health is now paramount in STPs.
34) Continue and extend its 'Safer routes to school' projects	2002 – 2006 and On-going (til 2010)		Five schools joined the programme in 2004/05. Additional minor works have been carried out at many more schools to make school zones safer for children who wish to walk or cycle to school.	

35) Encourage developers to undertake to form or contribute to a City Car Club for particular developments.	2003 – 2006	Ealing requests City Car Clubs (CCC) on all suitable developments	City Car Clubs have been introduced on a number of recent developments, including Grand Union Village, M&S development West Ealing, Gypsy Corner A40 and former Jet Service station, Southall. (As at March 07) City Car clubs can now be put on highways as well as within sites to improve access to them.	Currently negotiating to introduce CCC into TfL sites along the A40 and on Phase II of the South Acton Estate Regeneration. South Acton Estate will have a CCC.
36) Work with London City Car Club partners to develop a pilot scheme in the coming year 2002/03.	2003 – 2006 First scheme to start Summer 2003	Scheme commenced in September 2003 with City Car Club operator Smart Moves introducing 1 location in Acton.	There are now 11 Smart Move City Car Club locations within Ealing with 13 cars available. There is also 1 Whizzgo car club location. Pilot scheme ended in 02/2006. Three operators now operate under a permit system. There are currently 17 bays in the borough with a further 2 approved and around 50 proposed.	Council now has a corporate membership of City Car Club. Staff have access to 4 cars, 2 of which are electric GWhizz cars.
37) In considering new road schemes or alterations to the existing network, support schemes that help to reduce local congestion and improve environmental conditions and safety for all road users	2003 - 2017	Measure introduced into Ealing's UDP, which came into force in October 2004.		
38) Encourage residential development which provides less than the maximum parking	2003 - 2017	Measure introduced into Ealing's UDP, which came into force in October 2004.	Measures are evident in SPDs 3 and 7.	

requirement. Promote Low Car Housing Schemes in appropriate locations				
39) Encourage the development of freight partnerships for new developments in Major Employment Locations including promoting the West London Freight Quality Partnership	2003 - 2017	West London Freight Quality Partnership launched October 03. Communication and Marketing Plan in development as is study on freight consolidation centre opportunities in west London. Ealing town centre delivery bays proposals drawn up and consulted upon with local businesses.	Newsletter produced and distributed to businesses. Exhibitions undertaken. Website developed with regular newsletter updates (westlondonfqp.com) Ealing town centre delivery bays scheme to be considered by Cabinet in summer 2007. Advisory lorry route signing schemes introduced in Park Royal and Perivale Industrial estate.	
40) Encourage the use of non-road freight transport such as rail and canal in industrial and warehousing development	2003 - 2017	Measure introduced into Ealing's UDP, which came into force in October 2004.	A usage study of the Grand Union canal (Park Royal) is underway	TfL commissioning a project to provide a turnaround for freight on the west London canal network.
41) Investigate the potential of developing Freight Partnerships for the Park Royal and Ealing Town Centre areas.	2003 - 2006	Sign Rationalisation Project underway in Park Royal to improve deliveries. HGV advisory route initiated in Perivale. Ealing Town Centre Freight Partnership under development, Stage 1 employed consultants for a baseline study.	Revised signage strategy based on the compass directional system implemented. Freight route map issued to drivers. An Information Systems for Deliveries project for Ealing town centre, incorporating new designated loading areas and management system is almost complete and is now awaiting the necessary approvals and funds. (See 39)	
42) Encourage TfL to take action to reduce emissions from A40 Western Avenue and	2003 - 2006	In dialogue with officers from TfL as part of A40 Green Corridor developments.	With effect from April 07 the New Roads and Street Works Act team have come in-house and will therefore be able to work better in partnership with TfL.	

A406 North Circular roads.				
Reducing need to travel				
43) Promote mixed-use development, particularly in town centres and other areas with good public transport accessibility.	2003 - 2017	Measure introduced into Ealing's UDP, which came into force in October 2004.	Grand Union Village and Gypsy Corner Developments both mixed use. Currently In negotiations over Southall Gasworks site.	
Non-traffic measures				
44) Continue to regulate Part B processes within the borough and assess the authorisation of such processes in light of air quality objectives. Liaison will also continue with the Environment Agency over the regulation of Part A processes within the borough.	2003 - 2006	Complaints of smoke emissions investigated when reported.	Part B process inspections under the Pollution Prevention and Control (England and Wales) Regulations 2000 carried out according to schedule. BEST event in Jan 07 was concerned with LAPPC requirements.	
45) Require an Air Quality Assessment for all new developments where there is potential for a significant increase in air pollution	2003 - 2017	Measure introduced into Ealing's UDP, which came into force in October 2002.	Air quality assessments required for all significant developments. Conditions are imposed to mitigate the effects of any air quality impacts. If such impacts cannot be alleviated then planning permission is refused. London Councils recently (January 2007) published revised guidance on Air Quality and Planning.	Framework Supplementary Planning Document produced for West London. Supplementary Planning Guidance 3 'Air Quality' published October 2004.
46) Refuse planning permission where a development hinders the achievement of air quality objectives or results in significantly increased air pollution.	2003 - 2017	Measure introduced into Ealing's UDP, which came into force in October 2004. Supplementary Planning Guidance (SPG 3) produced for AQ.		

47) Minimise emissions from buildings by encouraging developers to install energy efficient schemes	2003 - 2017	Measure introduced into Ealing's UDP, which came into force in October 2004.	Policy requirement expecting applicants of major planning applications to incorporate equipment on site for renewable power generation so as to provide 10% of the predicted energy requirements of the building.	Various applications recently approved where the provision of renewables has been secured though the planning process.
48) Minimise emissions from buildings by seeking the application of energy efficiency principles for new developments.	2003 - 2017	Measure introduced into Ealing's UDP, which came into force in October 2004.	Policy requirement expecting developers to demonstrate the application of energy conservation and energy efficiency measures within new development. Developers encouraged to adopt BREEAM and EcoHomes standards, or similar.	Developers now required to submit Energy Statement alongside planning application to demonstrate compliance with policy, including the application of energy conservation measures and consideration of installation of renewables
49) Facilitate the development of Green Corridors along the A40 and A406	2003 - 2006	Supplementary Planning Guidance (SPG 22) adopted October 2004 produced setting out an A40 Improvement Strategy.	A40 Green Corridor feasibility study published in May 2004.	Detailed design and implementation study being taken forward. Research into mitigating environmental constraints (noise & AQ) in relation to the A40 Green Corridor in Acton published in April 2006
50) Ensure that fugitive dust emissions from construction sites are kept to a minimum.	2003 - 2006	Measure introduced into Ealing's UDP, which came into force in October 2004.	Conditions/informatives are imposed at the planning stage on all commercial developments to prevent dust becoming a statutory nuisance. 'Construction and Demolition' leaflet produced by Environmental Health and Trading Standards (EHTS) disseminated and made available online in June 06	(search for 'construction' on ealing.gov.uk). Hardcopy Polish version also produced.
51) Encourage domestic composting to reduce	2003 - 2006	Garden waste collection scheme now available.	Scheme operates from April to November. Request only scheme operates at other times.	Discounted home-composting units available

waste and discourage bonfires.			Larger quantities accepted for composting at waste and recycling centres. 'Bonfires' leaflet produced by EHTS disseminated and made available online in June 06.	from Council. (search for 'bonfires' on ealing.gov.uk).
Awareness raising				
52) Undertake local travel awareness campaigns to raise the level of understanding of the consequences of an individual's choice of transport mode and how people can make a difference themselves, also the reasoning behind the Council's sustainable transport policies.	2003 - 2006	Participated in Car Free day on 22nd Sept 2003. 8 schools participated in 'Walk to School Week' during May and October 2003.	Ealing successful in bid for funding for various travel awareness campaigns. Good Going Week awarded £20,000. £10,000 also awarded for Cycle Week and £2,000 for Walk to School week. 'Changing the Climate' event for LBE staff in Sept 06 resulted in 120 staff signed a good going pledge to use sustainable transport whenever they can.	
53) Work with retailers and other businesses to produce a publicity campaign to encourage people to travel to shopping centres by public transport.	2003	Unable to secure funding	Initial funding was not successfully secured. It is anticipated that future funding bids will be submitted via the BSP. If this is not possible then the Council will explore other funding opportunities. Project proposal bid submitted as part of the bid for the 2007 round of DEFRA Air Quality Grant funding.	

54) Publish a Sustainable Transport Guide to the Borough to give people information on the range of sustainable transport choices available to them.	2003	Unable to secure funding	TFL published a Fuel and Fleet Management Guide in Oct 2006. Project proposal bid submitted as part of the bid for the 2007 round of DEFRA Air Quality Grant funding.	
55) Continue to participate in European Car Free day.	Annually (September)	Organised car-free days in Churchfield Road, Acton and Oldfield Circus, North Greenford on 22 September 2001, 2002 and 2003 to coincide with European car-free day	No funding from TFL for this initiative so not pursued in 2004/2005/2006.	Plans to examine alternative sources of funding for implementation in 07.
56) Continue it's 'Don't Choke Ealing' campaign and will work with its partners on ways to improve its effectiveness.	Annually (June)	Activities included: City Car Club viewing days Bike week Ealing Travelwise Week	Ealing successful in bid for funding for various travel awareness campaigns. Good Going Week awarded £20,000. £10,000 also awarded for Cycle Week and £2,000 for Walk to School week.06/07- LBE's Transport section secured £20,000 for Goodgoing, £10,000 for National Bike Week, and £5,000 for Walk to School week. Goodgoing events planned for June and September.	
57) Continue to monitor air quality within the borough and disseminate the results widely.	2003 - 2006	Monitoring continuing at Ealing and Acton Town Halls, Hanger Lane and Blair Peach Primary School, Southall and Horn Lane, Acton. New site established at Court Way, Acton.	All site results available via the London Air Quality Network web site. Environmental Quality Annual Report produced for 2005, detailing monitoring results. Will be downloadable from web site and anticipated to be a yearly production. 2006 Annual Report available.	Bid for Central Government funding for commissioning of further sites as part of future Detailed Assessments. Nitrogen Dioxide diffusion tube survey expanded (in April 07) to include two new triplicate site to monitor possible emissions from railway.
58) Conduct further review	2004	Air Quality Progress Report	Updating and Screening Assessment	

and assessment of air quality in line with its statutory duties.		completed April 2005.	completed April 2006. Detailed assessment carried out with regard to PM10 emissions associated with several industrial and commercial activities at Horn Lane, Acton for 12 months. Report published by Faber Maunsell in May 06.	
59) Review and improve the amount and quality of air quality information on its Pollution Control web site.	2003	Ealing Air launched on Ealing's Pollution Control web site in 2003. Includes forecasts and historical air quality information.	West London Air Quality Group web site in development to provide information source highlighting West London's cross borough activities. Involvement with AirText project will lead to the inclusion of a link to the AirText website in 2007.	The West London Air Quality Group's website was published on 6th Feb 07: www.westlondonairquality.org.uk Ealing has played an active role in the AirText consortium and is strongly promoting the service.
60) Continue to publish a quarterly Air Quality Bulletin and review and improve the provision of air quality information to the public.	Four per year. 2003 - 2006.	Quarterly bulletins published throughout 2005	Bulletin produced electronically and distributed to schools, Libraries, Councillors and local resident associations. Little or no feedback received from bulletins produced to date. Air quality information dissemination project proposal bid submitted as part of the bid for the 2007 round of DEFRA Air Quality Grant funding.	

Appendix 3: Comment on Data Capture

The following provides details from a report from ERG regarding the low data capture for nitrogen dioxide at Ealing 6, following investigation by Ealing Council-

The Ealing 6 analyser started flagging a fault on 28/03/06. This was discovered on analysis of the 29/03/06 data. The analyser was flagging a 'chamber pressure fault'. A callout was sent and the fault was attended by CBISS on 03/04/06. CBISS did not quote a repair scaling factor on their report therefore there is a period of data from the repair to the next calibration on the 11th which is not yet scaled. During ratification the scaling factor from the 11th will be back-applied to the 3rd and it is quite likely that this data will be validated back in.

There is a period of data from 11/11/06 to 14/11/06 during which the analyser was flagging a temperature fault. This will be addressed at final ratification and may re-validated.

CBISS attended to repair the fault on the 14th. However the analyser did not work correctly after the repair visit. CBISS re-attended on the 21st and effected another repair. The repair was successful but again CBISS did not quote a repair scaling factor on their report. There is a period of data from the 21st to the next cal on the 27th which is not yet scaled. During ratification the scaling factor from the 27th will be back-applied and this data may well be validated back in.

The following provides details from a report from ERG regarding the low data capture for nitrogen dioxide and particulates at Ealing 7, following investigation by Ealing Council-

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There is a small section of data from 24/03 to 28/03 that requires scaling after the service, this will be done at ratification.

The analyser's baseline showed a sudden drop on 03/05. The baseline was corrected when the next cal was undertaken on 09/05. This data is subject to further scrutiny at ratification.

The analyser's baseline drops again on 07/06. The LSO reported that the cabin was very warm as the air con was not coping. A callout for the air con was sent to SupportingU on 07/06 to attend the a/c. The air con was not included in SupportinU's original contract for the site. John Freeman negotiated with SU to attend the air con separately. ERG sent a separate callout for the NOx baseline on 13/06. This was attended by SupportingU on 14/06. They found the optics lamp was loose which was causing negative readings. The data was ok after the fix. The data in the period 08/06 to 17/06 is subject to further ratification.

There is another period of negative baseline from 02-05/07 which we suspect again was down to the analyser struggling with the heat in the cabin. This is subject to ratification.

The following provides details from a report from ERG regarding the low data capture for sulphur dioxide at Ealing 1, following investigation by Ealing Council-

There is a period of data from the 4th to the 16th of May which is currently awaiting ratification. During this period the air conditioning was not operating in the room and the analyser was suffering in the heat.

There as also a period of data from 16th December until the end of the year during which the analyser's baseline was unstable. This is likely to be due to the room being very cold. SO2 analysers are more susceptible than other analyser to large variations in temperature. Again this data is currently awaiting ratification.

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