London Borough of Ealing Air Quality Progress Report

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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. 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 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, 2005 and 2006.

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 and 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.

This report provides air quality monitoring results for 2007 from all air quality monitoring sites in Ealing. 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 local authorities needing 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 to provide an Air Quality Progress Report for the London Borough of Ealing. In writing this report the Council has had regard to and follows the recommended format as set out within the Government's published guidance contained in Local Air Quality Management - Progress Report Guidance LAQM.PRG(03). Secondly this document fulfils the requirement for an Air Quality Action Plan Progress Report as set out in section 84(2) of the Environment Act 1995. The Progress Report 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 ObjectiveConcentration	Measured as	Date to be achieved by and maintained thereafter
	16.25µg/m ³	Running annual mean	31.12.2003
Benzene	5µg/m ³ (1.54 ppb)	Annual mean	31.12.2010 (European obligation of 01.01.2010)
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
Lood	0.5µg/m ³	Annual mean	31.12.2004
Lead	0.25µg/m ³	Annual mean	31.12.2008
Nitrogen dioxide (1)	200µg/m ³ not to be exceeded more than 18times a year	1-hour mean	31.12.2005 (European

Pollutant	Air Quality ObjectiveConcentration	Measured as	Date to be achieved by and maintained thereafter
	40µgm3	Annual mean	obligation of 01.01.2010)
Particles PM ₁₀	50µg/m ³ not to be exceeded more than 35 times a year	24-hour mean	31.12.2004
(gravimetric)	40µg/m ³	Annual mean	31.12.2004
Particles PM _{2.5} (gravimetric) Exposure Reduction (3)	25μg/m ³	Annual mean	2020 (European 2010 obligations still under negotiation)
	15% reduction in concentrations at urban background (4)	Annual mean	Between 2010 and 2020 (European obligations still under negotiation)
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)	100µg/m3 not to be exceeded more than 10 times per year.	8-hour mean	31.12.2005

Units of measurement:

µg/m³: micrograms per cubic metre mg/m³: 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) European obligations target of 20% reduction in concentrations at urban background.

(4) Value is a target value rather than a binding limit value. European obligations are 120µg/m³ not to be exceeded more than 25 times per year averaged over 3 years by 31.12.2010.

(5) An aspirational target to work towards after 2010 with the aim of achieving it by 2015 where costeffective 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, 1,3butadiene, 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 set 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. The 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 (PM₁₀) 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.

2.0 Monitoring in Ealing

The London Borough of Ealing currently operates continuous air quality monitoring stations located around the borough¹. 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. ERG undertakes data collection, dissemination and ratification and arranges for regular QA/QC audits. All sites form part of the London Air Quality Network (LAQN). 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.

Ealing also has a long term non-automatic monitoring programme that consists of 109 diffusion tubes monitoring nitrogen dioxide at 89 locations around the borough. Ten of these sites have three tubes exposed (known as triplicate sites), four of which are co-located with continuous NO_x analysers at the council's 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).

¹ An 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. See Ealing Council's Air Quality Progress Report 2007.

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 SO₂ analyser
- 1 x Environnement O₃ 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, ozone, PM_{10} particulates and $PM_{2.5}$ particulates, and is currently equipped with the following continuous analysers:-

1 x R. & P. TEOM[®] with PM_{2.5} inlet
1 x R. & P. TEOM[®] with PM₁₀ inlet
1 x Environnement NO_x analyser
1 x Environnement CO analyser
1 x R. & P. Filter Dynamics Measurement System[®] with PM₁₀ inlet²
1 x Casella Monitor ML9810 Ozone Analyser

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, London W5 at its junction with Twyford Abbey Road, London NW10 on the Hanger Lane Gyratory (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 AC32M 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).

² Installed on 29th April 2005

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

- 1 x Rupprecht and Pataschnick TEOM with PM₁₀ inlet
- 1 x Monitor Labs NO_x analyser

The station is also equipped with sensors for wind speed, wind direction, temperature and relative humidity. 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 in 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

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

Figure 1. Map of automated monitoring sites in Ealing



2.1.1 Monitoring results from automatic sites

Ealing's USA, published in April 2006, reported monitoring data obtained in 2005. This report will focus on 2007 data to allow easy comparison with the AQS objectives.

2.1.2 Nitrogen dioxide

A summary of annual values for nitrogen dioxide in 2007 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 from continuous monitoring sites for 2007 has not been fully ratified at present and therefore all figures quoted for 2007 are provisional. In particular, data capture rates are likely to change on ratification.

LAQM.TG(03) Box 6.6 (p. 6-9) provides correction factors to be applied to measured data from roadside sites and Box 6.7 (p. 6-29) provides correction factors to be applied to measured data from background sites in order to estimate annual average nitrogen dioxide concentrations in future years. 2007 measured data was used for the basis of future trends as being representative of past year's results. Table 2 therefore provides the estimated concentrations for the Objective year 2010.

Site	Data	No more than 18	Annual mean not	2010 estimated
	capture	occurrences of hourly	exceeding	annual mean
	rate %	mean >200µg/m³	40µg/m³	µg/m³
Ealing 1 Ealing	97	12	39.2	35.5
Town Hall W5				
Ealing 2. Acton	95	43	60.1	53
Town Hall W3				
Ealing 6. Hanger	66	51	83.6	73.8
Lane W5				
Ealing 7	80	0	30	27.2
Blair Peach				
Primary School				

Table 2	Hourly	and	annual	nitrogen	dioxide	concentr	ations	for 2	2007	and	predicte	d	values	s for
:	2010													

<u>Key</u>

■ = Roadside Site ■ = Urban Background Site

Table 2 shows that the two roadside sites, Ealing 2 and Ealing 6, failed to meet the hourly mean objective and are predicted to fail to meet the 2010 annual objective. The urban background sites, Ealing 1 and Ealing 7, met both objectives, though Ealing 1 only by a small margin.

Compared to the results from last year, the number of occurrences where the hourly mean was greater than $200\mu g/m^3$ at the Acton Town Hall roadside site

(Ealing 2) has almost doubled – 43 instances in 2007, compared to 22 instances in 2006.

Graph 1 gives an indication of trends for all continuous monitoring stations since they were commissioned. All sites have recorded lower annual mean concentrations than 2006. Although Ealing 1 and 7 are showing a general downward trend, Ealing 2 continues to have a higher annual mean concentration than the first year of commissioning.

For the first time, Hanger Lane (Ealing 6) has a lower annual mean concentration than the first year of commissioning. The number of occurrences where the hourly mean is greater than 200 μ g/m³ has dropped by almost 80% compared to last year – from 242 to 51. However, results for the Hanger Lane and Blair Peach School sites should be treated with care due to the low data capture rates achieved (66% and 80% respectively).





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

2.1.3 Particulates (PM₁₀ and PM_{2.5})

A summary of annual values for particulates in 2007 can be found in Table 3. Data relating to previous years can be found in Appendix 1. Table 3 shows the data capture rate for each site and compares each site against the air quality objectives. It should again be noted that data for 2007 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 8.6 in LAQM.TG(03) (p. 8-10) provides a methodology for calculating annual mean concentrations for future years using correction factors from Box 8.7 (p. 8-11) and internet maps for 2001 (see: http://www.airguality.co.uk/ archive/lagm/tools.php?tool=background). This methodology has been used to estimate annual mean concentrations for the objective year of 2010, shown in Table 3, using 2007 data. From this calculated annual mean concentration, the number of 24-hour exceedances of 50 μ g/m³ in 2010 can be derived using the graph in Figure 8.1 of LAQM.TG(03) (p. 8-41).

	2007		2007	201	10
Site	Data capture rate %	Annual mean less than 40 μg/m ³	No more than 35 days where daily mean >50 µg/m ³	Estimated annual mean μg/m ³ (less than 23 μg/m ³)	No more than 10 days where daily mean >50 μg/m ³
Ealing 2. Acton Town Hall FDMS	96	25.7	27	23.8	10
Ealing 2. Acton Town Hall	97	29.6	26	27.5	19
Ealing 7. Blair Peach Primary School	93	24	15	22.2	7
Ealing 8. Horn Lane	96	52.8	173	49.2	158

 Table 3
 Annual PM₁₀ and PM_{2.5} concentrations for 2007 and predicted values for 2010
 (gravimetric values shown)

Key

■ = Roadside Site = Urban Background Site = Industrial Site

Table 3 shows that all sites met both PM_{10} Objectives during 2007, apart from Ealing 8 (Horn Lane), which failed both objectives. Whilst the annual mean concentration has fallen across all sites compared with 2006, all sites have had more days where there are exceedances of the shorter daily mean objective (apart from Ealing 8). This is particularly true of Ealing 7 at Blair Peach Primary school, where the number of days has increased from 4 in 2006 to 15 in 2007. It is estimated that the annual mean objective for 2010 will also be met at all sites, however only Ealing 2 FDMS and Ealing 7 will meet the daily mean objective.

Graph 2 gives an indication of trends for all continuous monitoring stations that monitor for PM₁₀. Apart from 2003, Acton Town Hall site shows little change in levels since it was commissioned.

It is of note that since measures have been introduced by both Ealing Council and the Environment Agency to help reduce emissions from industrial premises at Horn Lane (following the detailed assessment of PM10 at Horn Lane), the annual mean concentration has fallen dramatically – from 74.3 μ g/m³ in 2006 to 52.8 μ g/m³ in 2007 - as has the number of days where the daily mean exceeds 50 μ g/m³ - from 224 in 2006 to 173 in 2007.

Graph 3 provides details of particulate daily mean readings at Ealing 8, Horn Lane, in 2007. Approximately 48% of days in 2007 have daily means above the daily mean standard; 31 days had daily PM_{10} concentrations of 80-100 μ g/m³; and two days had concentrations between 130-140 μ g/m³. These results compare favourably with the results of the detailed assessment where exceedances of the daily mean standard were recorded on over 54% of the monitored days; 43 days had daily PM_{10} concentrations of 80-100 μ g/m³; and seven days had daily PM_{10} concentrations of 80-100 μ g/m³; and seven days had daily PM_{10} concentrations of 130-180 μ g/m³. However it should be noted that there data was not obtained on 13 days in 2007.

Ealing Council continues to work with the EA regarding the high PM_{10} concentrations at Horn Lane.



Graph 2 Particulate annual mean results from all continuous monitoring sites





Table 4 shows that the recorded $PM_{2.5}$ annual mean. Details of the percentage of annual mean concentration reduction in 2007 as compared with 2006, in view of the serious impacts on health this ultrafine fraction has, reveals a significant annual mean concentration reduction of 13.0%.

Graph 4 shows that annual mean $PM_{2.5}$ concentrations have been gradually falling at Acton Town Hall since 2003.

Year	Data capture rate (%)	Annual mean (µg/m³)
1996	28	25.8
1997	97	27.3
1998	95	22.4
1999	98	20.9
2000	99	21.3
2001	99	21.9
2002	97	21.6
2003	29	21.9
2004	88	20.4
2005	98	19.0
2006	76	16.9
2007	99	14.7*

 Table 4
 Annual PM_{2.5} concentrations since 1996 (all ratified data apart from 2007)

*13.0% conc. reduction since 2006

Key □ = Roadside Site

Graph 4 Particulate (PM_{2.5}) annual mean results since commissioning



2.1.4 Sulphur dioxide

A summary of annual values for sulphur dioxide in 2007 can be found in Table 5. 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 2007 is also given. It should be noted that data for 2007 has not been fully ratified at present.

Table 5	Hourly.	daily and	15-min	mean s	ulphur	dioxide	concentrations	for 2007
	riouny,	adiny and	10 11111	moun 5	aipriai	aloxido	00110011110110	101 2007

Site	Data	No more than 24	No more than 3	No more than	2007
	capture	occurrences of	days where daily	35 occurrences	Annual
	rate	hourly mean	mean >125	of 15 min mean	Mean
	%	>350 µg/m ³	µg/m³	>267µg/m ³	µg/m³
Ealing 1. Ealing Town Hall	96	0	0	0	6.4

Table 5 shows that the Ealing Town Hall site met all the sulphur dioxide (SO_2) objectives during 2007. It is likely that the objectives will be met in 2008.

Graph 5 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 years, with concentration levels in 2007 being the lowest recorded.



Graph 5 Annual mean concentrations of sulphur dioxide at Ealing Town Hall since 1995

2.1.5 Carbon monoxide

A summary of annual values for carbon monoxide in 2007 can be found in Table 6. Data relating to previous years can be found in Appendix 1. Table 6 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 2007 is also given as an indication of how below the objective measured concentrations are. It should be noted that data for 2007 has not been fully ratified at present.

Table 6.	8-hour mean	carbon	monoxide	concentrations	for 2007
	o nour moun	ourbon	monioxido	001100110110110	101 2001

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	99	0	0.5	3.5

Table 6 shows that the Acton Town Hall site met the carbon monoxide objective during 2007, and it is likely that the objective will be met as well in 2008.

Graph 6 gives an indication of carbon monoxide trends for the Acton Town Hall site since 1996. Carbon monoxide levels have decreased dramatically over the years, however the running 8 hour mean concentration has shown an increase in 2007, going back to a level similar to that in 2004.



Graph 6. Carbon monoxide concentrations at Acton Town Hall (Ealing 2) since 1996

2.1.6 **Ozone**

Although the National Air Quality Strategy sets 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 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 2007 can be found in Table 7. Table 7 shows the data capture rate, the number of days where the 8-hour mean is greater than 100 μ g/m³, the running 8-hour mean, and the running 8-hour maximum concentration for 2007 at both sites. The number of days where the maximum rolling 8-hour mean is greater than 100 μ g/m³ has fallen dramatically at both sites compared to 2006, from 202 days to 61 days at Ealing 1; and 11 to 0 days at Ealing 2. Ealing 2 therefore meets the objective, but Ealing 1 has failed to meet the objective. It should be noted that data for 2007 has not been fully ratified at present. Data relating to previous years can be found in Appendix 1.

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	100	61	33.6	127.2
Ealing 2. Acton Town Hall	97	0	24	93.9

Table 7. Ozone measured against various parameters during 2007

Key

Roadside Site

= Urban Background Site

Graph 7 details 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.



Graph 7 Ozone concentrations at Ealing Town Hall and Acton Town Hall

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 nitrogen dioxide and benzene concentrations. 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 109 diffusion tubes monitoring nitrogen dioxide at 89 locations around the borough. Ten of these sites are triplicate sites, four 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 45 roadside sites, 22 intermediate, and 22 urban background sites around the borough. The 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; and two extra sites commissioned in April 2007.

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, a ratio between the differing monitoring results is used to provide a local bias adjustment factor for the diffusion tubes.



Figure 2. Location of nitrogen dioxide diffusion tube sites.

The calculation for the bias adjustment factor can be found in Table 9. This methodology is derived from LAQM.TG(03) Box 6.4 (p.6-7). 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 factors respectively. Intermediate tube sites were adjusted using the urban background adjustment factor.

 Table 8
 Bias adjustment factors for Acton and Ealing Town Hall sites

	Acton Town Hall	Ealing Town Hall
Av diffusion tube concentration 2007 (DM)	58.9	42.8
Av continuous analyser concentration 2007 (CM)	60.1	39.2
Bias adjustment factor = CM/DM	1.02	0.92

The bias adjustment factor for roadside sites was 1.02 and the factor for urban background and intermediate sites was 0.92. All diffusion tube results have been adjusted for these factors unless otherwise mentioned.

Table 9 shows the annual mean NO₂ data for 2007 as well as data capture rates for each site. LAQM.TG(03) Box 6.6 (p. 6-9) provides correction factors to be applied to measured data from roadside sites and Box 6.7 (p. 6-29) provides correction factors to be applied to measured data from background sites in order to estimate annual average nitrogen dioxide concentrations in future years. 2010 estimated concentrations for intermediate sites have been calculated using the background site correction factor. Table 9 therefore provides the estimated concentrations for the objective year 2010 based on 2007 data.

Site No.	Site Name	Туре	2007 Annual mean	2007 Bias Adjusted Annual mean	Data Capture %	Estimated concentration in 2010	Site Type as detailed in 2005 progress report
1	39 Old Oak Lane	R	58	59.2	100	52.2	R
2	101 Wells House Road,	UB	41.8	38.3	100	34.7	UB
3	Jenner Avenue	R	61.6	62.9	100	55.5	
4	5 Leamington Park	R	54.5	55.6	100	49.1	l
5	John Perryn First and Middle School, Long Drive	UB	42.7	39.1	91.7	35.5	UB
6a	Wendover Court, Western Avenue- Top	R	63.2	64.5	83.3	56.9	R
6b	Wendover Court, Western Avenue- 2	R	70.5	71.9	100	63.4	R
6c	Wendover Court, Western Avenue- 1	R	65.1	66.4	100	58.6	R
64	Wendover Court, Western Avenue- Ground	P	70.6	72.0	75	63 5	P
7	45 Park Avenue		53.7	49.2	100	44.6	
8	6 Brentmead Gardens	UB	45	41.2	100	37.4	l

Table 9	NO ₂ diffusion tube concentrations for 2007 and estimated concentrations for
	the objective year of 2010. (μg/m ³)

9 Iveagh Avenue I 56.8 52.0 100 47.2 I 10 Lane R 68 69.4 100 50.9 I 11 2 St Andrews Road I 61.2 56.1 100 50.9 I 12 Lane R 78.8 80.4 100 70.9 R 13 Lane R 78.8 80.4 100 70.9 R 14 First Avenue R 55.7 56.8 83.3 50.1 I 1 15 Varple Way R 64.5 66.8 100 58.0 R 14 First Avenue R 57.3 33.7 83.3 36.0 R 15 Varple Way R 64.5 66.8 100 53.0 I 14 Lantry Court, Acton R 72.8 74.3 100 36.5 UB 20 Strechorn Hospital T 73.3	Site No.	Site Name	Туре	2007 Annual mean	2007 Bias Adjusted Annual mean	Data Capture %	Estimated concentration in 2010	Site Type as detailed in 2005 progress report
S7-75 Old Oak Common r 6.8 69.4 100 61.2 I 11 2 St Andrews Road I 61.2 56.1 100 51.2 I 12 Lane R 78.8 80.4 100 70.9 R 13 Lane R 78.8 80.4 100 50.9 R 14 First Acton R 55.7 56.8 83.3 50.1 I 15 Waple Way R 64.5 65.8 100 58.0 R 16 Outpel Way R 64.5 65.8 100 58.0 R 17 Churchfield Road I 43.3 39.7 83.3 36.0 R 19 Lantry Court, Acton UB 37.3 34.2 100 36.5 UB 20 Street, Acton R 72.8 74.3 100 55.5 UB 21 Church Road I 43.9 60.1 </th <th>9</th> <th>Iveagh Avenue</th> <th>1</th> <th>56.8</th> <th>52.0</th> <th>100</th> <th>47.2</th> <th>I</th>	9	Iveagh Avenue	1	56.8	52.0	100	47.2	I
10 Lane R 68 69.4 100 61.2 1 11 2 St Andrews Road 1 61.2 56.1 100 50.9 1 12 Lane R 78.8 80.4 100 70.9 R 13 Lane I 46 42.1 75 38.2 UB 13 Lane I 46 42.1 75 38.2 UB 14 First Avenue R 55.7 56.8 83.3 50.0 R 15 Warple Sursery, East - - - - - 16 Churchfield Road I 43.3 39.7 83.3 36.0 R 20 Street, Acton R 72.8 74.3 100 65.5 I 21 Church Road I 43.9 40.2 100 36.5 UB 22 Gunnersbury Lane R 58.6 59.8 100		57-75 Old Oak Common						
11 2 St Andrews Road I 61.2 56.1 100 50.9 I 12 Lane R 78.8 80.4 100 70.9 R 12 Lane R 78.8 80.4 100 70.9 R 13 Lane I 46 42.1 75 38.2 UB 13 Lane R 55.7 56.8 83.3 50.1 I I 14 First Avenue R 65.8 100 58.0 R 17 Churchfield Road I 43.3 39.7 83.3 36.0 R 19 Lantry Court, Acton UB 37.3 34.2 100 36.5 UB 00 Street, Acton R 72.8 74.3 100 65.5 I 20 Street, Acton R 58.6 59.8 100 52.8 R 21 Church Road I 42.9 39.3 100 52.8 R 22 Unorsbuty Lane R 58.6 <td>10</td> <td>Lane</td> <td>R</td> <td>68</td> <td>69.4</td> <td>100</td> <td>61.2</td> <td></td>	10	Lane	R	68	69.4	100	61.2	
18 Old Oak Common R 78.8 80.4 100 70.9 R East Acton Primary School, East Acton -	11	2 St Andrews Road	I	61.2	56.1	100	50.9	
12 Lane R 78.8 80.4 100 70.9 R East Acton Primary School, East Acton I 46 42.1 75 38.2 UB 13 Lane I 46 42.1 75 38.2 UB 14 First Avenue R 64.5 65.8 100 58.0 R 15 Warple Way R 64.5 65.8 100 31.0 UB 17 Churchfield Road I 43.3 39.7 83.3 36.0 R 20 Street, Acton R 72.8 74.3 100 36.5 UB 21 Church Road I 43.9 40.2 100 36.5 UB 22 Gunnersbury Lane R 58.6 59.8 100 52.8 R 23 156 Horn Lane R 58.6 59.8 100 35.6 UB 22 Grandens I 42.9 <td< td=""><td>10</td><td>18 Old Oak Common</td><td>_</td><td>70.0</td><td>00.4</td><td>100</td><td>70.0</td><td>_</td></td<>	10	18 Old Oak Common	_	70.0	00.4	100	70.0	_
Last Action Finality School, East Action I 46 42.1 75 38.2 UB 14 First Avenue R 55.7 56.8 83.3 50.1 I 15 Warple Way R 64.5 65.8 100 58.0 R 17 Churchfield Road I 43.3 39.7 83.3 36.0 R 19 Lantry Court, Acton UB 37.3 34.2 100 31.0 UB 20 Street, Acton R 72.8 74.3 100 65.5 I Acton Health Centre, 21 R 78.8 60.1 100 53.0 I 23 156 Horn Lane R 58.6 59.8 100 52.8 R 24 Peal Gardens I 42.9 39.3 100 35.6 UB 25 Gardens R 58.6 59.8 100 42.2 I 203 Windmill Lane, 27 Greenford R	12	Lane	ĸ	78.8	80.4	100	70.9	ĸ
Database I 46 42.1 75 38.2 UB 14 First Avenue R 55.7 56.8 83.3 50.1 I 15 Warple Way R 64.5 65.8 100 58.0 R 17 Churchfield Road I 43.3 39.7 83.3 36.0 R 19 Lantry Court, Acton UB 37.3 34.2 100 31.0 UB Age Concern, High - <td></td> <td>East Acton Primary</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>		East Acton Primary						
14 First Avenue R 55.7 56.8 83.3 50.1 I 15 Warple Way R 64.5 65.8 100 58.0 R Maples Nursery, East -<	13	Lane	1	46	42.1	75	38.2	UB
15 Warple Way R 64.5 65.8 100 58.0 R Maples Nursery, East 1 43.3 39.7 83.3 36.0 R 17 Churchfield Road I 43.3 39.7 83.3 36.0 R 19 Lantry Court, Acton UB 37.3 34.2 100 31.0 UB Age Concern, High R 72.8 74.3 100 65.5 I 20 Street, Acton R 72.8 74.3 100 53.0 I 21 Church Road I 43.9 40.2 100 53.0 I 22 Gunnersbury Lane R 58.9 60.1 100 53.0 I 23 166 Horn Lane R 58.9 60.1 100 79.5 R 26 Gradens R 88.3 90.1 100 46.8 UB 27 Greenford R 51.9 53.0 <td>14</td> <td>First Avenue</td> <td>R</td> <td>55.7</td> <td>56.8</td> <td>83.3</td> <td>50.1</td> <td> </td>	14	First Avenue	R	55.7	56.8	83.3	50.1	
Maples Nursery, East 17 I 43.3 39.7 83.3 36.0 R 19 Lantry Court, Acton UB 37.3 34.2 100 31.0 UB 20 Street, Acton R 72.8 74.3 100 65.5 I 20 Street, Acton R 72.8 74.3 100 65.5 I 20 Street, Acton R 72.8 74.3 100 65.5 I 21 Church Road I 43.9 40.2 100 36.5 UB 21 Church Road I 42.9 39.3 100 53.0 I 23 I56 Horn Lane R 58.6 59.8 100 52.8 R 24 Peal Gardens I 42.9 39.3 100 79.5 R 25 Gardens R 83.3 90.1 100 79.5 R 26 Sife Benhelm Close I 50.8	15	Warple Way	R	64.5	65.8	100	58.0	R
11 Churchfield Road I 43.3 39.7 83.3 36.0 R 19 Lantry Court, Acton UB 37.3 34.2 100 31.0 UB Age Concern, High R 72.8 74.3 100 65.5 I Acton Health Centre, I 43.9 40.2 100 36.5 UB 21 Church Road I 43.9 40.2 100 36.5 UB 22 Gunersbury Lane R 58.9 60.1 100 53.0 I 23 156 Horn Lane R 58.6 59.8 100 35.6 UB 24 Peal Gardens I 42.9 39.3 100 35.6 UB 25 Gardens R 88.3 90.1 100 79.5 R 25 Gardens R 51.9 53.0 100 46.8 UB 203 Windmill Lane, - - - - - - - 203 Ruislip Road, Greenford I 50.6		Maples Nursery, East						
19 Lantry Court, Acton UB 37.3 34.2 100 31.0 UB Age Concern, High R 72.8 74.3 100 65.5 I Acton Health Centre, I 43.9 40.2 100 36.5 UB 21 Church Road I 43.9 40.2 100 36.5 UB 23 Is6 Horn Lane R 58.9 60.1 100 53.0 I 23 Is6 Horn Lane R 58.6 59.8 100 52.8 R 24 Peal Gardens I 42.9 39.3 100 35.6 UB 17 Runnymede R 88.3 90.1 100 79.5 R 25 Gardens R 88.3 90.1 100 79.5 R 26 Si6 Bienheim Close I 51.9 53.0 100 46.8 UB 20 Widmill Lane, R 51.9 53.0 100 42.2 I 29 Shadwell Drive, Northolt I	17	Churchfield Road	l I	43.3	39.7	83.3	36.0	R
Age Concern, High R 72.8 74.3 100 65.5 I 20 Street, Acton R 72.8 74.3 100 65.5 I 21 Church Road I 43.9 40.2 100 36.5 UB 22 Gunnersbury Lane R 58.9 60.1 100 53.0 I 23 156 Horn Lane R 58.6 59.8 100 52.8 R 24 Peal Gardens I 42.9 39.3 100 35.6 UB 17 Runnymede R 88.3 90.1 100 79.5 R 203 Windmill Lane, R 51.9 53.0 100 46.8 UB 21 Greenford High School, R 51.9 53.0 100 42.3 1 22 Shadwell Drive, Northolt I 50.9 75 46.2 I 23 Shadwell Drive, Northolt I 50.9 91.7	19	Lantry Court, Acton	UB	37.3	34.2	100	31.0	UB
20 Street, Acton R 72.8 74.3 100 65.5 I Acton Health Centre, Clurch Road I 43.9 40.2 100 36.5 UB 21 Church Road I 43.9 40.2 100 36.5 UB 22 Gunnersbury Lane R 58.9 60.1 100 53.0 I 23 156 Horn Lane R 58.6 59.8 100 52.8 R 24 Peal Gardens I 42.9 39.3 100 35.6 UB 17 Runnymede R 88.3 90.1 100 79.5 R 203 Windmill Lane, R 51.9 53.0 100 46.8 UB 28 Ruisip Road, Greenford I 55.6 50.9 75 46.2 I 29 Shadwell Drive, Northolt I 50.6 46.3 91.7 42.0 I 30 Northolt, UB5 R 53		Age Concern, High						
Actor Health Centre, I 43.9 40.2 100 36.5 UB 21 Church Road I 43.9 40.2 100 36.5 UB 22 Gunnersbury Lane R 58.9 60.1 100 53.0 I 23 156 Horn Lane R 58.6 59.8 100 52.8 R 24 Peal Gardens I 42.9 39.3 100 79.5 R 25 Gardens R 88.3 90.1 100 79.5 R 26 5/6 Blenhelm Close I 50.8 46.5 91.7 42.2 I 203 Windmill Lane, R 51.9 53.0 100 46.8 UB 28 Ruisip Road, Greenford I 50.6 50.9 75 46.2 I 29 Shadwell Drive, Northolt I 50.9 45.1 100 47.7 R 30 Northolt, Pimary School, R <t< td=""><td>20</td><td>Street, Acton</td><td>R</td><td>72.8</td><td>74.3</td><td>100</td><td>65.5</td><td></td></t<>	20	Street, Acton	R	72.8	74.3	100	65.5	
21 Church Road 1 43.9 40.2 100 36.5 OB 22 Gunnersbury Lane R 58.9 60.1 100 53.0 1 23 156 Horn Lane R 58.6 59.8 100 52.8 R 24 Peal Gardens I 42.9 39.3 100 35.6 UB 25 Gardens R 88.3 90.1 100 79.5 R 26 56 Blenhelm Close I 50.8 46.5 91.7 42.2 I 203 Windmill Lane, R 51.9 53.0 100 46.8 UB 36 areenford High School, R 55.6 50.9 75 46.2 I 28 Ruislip Road, Greenford I 55.6 50.9 75 46.2 I 29 Shadwell Drive, Northolt I 50.9 46.6 100 47.7 R 32 Lilliput Avenue UB 50	04	Acton Health Centre,		42.0	40.0	100	20 5	LID
Old Action Hospital, 22 Gunnersbury Lane R 58.9 60.1 100 53.0 I 22 Gunnersbury Lane R 58.6 59.8 100 52.8 R 24 Peal Gardens I 42.9 39.3 100 35.6 UB 25 Gardens R 88.3 90.1 100 79.5 R 26 S/6 Blenhelm Close I 50.8 46.5 91.7 42.2 I 203 Windmill Lane, 203 Windmill Lane, 203 Windmill Lane, 203 Windmill Lane, 203 Windmill Lane, 203 Northolt, UBS R 51.9 53.0 100 46.8 UB 28 Ruislip Road, Greenford I 55.6 50.9 75 46.2 I 29 Shadwell Drive, Northolt I 50.9 46.6 100 42.3 I 30 Northolt, UBS R 53 54.1 100 47.7 R 32 Lilliput Avenue UB 50.6 46.3 91.7 48.7 UB 34 8 The Broadway, Ealing R 75.5 58.7	21	Church Road	1	43.9	40.2	100	30.5	UB
Li Control Lane R 50.0 100 100 50.0 1 23 156 Horn Lane R 58.6 59.8 100 35.6 UB 24 Peal Gardens I 42.9 39.3 100 35.6 UB 17 Runnymede R 88.3 90.1 100 79.5 R 26 5/6 Blenhelm Close I 50.8 46.5 91.7 42.2 I 203 Windmill Lane, -	22	Gunnersbury Lane	R	58.9	60.1	100	53.0	1
Los Hori Lane IX 30.0 33.0 100 32.0 IX 24 Peal Gardens I 42.9 39.3 100 35.6 UB 17 Runnymede R 88.3 90.1 100 79.5 R 25 Gardens R 88.3 90.1 100 79.5 R 203 Windmill Lane, I 50.8 46.5 91.7 42.2 I 203 Windmill Lane, R 51.9 53.0 100 46.8 UB Greenford High School, R 55.6 50.9 75 46.2 I 28 Ruislip Road, Greenford I 50.6 46.3 91.7 42.0 I 20 Shadwell Drive, Northolt I 50.6 46.3 91.7 42.0 I 32 Lilliput Avenue UB 58.6 53.7 91.7 48.7 UB 34 8 The Broadway, Ealing R 78.9 80.5 100 <td>22</td> <td>156 Horn Lane</td> <td>R</td> <td>58.6</td> <td>50.8</td> <td>100</td> <td>52.8</td> <td>R</td>	22	156 Horn Lane	R	58.6	50.8	100	52.8	R
17 12.5 20.5 100 20.5 100 20.5 17 Runnymede R 88.3 90.1 100 79.5 R 26 S/6 Blenhelm Close I 50.8 46.5 91.7 42.2 I 203 Windmill Lane, R 51.9 53.0 100 46.8 UB 27 Greenford High School, R 51.9 53.0 100 46.8 UB 29 Shadwell Drive, Northolt I 50.9 75 46.2 I 20 Shadwell Drive, Northolt I 50.9 46.6 100 42.3 I 29 Shadwell Drive, Northolt I 50.6 46.3 91.7 42.0 I 30 Northolt, UB5 R 53 54.1 100 47.7 R 32 Lilliput Avenue UB 58.6 53.7 91.7 48.7 UB 34 8 The Broadway, Ealing R 77.5 <td>23</td> <td>Peal Gardens</td> <td></td> <td>42.9</td> <td>39.0</td> <td>100</td> <td>35.6</td> <td>UB</td>	23	Peal Gardens		42.9	39.0	100	35.6	UB
25 Gardens R 88.3 90.1 100 79.5 R 26 5/6 Blenhelm Close I 50.8 46.5 91.7 42.2 I 203 Windmill Lane, 203 Windmill Lane, Ruislip Road, Greenford R 51.9 53.0 100 46.8 UB 28 Ruislip Road, Greenford I 55.6 50.9 75 46.2 I 29 Shadwell Drive, Northolt I 50.9 46.6 100 42.3 I Bengarth Road, 30 Northolt, UB5 R 53 54.1 100 47.7 R 32 Lilliput Avenue UB 50.6 46.3 91.7 48.7 UB 33 Compton Crescent UB 58.6 53.7 91.7 48.7 UB 34 8 The Broadway, Ealing R 78.9 80.5 100 63.6 R 35 Gunnersbury Crescent R 57.5 58.7 100 42.3 I <		17 Runnymede		12.0	00.0	100	00.0	00
265/6 Blenhelm CloseI50.846.591.742.2I203 Windmill Lane, Greenford High School, RR51.953.010046.8UB28Ruislip Road, GreenfordI55.650.97546.2I29Shadwell Drive, NortholtI50.946.610042.3IBengarth Road, 30Northolt, UB5R5354.110047.7R32Lilliput AvenueUB50.646.391.742.0I33Compton CrescentUB58.653.791.748.7UB348 The Broadway, EalingR78.980.510063.6R35Gunnersbury CrescentR57.558.710042.3I46.12I5146.710042.3II5146.710042.3II5146.710042.3I348 The Broadway, EalingR57.558.710042.5RI35Gunnersbury CrescentR57.558.710042.3II36Laurel GardensI5146.710042.3II37Uxbridge RoadUB54.750.110042.3II38McDonalds Drive thru, Bernards Wing,JJ47.843.810030.6UB39Uxbridg	25	Gardens	R	88.3	90.1	100	79.5	R
203 Windmill Lane, GreenfordR51.953.010046.8UB27GreenfordHigh School, Ruislip Road, GreenfordI55.650.97546.2I29Shadwell Drive, NortholtI50.946.610042.3IBengarth Road, 30Northolt, UB5R5354.110047.7R32Lilliput AvenueUB50.646.391.742.0I33Compton CrescentUB58.653.791.748.7UB348 The Broadway, Ealing Childcare and Play, 25A75.558.710063.6R36Laurel GardensI5146.710042.3I37Uxbridge RoadUB54.750.110042.3I38Greenford Play, 25AI5146.710042.3I39Uxbridge RoadUB36.933.810030.6UB39Uxbridge Road, SouthallI47.843.810039.7R40South RoadR57.358.594.451.6I	26	5/6 Blenhelm Close		50.8	46.5	91.7	42.2	-
27GreenfordR51.953.010046.8UBGreenford High School, Ruislip Road, GreenfordI55.650.97546.2I29Shadwell Drive, NortholtI50.946.610042.3IBengarth Road, 30KS54.110047.7R32Lilliput AvenueUB50.646.391.742.0INortholt Primary School, 33Compton CrescentUB58.653.791.748.7UB348 The Broadway, Ealing Childcare and Play, 25AR57.558.710063.6R35Gunnersbury CrescentR57.558.710042.3I36Laurel GardensI5146.710042.3I37Uxbridge RoadUB54.750.110042.3I37Uxbridge Road, SuthallI47.843.810030.6UB38Greenford AvenueUB36.933.810030.6UB39Uxbridge Road, SuthallI47.843.810039.7R40South RoadR57.358.594.451.6I		203 Windmill Lane,						
Greenford High School, 28Ruislip Road, GreenfordI55.650.97546.2I29Shadwell Drive, NortholtI50.946.610042.3I30Northolt, UB5R5354.110047.7R32Lilliput AvenueUB50.646.391.742.0I33Compton CrescentUB58.653.791.748.7UB348 The Broadway, EalingR78.980.510063.6R35Gunnersbury CrescentR57.558.710042.3I36Laurel GardensI5146.710042.3I37Uxbridge RoadUB54.750.110042.3I37Uxbridge RoadUB54.750.110042.3I37Uxbridge RoadUB36.933.810030.6UB36Greenford AvenueUB36.933.810030.6UB39Uxbridge Road, SouthallI47.843.810039.7R40South RoadR57.358.594.451.6I	27	Greenford	R	51.9	53.0	100	46.8	UB
28 Ruislip Road, Greenford I 55.6 50.9 75 46.2 I 29 Shadwell Drive, Northolt I 50.9 46.6 100 42.3 I 30 Northolt, UB5 R 53 54.1 100 47.7 R 32 Lilliput Avenue UB 50.6 46.3 91.7 42.0 I 33 Compton Crescent UB 58.6 53.7 91.7 48.7 UB 34 8 The Broadway, Ealing R 78.9 80.5 100 63.6 R 35 Gunnersbury Crescent R 57.5 58.7 100 42.5 R 36 Laurel Gardens I 51 46.7 100 42.3 I 37 Uxbridge Road UB 54.7 50.1 100 42.3 I 38 Greenford Avenue UB 54.7 50.1 100 45.4 UB 38 Gree		Greenford High School,						
29 Shadwell Drive, Northolt 1 50.9 46.6 100 42.3 I Bengarth Road, R 53 54.1 100 47.7 R 32 Lilliput Avenue UB 50.6 46.3 91.7 42.0 I 33 Northolt Primary School, Bengarth Road, 91.7 48.7 UB 34 Northolt Primary School, R 78.9 80.5 100 63.6 R 35 Gunnersbury Crescent R 57.5 58.7 100 42.3 I 36 Laurel Gardens I 51 46.7 100 42.3 I 36 Laurel Gardens I 51 46.7 100 42.3 I 36 Laurel Gardens I 51 46.7 100 42.3 I 37 Uxbridge Road UB 54.7 50.1 100 45.4 UB 38 Greenford Avenue UB 36.9 33.8 100 30.6 UB 39 Uxbridge Road, Southall<	28	Ruislip Road, Greenford	I	55.6	50.9	75	46.2	l
Bengarth Road, 30R5354.110047.7R32Lilliput AvenueUB50.646.391.742.0133Compton CrescentUB58.653.791.748.7UB348 The Broadway, EalingR78.980.510063.6R35Gunnersbury CrescentR57.558.710042.5R36Laurel GardensI5146.710042.3I37Uxbridge RoadUB54.750.110045.4UB38Greenford AvenueUB36.933.810030.6UB39Uxbridge Road, SouthallI47.843.810039.7R40South RoadR57.358.594.451.6I	29	Shadwell Drive, Northolt	I	50.9	46.6	100	42.3	I
30Northolt, UBSR5354.110041.7R32Lilliput AvenueUB50.646.391.742.01Northolt Primary School, 33Compton CrescentUB58.653.791.748.7UB348 The Broadway, Ealing Contre for Early Years Childcare and Play, 25AR58.710063.6R36Laurel GardensI5146.710042.5R36Laurel GardensI5146.710042.3I37Uxbridge RoadUB54.750.110045.4UB38Greenford AvenueUB36.933.810030.6UB39Uxbridge Road, SouthallI47.843.810039.7R40South RoadR57.358.594.451.6I		Bengarth Road,	_	50		400		-
32Limput Avenue0B30.646.391.742.01Northolt Primary School, 33Compton CrescentUB58.653.791.748.7UB348 The Broadway, EalingR78.980.510063.6R35Gunnersbury CrescentR57.558.710042.5R36Laurel GardensI5146.710042.3I36Laurel GardensI5146.710042.3I37Uxbridge RoadUB54.750.110045.4UB38Greenford AvenueUB36.933.810030.6UB39Uxbridge Road, SouthallI47.843.810039.7R40South RoadR57.358.594.451.6I	30	Northolt, UB5	R	53	54.1	100	47.7	R I
Northolt Primary School, 33UB58.653.791.748.7UB348 The Broadway, Ealing Gunnersbury CrescentR78.980.510063.6R35Gunnersbury CrescentR57.558.710042.5RCentre for Early Years Childcare and Play, 25AI5146.710042.5I36Laurel GardensI5146.710042.3IEaling Hospital, St Bernards Wing,I54.750.110045.4UB37Uxbridge RoadUB54.750.110030.6UB38Greenford AvenueUB36.933.810030.6UB39Uxbridge Road, SouthallI47.843.810039.7R40South RoadR57.358.594.451.6I	32		UB	0.00	40.3	91.7	42.0	I
36Componenciescent01836.033.791.746.7018348 The Broadway, EalingR78.980.510063.6R35Gunnersbury CrescentR57.558.710042.5R36Laurel for Early Years Childcare and Play, 25A36Laurel GardensI5146.710042.3I36Laurel GardensI5146.710042.3I37Uxbridge RoadUB54.750.110045.4UB40McDonalds Drive thru, and Nursery School, 40I47.843.810039.7R40South RoadR57.358.594.451.6I	32	Northolt Primary School,		58.6	52.7	01 7	19.7	ΠP
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	40	South Road	R	57.3	58.5	94.4	51.6	I.

Site No.	Site Name	Туре	2007 Annual mean	2007 Bias Adjusted Annual mean	Data Capture %	Estimated concentration in 2010	Site Type as detailed in 2005 progress report
41	4 Merrick Road,	R	51.4	52.4	100	46.2	R
44	Perivale Wood	LIR	28.2	25.8	100	23.4	UB
45	INCO, Bashley Road		42.7	39.1	100	35.5	UB
	143 Church Road,						
46	Northolt	R	76.4	78.0	91.7	68.8	R
47	Jubilee Gardens Library, Jubilee Gardens	UB	38.4	35.2	66.7	31.9	UB
48	Brent Lodge, Church Road	UB	29.6	27.1	100	24.6	UB
49	Health Centre, Netheravon Road	I	44.5	40.8	100	37.0	UB
50	11 Uxbridge Road,	R	75.2	76.7	91 7	67.7	R
51	Ealing Town Hall, New Broadway *	UB	42.8	39.2	100	35.5	UB
52	Perceval House, 14/16 Uxbridge Road	-	44 7	40.9	100	37.1	
53	14/16 Bond Street, Ealing	R	72.3	73.8	91.7	65.1	R
54	South Ealing Cemetery	I	37.9	34.7	100	31.5	
	Acton Town Hall, High						
55	Street, Acton *	R	58.9	60.1	94.4	53.0	R
56	Ferniea House, Hanger	R	88.8	90.6	100	79.9	R
57	106/116 St Pauls Close	UB	36.5	33.4	83.3	30.3	UB
58	44 Acton Lane	R	63.5	64.8	91.7	57.2	UB
59	Clayponds Hospital, Sterling Place	UB	38.7	35.4	100	32.1	UB
60	53 Old Oak Common	D	69.6	70.0	100	61.9	Б
61	15 Balfour Road		40.7	37.3	100	33.8	
62	Kirn Road	R	57.2	58.4	100	51.5	R
63	St David's Home, 12 Castlebar Hill	UB	37.4	34.3	100	31.1	I
64	St John Fisher Primary School, Thirlmere Avenue	UB	47.5	43.5	75	39.4	UB
65	2 Horsenden Lane South, Greenford	R	61.9	63.2	100	55.8	R
66	57 Woodville Gardens	R	55.4	56.5	100	49.8	I
67	Oldfield Primary		12.0	20.4	77 0	25.7	LID
68	Gainsboro Gardens	R	52.5	53.6	75	47.3	
69	81 Whitton Avenue East, Greenford		42.7	39.1	100	35.5	
70	126 Petts Hill, Northolt,	I	44.3	40.6	100	36.8	R
71	181 Castle Road, Northolt	I	47	43.0	100	39.0	UB
72	2/4 Minterne Avenue		41	37.6	91.7	34.1	UB

Site No.	Site Name	Туре	2007 Annual mean	2007 Bias Adjusted Annual mean	Data Capture %	Estimated concentration in 2010	Site Type as detailed in 2005 progress report
73	Brent Road Garages	R	61.7	63.0	100	55.6	
74	134 Brent Road, Southall, UB2	R	61.9	63.2	91.7	55.8	R
75	6 Boston Gardens	I.	44.3	40.6	100	36.8	I
76	200 Boston Gardens	R	64.4	65.7	100	58.0	
77	7 Greenford Avenue, Southall	R	39.2	40	100	35.3	UB
78	Oakley Avenue	R	44.7	45.6	100	40.2	R
79	Albert Dane Centre, 19- 21 Western Road, Southall	I	45	41.2	83.3	37.4	I
80	6 Western Avenue	R	92.8	94.7	100	83.5	R
81	54 Western Avenue	R	59.6	60.8	100	53.6	
82	98 Western Avenue	R	60.7	61.9	100	54.6	R
83	171 Old Oak Road	R	58.8	60.0	100	52.9	R
84	Southfields First and Middle School	UB	46.4	42.5	83.3	38.5	UB
85	Fernlea House, Hanger Lane *	R	81.8	83.5	97.2	73.7	R
86	27 Wells House Road	UB	45.2	41.4	100	37.5	I
87	94 North Acton Road	R	48.4	49.4	100	43.6	R
88	914 Greenford Road	R	51.7	52.8	100	46.6	R
89	Blair Peach Primary School*	UB	33.7	30.9	97.2	29.5	UB
90	The Straight, opposite Randolph Road	UB	56.8	52.0	92.6 (since commis sioning)	47.2	N/A
04	Opposite No.40 Manor		40.4	10.1	100 (since commis	40.0	NI/A
91	Road	K	48.4	49.4	sionina)	43.6	N/A

<u>Key</u>

- = Roadside Site
- Intermediate Site

= Urban Background Site

* Co-located sites (N.B. 2007 Continuous analyser annual mean concentrations for NO₂ at Hanger Lane and Blair Peach Primary School were 83.6 μ g/m³ and 30 μ g/m³ respectively).

Triplicate sites in **bold**

Table 9 shows that 68 of the sites failed to meet the air quality objective in 2007, including 44 of the 45 roadside sites, 16 of the 22 intermediate sites, and 8 of the 22 urban background sites. This is predicted to drop to 55 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, as stated in the 2007 LBE Air Quality Progress Report - and as supported by the general trend of increasing concentrations across roadside, intermediate and

urban background sites as illustrated in graphs 8, 9, and 10 - it is highly probable that more than 55 sites will exceed the nitrogen dioxide annual mean objective in 2010.

By comparing the results in Table 10 and Table 11, it is clear that all sites types – roadside, intermediate, and urban background – had lower annual means in 2007, compared to 2006.

Table 10 NO₂ diffusion tube site type averaged concentrations for 2007 and estimated concentrations for 2010 using 2007 figures. ($\mu g/m^3$)

Site Type	2007 Averaged Bias Adjusted Annual mean	Averaged Data Capture %	Averaged Estimated concentration in 2010
Roadside	63.8	96.9	55.4
Intermediate	42.4	95.5	39.2
Background	38.3	93.2	35.3

Table 11 NO₂ diffusion tube site type averaged concentrations for 2006 and estimated concentrations for 2010 using 2006 figures. (μ g/m³)

Site Type	2006 Averaged Bias Adjusted Annual mean	Averaged Data Capture %	Averaged Estimated concentration in 2010
Roadside	65.5	97.0	56.7
Intermediate	43.2	96.2	38.1
Background	39.9	94.0	35.3







2.2.2 Benzene diffusion tube monitoring

There are three roadside diffusion tube sites currently located within Ealing that monitor benzene. The tubes are supplied and analysed by Gradko International Ltd, a UKAS accredited laboratory. Annual mean concentrations for 2007 are shown in Table 12. Box 3.4 in LAQM.TG(03) (p. 3-6) provides a methodology for estimating the annual mean for 2010. The estimated 2010 annual mean is also shown in Table 12.

Table 12. Benzene diffusion tube concentrations measured in 2007 and estimated for 2010

Site	2007 Annual mean µg/m ³	Estimated 2010 annual mean µg/m ³
Acton Town Hall	1.8	1.6
Church Road, Northolt	2.1	1.9
Hanger Lane	2.2	2.0

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

Graph 11 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 μ g/m³.

14 Annual mean concentrations (µg/㎡) Bond Street 12 Hanger Lane 10 Church Road Jubilee Gardens 8 Brent Lodge Acton Tow n Hall 6 4 2 0 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 Year

Graph 11 Annual mean benzene concentrations since 1998 (µg/m³)

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 permitted since the last Updating and Screening Assessment.

3.2 Part A2 Industrial Processes

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

3.3 Part B Industrial Processes

There are currently 110 Part B installations permitted to operate within Ealing under the Environmental Permitting (England and Wales) Regulations 2007. None have undergone significant changes likely to increase their emissions.

Petrol stations are regulated facilities, and are relevant in the context of benzene emissions. Local authorities are required to identify new petrol stations where –

- Petrol throughput is greater than 2000 m³ 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 borough.

3.4 **Other Industrial Sources**

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

3.5 Industrial Process Closures

A powder coating process (Metalion Ltd) and two vehicle resprayers using > 1 tonne of solvents per annum (McArdle Coachbuilders Ltd and R. Sayers and Son) have closed since the Updating and Screening Assessment was completed.

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**

In 2007 officers responsible for air quality commented on the air quality aspects of 76 planning applications and reviewed 32 air quality assessments in connection with those applications.

Approved major new developments that were appraised for their impacts on air quality in 2007 are set out in Table 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 Approved major new developments appraised for their impacts on air quality in 2007

Planning App	Address	Summary of comments from appraisal
P/2007/0	White Hart	Recommended refusal with conditions and s.106 agreement requested.
388-ST	Public	
	House, UB1 3HF	1) The assessment correctly asserts that the proposed development would result in the formation of a partial street canyon on Southall High Street (with street canyons present to the east and west of the proposed development sit eon Southall High Street)- an area that has high concentrations of air pollutants. Following Defra guidance in LAQM.TG(03) (see section A3.60) the formation of a partial street canyon may increase concentrations of air pollutants to the east and west of Southall High Street, and/or reduce dispersion of air pollutants from the east and west of Southall High Street, therefore exposing residents living in accommodation above, and those working or visiting businesses along Southall High Street to higher concentrations of air pollutants with the development.
		modelling demonstrates that the NO2 annual mean objective will fail to be met at the 1st, 2nd and 3rd floor front facades (with development) in 2008 and 2010.
		council's efforts to reduce the level of air pollutants referred to in the Air Quality Strategy to statutory limits; and secondly, as the development is in an area where air
		2) The report is accurate in drawing attention to the air pollution monitoring sites most
		relevant to the proposed development site: diffusion tube site EAL 50; and the
		continuous automatic monitoring sites at Blair Peach Primary School EA7, and Acton
		I own Hall EA2. The assessment uses models to predict that concentrations of air pollutants at the development with the development scenario will decrease over time
		However, both the continuous roadside site and the diffusion tube site have measured
		rising concentrations of NO2, which is in keeping with roadside measurements
		elsewhere in London and in other cities in the UK.
		stabilise at concentrations far in exceedance of the air quality objectives or continue to rise at roadside locations. It is therefore not expected that concentrations of NO2 will decline in 2008 and 2010 with development as predicted in the modelling. This further
		emphasises the conflict with sections 1 and 2 of Planning Policy 2.6.
		locations where members of the public are regularly present over short periods of time.
		This objective therefore applies to visitors to the retail premises at the proposed
		development site. From the NO2 monitoring results from EAL 2 (which is located in a
		partial street canyon and also experiences similar neavy traffic to Southall High Street), it is anticipated that the short term objective at the Ground Floor Front Facade of the
		proposed development site would not be met, therefore potentially exposing visitors
		along that section of High Street to unacceptable concentrations of NO2. This is, again
		in conflict with sections 1 and 2 of Planning Policy 2.6.
		4) The report specifies mitigation measures to be implemented to reduce residents and business employees' exposure to air pollutants at the proposed development
		Whilst measures to provide mechanical ventilation to units facing out onto Southall
		High Street (drawing air from the roof top at the rear of the building), locating sensitive
		living areas away from facades in units, providing non-opening windows for all retail
		units facing onto the High Street, and avoiding the use of natural gas for heating and

Planning App	Address	Summary of comments from appraisal
		 cooking systems are all welcome mitigation measures it is of concern that balconies are provided for residents in units facing onto Southall High Street and also on the western façade within a distance from the roadside falling within the predicted boundary of exceedance of the air quality objective . Whereas a mechanical ventilation scheme would in principle provide cleaner air to the affected residents, the provision of balconies and unsealed windows would render such measures ineffective if residents choose to open windows or balcony doors, as they would reasonably expect to be able to do. The proposed development is therefore contrary to section 2 of Planning Policy 2.6 since the effects on people cannot be demonstrated as acceptable in relation to air quality objectives. 5) Measures to control dust from construction works and the operation and transit of construction vehicles are welcomed. Guidance should be sought from the Best Practice Guidance entitled: The Control of Dust and Emissions from Construction and Demolition (The APPLE working group).
		It is considered that the proposed development will have a significant impact on air quality (following the guidance in the London Councils 'Air Quality and Planning Guidance', Revised Version- January 2007) as it is likely to cause a further deterioration in local air quality due to the formation of a partial street canyon (within an existing street canyon area). This will reduce air pollutant dispersion hence increasing pollutant concentrations along Southall high Street and increasing the impacts on residents, and people working in or visiting Southall High Street. Residents of the south block are likely to be exposed to air pollution in excess of air quality objective concentrations, and the mitigation measures proposed are not sufficient to demonstrate that an acceptable environment for residents can be achieved.
		Recommended that permission is refused for this planning application on the grounds of (i) an adverse impact on air quality and consequent increased risk of exposure to elevated concentrations of air pollutants and (ii) insufficient mitigation of poor air quality in the development leading to an unacceptable air quality environment for prospective residents of the south block, in contrary to sections 1 and 2 of Planning Policy 2.6.
		Conditions: Details of the proposed ventilation scheme to be submitted to the local planning authority for approval before development is commenced.
		s.106: A contribution for the installation and maintenance of an automatic air quality monitoring station for nitrogen oxides in Southall High Street 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: £50,000).
P/2007/3 245-ST	28-35 Kirchen Road, W13	Granted with conditions The assessment concludes that the annual average nitrogen dioxide concentration is likely to be exceeded across the site until at least 2010. The assessment however does not put forward specific mitigation measures since it takes the view that such measures are unlikely to be effective due to the regional nature of the problem. In effect the assessment recommends that though air quality is poor, it is a regional problem so the development should not be refused on this ground, even though no mitigation would be provided.
		I am not able to accept this approach. The air quality at this site is undoubtedly poor and likely to remain so for the foreseeable future. Policy 2.6.2 is therefore relevant. In this instance we need to be satisfied that sufficient mitigation is feasible. The site is particularly challenging, since the new Drayton Green Road facade is much closer to the road than the existing building and is therefore subject to elevated pollution concentrations at this facade. I am of the view that whole-building fresh air ventilation should be provided, sourced at high level as far away as possible form the Drayton Green Road facade. A sealed facade facing this road is preferable to protect occupants from traffic pollution, though this is generally not desirable from a residential amenity viewpoint.
		Condition: The submission to the planning authority of a proposed ventilation scheme to protect occupants from traffic pollution, for approval prior to the commencement of development. That the applicant should be advised that ventilation intakes should be designed and located so as to avoid contamination.
P/2007/0 388-ST	Former White Hart Public House site, High Street,	? Mr Baggoley has responded in detail to my colleague Alex Beckett's comments and recommendations, which he made in the light of the air quality assessment prepared on behalf of the applicant by Environ UK Ltd.

Planning App	Address	Summary of comments from appraisal
	Southall	Firstly we would maintain that the air quality assessment does indeed show that the formation of a partial street canyon in this instance, while advantageous in planning terms to the enhancement of the street scene and the provision of an active frontage, is likely to have an negative impact on the dispersion of air pollutants generated by road traffic in the High Street. Considerations of the influence of building form and street geometry in relation to ambient air quality may have only recently been introduced into the planning context, but this case serves to illustrate that development along heavily-trafficked streets is not without potentially adverse effect on the environmental quality enjoyed by street and building users alike.
		Secondly, Planning Policy 2.6.2 provides that " Developments will not be permitted in areas where air quality objectives are not currently being achieved unless the effects on people can be demonstrated as acceptable in relation to air quality objectives." The mitigation proposals that were to hand when my colleague made his recommendations failed to demonstrate that the effects on people were acceptable in relation to air quality objectives. It is recognised that air quality is only one of numerous material considerations that must be taken into account, but insofar as we are called upon to protect public health and amenity through recommendations on the air quality environment associated with proposed developments, I am satisfied that my colleague's recommendations were neither subjective nor speculative but rather that they were both proportionate and appropriate.
		Mr Baggoley has now brought forward substantial mitigation proposals which we must consider. The whole building ventilation proposal offers a credible method of preserving residential amenity in the south block. We note and welcome that the balconies on the High Street facade are now omitted and that sealed windows are provided. We clarify our previous recommendation in relation to gas cooking and heating - since the latter would not give rise to increased internal nitrogen dioxide concentrations we now recommend that electric cooking only be provided to the south block.
		We agree that mitigation of poor air quality is not required in the north block, though this does not preclude such provision should the applicant wish to do so. It would be expected however that ventilation in the north block would be 'on demand' rather than a 24 hour provision.
		We remain concerned as to the effect of the new building line on air pollutant dispersion in the High Street. Nevertheless since this was introduced at a late stage in discussions with the applicant we accept that this matter should not now constitute an objection to the application and consequently withdraw the earlier recommendation for refusal.
		In relation to the £50,000 contribution requested for an air quality monitoring station we provide the following breakdown of costs:-
		£29,000 - installation and operation of a NOx analyser within a roadside enclosure in High Street, Southall, for a period of three years. £14,000 - collection, validation, ratification and dissemination of data via the London Air Quality Network for three years. £7,000 - contribution towards the operation of LB Ealing's Southall urban background air quality monitoring station (EA7).
		Concerns actived and accommon defines mode
	Unit 4, Cunard Road, London NW10 6PN	 Concerns raised and recommendations made 1) The Air Quality assessment prepared by WSP is considered at present to be inadequate for the following reasons: a) Table 1. includes annual mean NO2 and PM10 results from Acton Town Hall (Urban Background) and Acton Town Hall (Roadside). There is only one Acton Town Hall continuous monitoring site which is roadside. b) It is unclear from Annex 2 (relevant to the air quality assessment modelling methodology) what traffic flow data was included for the 'with' and 'without development' scenarios. One is presented with only two tables in Annex 2, with no indication of which one presents the 'with development' traffic data. It is therefore not possible to comment on the appropriateness of the calculations used for the modelling nor possible to cross-reference this data with that presented in the Atisreal document. c) It is considered that from a comparison the traffic data in Annex 2 with that of traffic flow data is questionable. We have discussed this matter with WSP (please see the forwarded email from my colleague Dr John Freeman) and have invited them to review their assessment in the light of a larger proportion of HGVs in the traffic flow on North Acton Road. d) It is acknowledged that WSP have consulted LBE regarding the use of NAQIA data
		 c) possible to cross-reliefence this data with that presented in the Atisreal documer c) It is considered that from a comparison the traffic data in Annex 2 with that of traffic flow data in the London Atmospheric Emissions Inventory (LAEI) 2003, the validity o the data is questionable. We have discussed this matter with WSP (please see the forwarded email from my colleague Dr John Freeman) and have invited them to revit their assessment in the light of a larger proportion of HGVs in the traffic flow on Nort Acton Road. d) It is acknowledged that WSP have consulted LBE regarding the use of NAQIA da for modelling purposes. LBE advised that the estimated background concentration defined.

Planning App	Address	Summary of comments from appraisal
		from the NAQIA were to be used in favour of the background concentrations at the nearest urban background site (once again incorrectly stated as Acton Town Hall). However, it should be acknowledged that other sites including Ealing Town Hall (EA 1) and North Kensington (Kens and Chelsea 1) urban background sites could have been considered. Again we have raised this with WSP and have invited their comments. e) The 'Assessment of Impacts' section states that 'The concentrations predicted 2010 are all below the 2007 baseline case. This is due to an expected future improvement (i.e. decrease) in background concentrations and vehicle emissions over time.' This assumption is not validated against the trend, since 2001, of the annual mean NO2 concentrations recorded at the diffusion tube located at 94 Acton Road being at or above the national limit of 40 µg/m3. Furthermore, there has been a general rise in the NO2 annual mean concentration recorded at the site since 2004. (1) There is limited discussion in the 'Assessment of Impacts' section of the discrepancy between the modelled annual mean NO2 concentrations and the data from the diffusion tube at 94 Acton Road and there is no attempt to reconcile this discrepancy through further investigation. (2) The issues highlighted above lead to unsatisfactory conclusions where it is stated that 'The impact of the proposed development is insignificant to minor adverse'. This inappropriate conclusion is also reflected in section 6.4 of the Atisreal document where it reads 'The results of the assessment, demonstrate that the effect of the development on air quality in the vicinity of the site will be insignificant to minor adverse and therefore the proposal fully accords with the principles of the AQMA.'
		 2) Regarding the Atisreal document: a) It is welcomed that particulate traps on all vehicles are fitted as stated in section 4. b) It is welcomed that the development and operations from the development support Policy 9.10 (Freight) and particularly Policy 1.9 (Transport), in helping improve the delivery of sustainable transport in and around the borough; and that this will help facilitate air quality improvements via modal shift from car to bus use as alluded to in section 6.4.
		section 6.4. c) Details in the Appendices are missing (the pages are blank apart from the titles). d) No mention is given of whether buses will be able to pass buses or other vehicles while cars are parked on either side of the Cunard Road (sections 6.1 and 6.2). e) It is acknowledged that the cleaners and some drivers will arrive and depart from the site at times when limited public transport services are operating and therefore private transport (cars and motorcycles etc) is a necessity for travel to the site. However, it appears that insufficient action will be taken to encourage modal shift to more sustainable forms of transport in consideration of the fact that a maximum of 23 cars will be parked on-site during the working day (section 6.2). The extra car parking capacity facilitated by the 'informal car parking within the double-storey building' appears to conflict with the required provision of 10 car parking spaces, even though it is 'informal car parking'.
		Recommendations The proposed development is re-assessed and a report submitted which: - Clearly presents and justifies the source data used for modelling - Discusses adequately any discrepancies between the modelling results and monitored data - Is factually accurate. The Atisreal document is re-submitted with: - The details in the appendices included. - Information regarding the buses' routes chosen to get to their destinations. This is so that LBE can consider whether alternative routes could be chosen to minimise, as far as practicable, the elevation of NO2 concentrations from the transport movements to and from the development near sensitive receptors. It is possible that if buses only use a Southerly route for access to Cunard Road that the North Acton Road receptor would not be affected by the development. It may be that this information was presented in Appendix 3 of the Atisreal document, but as stated previously, this information is missing. However, it is clear that the development will contribute to improving sustainable transport in the borough, encouraging modal shift from car to bus. It is also acknowledged that the use of the land for this operation prevents it being used for a commercial operation which, in comparison, would possibly have a more negative impact on air quality and less of a positive impact. Should WSP consult LBE further on a new air quality assessment* and the criteria above be fulfilled I would recommend that planning permission be granted to the developer, providing that: - A Green Travel Plan is developed and implemented to minimise as far as practicable single occupancy car journeys to and from the site.
		It is also recommended that Travel London Ltd: - Regularly review their vehicle fleet and travel plan so that actions can be taken to improve their efficiency and effectiveness, and reduce their impacts on air quality and climate change. - Maintain the particulate traps on all vehicles as part of the routine and servicing and maintenance schedule to maximise the effectiveness of the traps.

Planning App	Address	Summary of comments from appraisal
		 *1. The effect on modelled NO2 concentrations at 110 North Acton Road in the event of using a higher background concentration and in the event that expected decreases in roadside NO2 do not materialise (as indicated by monitoring at many roadside sites in London and elsewhere). 2. The effect of using a different fleet mix for North Acton Road. From the 2003 LAEI we calculate the percentage HGVs for North Acton Road as 5.3% (508 vehicles out of an AADT of 9508). If buses and coaches are included this would add another 129 vehicles.

6.0 New Developments - Health and Air Pollution

6.1 airText

Ealing Council joined a consortium consisting of 20 London Boroughs, Slough Council, the Health Protection Agency and the Environment Agency in Spring/Summer 2006 to manage the delivery of an innovative new air pollution warning service called 'airTEXT'. The forecasting system works by sending alerts and health advice when air pollution is elevated and had been piloted successfully in Croydon since July 2005.

The project is funded under the European Space Agency's GMES programme, supported by PROMOTE, and has been under development by scientists at Cambridge Environmental Research Consultants (CERC) since 1999.

The service was launched on 28th March 2007 by Deputy Mayor Nicky Gavron at City Hall and is targeted specifically at individuals with asthma, emphysema, bronchitis, heart disease or angina. Individuals can register with the council for alerts to their mobile phone via a text alert; email address; or home phone. There is also a choice to receive the warnings for a specific area (London Borough), and either the evening before or on the actual morning of days when raised levels of air pollution are forecast.

Parents or carers of anyone with these symptoms can be registered on their behalf.

100 people signed up to receive airText alerts for the Ealing area in 2007. Graph 12 details the total number of people signing up to the service per month (by the beginning of each month) and when interventions were used to increase the take-up of the service.

The interventions were as follows:

- Mailout 1 (29/04/07) 68 pharmacies sent a letter, 10 leaflets and one A4 poster each.
- Mailout 2 (30/04/07) 4 Community Centres, 17 Care Homes, 10 Charity Shops, and 13 Libaries sent a letter, 10 leaflets and one A4 poster each (libraries also received an A3 poster each). 88 GP surgeries are sent a letter, 5 leaflets and one A4 poster each.
- Mailout 3 (04/04/07) 13 School Health Advisors sent a letter, 10 leaflets; an A4 and an A3 poster each
- Mailout 4 (11/04/07) Ealing Hospital sent 40 leaflets, 4 A4 and 2 A3 posters.

- P & L 1 80 leaflets and 2 A4 posters placed in Ealing Town Hall and Perceval House public areas.
- I 1 (13-18/04/07) 40 leaflets and 3 A4 posters sent to LBE's internal Occupational Health unit; 6 A3 posters placed in Perceval House internal areas; 2 A4 and 1 A3 posters placed in Acton Town Hall internal areas; 1 A3 poster in Ealing Town Hall external poster cabinet; and 2 more A3 posters placed in LBE internal areas.
- L 1 (01/05/07) 40 leaflets placed in Perceval House public areas.
- Pub 1 (May 2007) airText Article in 'Frank' internal magazine.
- L 2 (10/05/07) 40 leaflets placed in Perceval House public areas.
- Pub 2 (June 2007) airText Article in 'Around Ealing' council produced free magazine for the public.
- P 1 (October 2007) airText posters on public poster boards throughout the borough for one month.

40 L 1 11 35 P & L 1 30 Mailout 4 Pub 1 Mailout 1 & 2 Pub 2 P 1 25 L 2 20 Mailout 3 15 AirText Launched 10 5 0 1-Feb 1-Mar 1-Apr 1-May 1-Jun 1-Jul 1-Aug 1-Sep 1-Oct 1-Nov 1-Dec 1-Jan

Graph 12 Monthly airText Registration Totals

In 2007, press releases from the GLA and Ealing Council, have resulted in articles appearing in:www.ealingtoday.co.uk; www.actonw3.com; and the Ealing & Acton Gazette.

7.0 New Developments – Strategic

In November 2007, following a meeting with LBE's Executive Director Regeneration and Housing regarding the development of a new Air Quality Strategy, Action Plan, and Policy for Ealing, it was agreed that a new Air Quality Working Group would be formed. Following guidance in LAQM.PG(03), representatives from the environmental quality, procurement, facilities management, policy and performance, events, parks & countryside, housing, emergency planning, transport, planning services, economic development, planning policy, research and consultation, communications and marketing, and external funding team were asked to attend LBE's Air Quality Working Group (AQWG) meetings, the first of which was held on 3rd December 2007.

The first meeting of LBE's AQWG included: briefing notes on air pollutants and their impacts, and transport contributions to air quality; an update on current air quality developments; and ratified: the group's Terms of Reference,
membership, meeting regularity and management, items on future agendas, and a proposal for a new air quality policy for Ealing.

The terms of reference are as follows:

Air Quality Working Group

Aim

The Air Quality Working Group supports the Council's Vision and goal of 'Safer Communities'³, and aims to *deliver cleaner air, for the protection of Ealing's stakeholders*.

³ Air pollution is estimated to reduce the life expectancy of every person in the UK by an average of 7-8 months with estimated equivalent health costs of up to £20 billion each year. It is important to minimize exposure and concentrations of air pollutants in Ealing.

Objectives

The Air Quality Working Group's objectives, to achieve the aim outlined above, are to:

- Officiate an overarching air quality policy for Ealing;
- Implement a new air quality strategy and action plan for Ealing4;
- Take action aimed at reducing the level of air pollutants to achieve statutory limits;
- Facilitate measures to reduce human exposure to harmful concentrations of air pollutants;
- Contribute to the development of suitable air quality performance indicators;
- Identify funding and other projects in the pursuit of better local air quality management (LAQM).

Develop and implement procedures and processes to tighten collaborative working practices between key council departments to improve LAQM.

The improvement of Ealing's air quality and air quality management is linked specifically to the following strategic objectives:

1. Environment, Housing and Culture

- 'Be recognised as a 'green' borough with a sustainable local environment'; and
- 'Deliver sustainable transport in the borough by increasing public transport capacity, reducing congestion and investing in local traffic schemes'

 related to transport-related actions in the air quality action plan; and the benefits to the natural environment and perceptions of the environment in Ealing.

2. Health and Independence, Children and Young People, and Economy

- 'Narrow the gaps in health status across Ealing by reducing the prevalence of cardiovascular disease, diabetes, cancer, sexual health and TB among those groups that suffer most from them at present';
- 'Ensure that Ealing is a safe place for children and young people to grow up';
- 'Deliver year-on-year improvement in the proportion of children who lead healthy lifestyles';
- 'Confirm central Ealing's position as a high-quality and distinctive metropolitan centre'; and

⁴ An Ealing Air Quality Strategy would incorporate consideration of air pollution coming from industry, as well as from other sources; and address issues regarding dust and odour, and emergency situations (for instance where gas leaks and fires release toxic concentrations of harmful air pollutants). In addition, the strategy and action plan would complement Ealing Council's efforts to mitigate climate change.

• 'Stimulate business growth and inward investment along the 'A40 corridor"

- improving Ealing's air quality will: reduce its associated impacts on health and the built environment; and affect customer perspectives and therefore shopping habits. Air quality impacts are important in considering developments planned in areas of poor air quality, such as the A40 corridor and other major roads in Ealing.

3. Organisational Improvement

- 'To increase resident satisfaction, encourage participation and strengthen the Council's reputation through engaging with our residents and increasing public understanding of the services provided';
- 'To build a committed and motivated workforce which mirrors the diversity of the community and delivers quality services and improved resident satisfaction'; and
- 'To provide value for money to Ealing's residents by effectively managing the Council's resources.'

- the improvement of air quality through better collaboration between council sections/departments will help meet resident satisfaction and value for money goals.

The '**Reducing Inequalities**' value underpinning the vision of Ealing's Community Strategy would also benefit as a robust approach to tackling air quality will help reduce health inequalities (life expectancy), particularly for those that live near major or heavily congested roads in Ealing.

8.0 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.

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.

9.0 **References**

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Appendix 1: Air Quality Monitoring Results

Nitrogen dioxide (NO₂)

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 NO₂ results compared against relevant air quality objectives.

Nitroge	n dioxide (NO₂)	Annual mean concentrations (μg/m ³)	Number of days above 200 μg/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
19	998		
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
19	999		
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
20	000		
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
20	001		
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
20	002		
Ealing Town Hall	Result	37	0

Objectives = Annual mean not exceeding 40µg/m³ No more than 18 occurrences of hourly mean >200µg/m³

Nitrogen dioxide (NO ₂)		Annual mean concentrations (μg/m ³)	Number of days above 200 µg/m ³
	Data Capture %	92	92
	Objective Achieved?	Yes	Yes
Acton Town Hall	Result	51.6	0
	Data Capture %	95	95
	Objective Achieved?	No	Yes
200	3		
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
200	4		
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
200	5		
Ealing Town Hall	Result	39	0
	Data Capture %	99	99
. .	Objective Achieved?	Yes	Yes
Acton I own Hall	Result	58	7
	Data Capture %	92	92
	Objective Achieved?	NO	NO
Hanger Lane	Result	93	157
	Data Capture %	87	87
Blair Daach School			NO
Diali Feach School	Result	05	0
	Objective Achieved?	95 Voc	90 Voc
Court Way Acton	Result	38	0
Court way, Actor	Data Capture %	50	67
	Objective Achieved?	Ves	Ves
200	6	105	105
Ealing Town Hall	Result	39.9	0
g	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

Nitrogen dioxide (NO ₂)		Annual mean concentrations (µg/m³)	Number of days above 200 µg/m ³
	Objective Achieved?	Yes	Yes
Court Way, Acton	Result	40.9	0
(01/05/05-01/05/06)	Data Capture %	92	92
	Objective Achieved?	No	Yes
200	7		
Ealing Town Hall	Result	39.2	12
	Data Capture %	97	
	Objective Achieved?	Yes	Yes
Acton Town Hall	Result	60.1	43
	Data Capture %	95	
	Objective Achieved?	No	No
Hanger Lane	Result	83.6	51
	Data Capture %	66	
	Objective Achieved?	No	No
Blair Peach School	Result	30	0
	Data Capture %	80	
	Objective Achieved?	Yes	Yes

Particulates (PM₁₀)

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 A2PM10 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 > $50\mu g/m^3$

Particu	ulates (PM ₁₀)	Annual mean concentrations (μg/m ³)	Number of days above 50µg/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	Yes	Yes

	Achieved?		
20	02		
Acton Town Hall	Result	29.5	19
	Data Capture %	97	97
	Objective		
	Achieved?	Yes	Yes
20	03		
Acton Town Hall	Result	34.2	61
	Data Capture %	99	99
	Objective Achieved?	Yes	No
20		103	
Acton Town Hall	Result	29.7	24
	Data Capture %	100	100
	Objective		
	Achieved?	Yes	Yes
20	05		
Acton Town Hall	Result	29	20
	Data Capture %	89	89
	Objective	N N	N N
Disia Daash Qahaal	Achieved?	Yes	Yes
Biair Peach School	Result	23	4
	Objective	95	95
	Achieved?	Yes	Yes
Horn Lane, Acton	Result	84	230
,	Data Capture %	84	84
	Objective		
	Achieved?	No	No
20	06		
Acton Town Hall	Result	30.4	20
	Data Capture %	96	96
	Objective Achieved2	Vos	Vos
Acton Town Hall FDM		26.5	24
	Data Capture %	20.0	99
	Objective		
	Achieved?	Yes	Yes
Blair Peach School	Result	25.1	4
	Data Capture %	40	40
	Objective	N N	N N
	Achieved?	Yes	Yes
Horn Lane, Acton	Result	74.3	224
	Objective	99	99
	Achieved?	No	Νο
20	07		
Acton Town Hall	Result	29.6	26
	Data Capture %		97
	Objective		
	Achieved?	Yes	Yes
Acton Town Hall FDM	IS Result	25.7	27
	Data Capture %		96
	Objective	Yes	Yes

	Achieved?		
Blair Peach School	Result	24	15
	Data Capture %		93
	Objective Achieved?	Yes	Yes
Horn Lane, Acton	Result	52.8	173
	Data Capture % Objective	96	96
	Achieved?	No	Νο

Sulphur dioxide (SO₂)

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. SO₂ results compared against relevant air quality objectives.

Objectives = No more than 24 occurrences of hourly mean >350µg/m³ No more than 3 days where daily mean >125µg/m³ No more than 35 occurrences of 15min mean >267µg/m³

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	7			
Ealing Town Hall	Result	0	0	6
	Data Capture %	98	98	98
	Objective Achieved?	Yes	Yes	Yes
1998	3			
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	2			
Ealing Town Hall	Result	0	0	0
	Data Capture %	88	88	88
	Objective Achieved?	Yes	Yes	Yes
2003	3			
Ealing Town Hall	Result	0	0	0
	Data Capture %	92	92	92

	Objective Achieved?	Yes	Yes	Yes
2004	1			
Ealing Town Hall	Result	0	0	0
	Data Capture %	98	98	98
	Objective Achieved?	Yes	Yes	Yes
2005	5			
Ealing Town Hall	Result	0	0	0
	Data Capture %	90	90	90
	Objective Achieved?	Yes	Yes	Yes
2006	6			
Ealing Town Hall	Result	0	0	0
	Data Capture %	89	89	89
	Objective Achieved?	Yes	Yes	Yes
2007	7			
Ealing Town Hall	Result	0	0	0
	Data Capture %		96	
	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/m³

Carbon Monoxide (CO)		Number of occurrences above 10mg/m ³
1997	7	<u> </u>
Acton Town Hall	Result	2
	Data Capture %	99
	Objective Achieved?	Νο
1998	3	
Acton Town Hall	Result	0
	Data Capture %	99
	Objective Achieved?	Yes
1999	9	
Acton Town Hall	Result	0
	Data Capture %	98
	Objective Achieved?	Yes
2000)	
Acton Town Hall	Result	0
	Data Capture %	99
	Objective Achieved?	Yes
2001	1	
Acton Town Hall	Result	0
	Data Capture %	97
	Objective Achieved?	Yes
2002	2	

Acton Town Hall	Result	0
	Data Capture %	99
	Objective Achieved?	Yes
2003	3	
Acton Town Hall	Result	0
	Data Capture %	96
	Objective Achieved?	Yes
2004	4	
Acton Town Hall	Result	0
	Data Capture %	97
	Objective Achieved?	Yes
200	5	
Acton Town Hall	Result	0
	Data Capture %	93
	Objective Achieved?	Yes
200	6	
Acton Town Ha	llResult	0
	Data Capture %	93
	Objective Achieved?	Yes
200	7	
200	Popult	0
	Result	0
	Objective Achieved?	Je Voc
		162

Ozone (O₃)

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 O₃ results compared against relevant air quality objectives

Objectives = No more than 10 days where maximum rolling 8hr mean>100 μ g/m³

Ozone (O ₃)		Number of occurrences above 100µg/m ³
199	7	
Ealing Town Hall	Result	12
	Data Capture %	99
	Objective Achieved?	No
1998	8	
Ealing Town Hall	Result	3
	Data Capture %	100
	Objective Achieved?	Yes
199	9	
Ealing Town Hall	Result	26
	Data Capture %	100
	Objective Achieved?	Νο
200	D	

Ealing Town Hall	Result	0
	Data Capture %	97
	Objective Achieved?	Yes
200	1	
Ealing Town Hall	Result	3
	Data Capture %	94
	Objective Achieved?	Yes
200	2	
Ealing Town Hall	Result	3
	Data Capture %	99
	Objective Achieved?	Yes
200	3	
Ealing Town Hall	Result	23
	Data Capture %	99
	Objective Achieved?	Νο
200	4	
Ealing Town Hall	Result	14
	Data Capture %	99
	Objective Achieved?	Νο
200	5	
Acton Town Hall	Result	2
	Data Capture %	58
	Objective Achieved?	Yes
Ealing Town Hall	Result	10
	Data Capture %	100
	Objective Achieved?	Yes
200	6	
Acton Town Ha	llResult	11
	Data Capture %	91
	Objective Achieved?	Νο
Ealing Town Ha	ll Result	202
	Data Capture %	99
	Objective Achieved?	Νο
200	7	
Acton Town Hall	Result	0
	Data Capture %	97
	Objective Achieved?	Yes
Ealing Town Hall	Result	61
	Data Capture %	100
	Objective Achieved?	Νο

Nitrogen dioxide diffusion tube monitoring results.

Table A6Nitrogen dioxide diffusion tube (μ g/m³) data. 2001 data obtained from 9 months
of monitoring.) All data adjusted for bias.

Site No.	e Site Name		2001	2002	2003	2004	2005	2006	2007
1	39 Old Oak Lane	R	43.7	51.2	64.8	53.2	57.4	63.2	59.2
2	101 Wells House Road,	UB	27.0	36.9	43.5	38.2	39.1	40.7	38.3
3	Jenner Avenue	Ι	39.3	58.5	54.1	52.4	51.5	62.9	62.9
4	5 Leamington Park	Ι	37.5	48.2	51.8	45.9	48.9	58.7	55.6
5	John Perryn First and Middle School, Long Drive	UB	24.9	34.9	40.0	39.8	39.0	41.3	39.1
6	Wendover Court, Western Avenue	R	41.2	52.4	63.4	54.5	56.2	68.4	68.7
7	45 Park Avenue	Ι	27.5	45.0	47.0	46.1	50.4	49.5	49.2
8	6 Brentmead Gardens	Ι	26.7	38.7	40.5	40.7	41.4	46.8	41.2
9	Iveagh Avenue	Ι	26.4	42.1	49.9	46.0	45.9	45.5	52
10	57-75 Old Oak Common Lane	Ι	44.5	48.3	58.3	53.7	56.2	68.8	69.4
11	2 St Andrews Road	Ι	33.5	55.1	53.6	50.4	49.3	56.5	56.1
12	18 Old Oak Common Lane	R	45.3	64.0	78.0	67.2	69.2	78.7	80.4
13	East Acton Primary School, East Acton Lane	UB	31.6	36.6	38.7	38.0	35.8	37.1	42.1
14	First Avenue	I	36.4	45.5	50.7	44.6	47.4	57.5	56.8
15	Warple Way	R						66.0	65.8
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	39.7
19	Lantry Court, Acton	UB	29.6	36.1	36.9	35.2	36.3	37.3	34.2
20	Age Concern, High Street, Acton	I	34.1	51.3	59.1	58.8	56.8	76.0	74.3
21	Acton Health Centre, Church Road	UB	22.7	39.9	37.4	39.5	37.5	36.8	40.2
22	Old Acton Hospital, Gunnersbury Lane		46.1	60.9	61.5	56.0	55.2	63.6	60.1
23	156 Horn Lane	R	42.8	44.9	57.1	51.4	54.5	61.0	59.8
24	Peal Gardens	UB	34.9	38.5	45.2	41.2	35.8	39.3	39.3
25	17 Runnymede Gardens	R	44.7	69.7	83.0	81.2	79.8	93.9	90.1
26	5/6 Blenhelm Close	Ι	29.5	39.5	46.0	42.6	39.8	43.8	46.5
27	203 Windmill Lane, Greenford	UB	37.3	43.7	51.4	43.1	46.1	52.4	53.0
28	Greenford High School, Ruislip Road, Greenford	I	28.1	42.2	43.1	43.4	45.1	48.5	50.9
29	Shadwell Drive, Northolt	I	34.5	42.0	45.5	42.5	42.8	46.3	46.6
30	Aspen Lane, Northolt	UB	28.1	39.1	41.8	38.6			
30	Bengarth Road, Northolt	R					49.3	56.4	54.1
32	Lilliput Avenue	Ι	29.9	39.9	39.5	42.1	42.5	42.9	46.3
	Northolt Primary School, Compton	пр	<u></u>	10.0	20.1	<u></u>	20.4	511	52 T
33	Crescent	UВ	33.Z	40.9	39.1	33.Z	39.4	54.4	55.7
34	8 The Broadway, Ealing	R	52.9	68.9	85.3	80.7	78.9	81.9	80.5
35	Gunnersbury Crescent	R	30.6	37.9	49.3	45.7	49.3	54.8	58.7
36	Hanwell Nursery, 25A Laurel Gardens	I	33.0	39.1	50.5	44.4	44.8	46.2	46.7
37	Ealing Hospital, St Bernards Wing, Uxbridge Road	UB	30.3	40.5	48.5	45.9	48.0	48.6	50.1
38	Hobbayne First School, Greenford Avenue	UB	26.4	33.8	37.3	35.9	34.8	36	33.8
39	McDonalds Drive thru, Uxbridge Road, Southall	R	33.1	42.8	48.4	47.1	43.6	44.6	43.8
40	Hambrough Primary and Nursery School, South Road	Ι	34.0	44.9	53.2	48.5	50.4	61.4	58.5
41	4 Merrick Road, Southall	R	34.9	41.2	49.2	46.4	43.8	53.6	52.4

Site No.	Site Name	Site type	2001	2002	2003	2004	2005	2006	2007
44	Perivale Wood	UB	26.8	31.2	30.3	28.4	27.9	34.1	25.8
45	INCO Europe Ltd, Bashley Road	UB	42.6	39.5	41.5	36.9	37.8	38.3	39.1
46	143 Church Road, Northolt	R	56.6	60.0	78.9	69.2	74.2	85.5	78
47	Jubilee Gardens Library, Jubilee Gardens	UB	29.2	33.0	34.3	32.6	32.3	38.9	35.2
48	Brent Lodge, Church Road	UB	27.6	29.2	31.5	29.1	27.8	29.4	27.1
49	Health Centre, Netheravon Road	UB	36.9	39.0	43.8	40.4	40.1	41.8	40.8
50	11 Uxbridge Road, Southall	R	55.2	55.6	70.0	70.5	73.2	81.3	76.7
51	Ealing Town Hall, New Broadway *	UB	41.0	36.9	43.4	41.1	39.2	39.9	39.2
52	Perceval House, 14/16 Uxbridge Road	Ι	35.9	36.9	44.8	40.2	41.3	42.4	40.9
53	14/16 Bond Street, Ealing	R	47.5	49.1	61.3	56.1	51.2	63.3	73.8
54	South Ealing Cemetery	Ι	33.5	30.3	35.0	35.3	31.6	32.5	34.7
55	Acton Town Hall, High Street, Acton *	R	53.9	47.2	60.9	54.7	58.3	61.4	60.1
56	Fernlea House, Hanger Lane	R	67.9	69.1	86.5	79.5	80.5	95.4	90.6
57	106/116 St Pauls Close	UB	30.2	37.4	37.5	34.3	34.1	34.8	33.4
58	44 Acton Lane	UB	41.4	48.1	53.0	55.0	50.8	58.0	64.8
59	Clayponds Hospital, Sterling Place	UB	27.2	30.9	37.2	35.6	32.8	35.7	35.4
60	53 Old Oak Common Lane	R	50.3	52.7	67.5	62.1	59.2	70.7	70
61	15 Balfour Road	UB	30.6	36.8	37.6	37.3	34.8	35.4	37.3
62	Kirn Road	R	41.6	47.9	62.5	55.7	54.0	58.7	58.4
63	St David's Home. 12 Castlebar Hill	Ι	30.1	35.0	39.6	34.3	30.0	34.2	34.3
64	St John Fisher Primary School, Thirlmere Avenue	UB	29.5	43.4	44.1	41.7	41.0	48	43.5
65	2 Horsenden Lane South, Greenford	R	41.8	50.4	66.1	62.0	58.6	71.2	63.2
66	57 Woodville Gardens	Ι	41.1	44.7	53.4	49.4	47.4	58.6	56.5
67	Oldfield Primary School, Greenford	UB	33.1	38.7	43.6	40.6	39.2	43.6	39.4
68	Gainsboro Gardens	Ι	33.4	40.7	47.1	50.0	48.5	53.2	53.6
69	81 Whitton Avenue East, Greenford	Ι	31.7	36.8	41.3	37.0	35.8	39.3	39.1
70	126 Petts Hill, Northolt,	R	35.2	37.6	48.7	43.1	41.6	41.8	40.6
71	181 Castle Road, Northolt	UB	25.1	42.7	43.6	38.4	36.5	38.7	43.0
72	2/4 Minterne Avenue	UB	30.6	33.0	36.8	37.4	36.2	34.4	37.6
74	Brent Road Garages	Ι	39.7	45.4	53.5	53.5	50.9	64.1	63
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	63.2
75	6 Boston Gardens	Ι	34.2	36.6	40.1	40.3	40.0	40.1	40.6
76	200 Boston Gardens	Ι	32.2	48.4	56.8	56.4	51.4	60.5	65.7
77	7 Greenford Avenue, Southall	UB	31.9	35.3	38.6	38.8	35.6	44.0	40
78	119 Twyford Avenue	UB	31.9	40.2	46.5	46.9	43.7		
78	Oakley Avenue	R						53.1	45.6
79	Albert Dane Centre, 19-21 Western Road, Southall	I	37.4	39.5	43.3	43.2	40.0	44.5	41.2
80	6 Western Avenue	R	59.9	65.7	81.0	74.4	70.4	87.3	94.7
81	54 Western Avenue	I	48.9	47.5	54.3	54.2	56.1	67.5	60.8
82	98 Western Avenue	R	52.2	43.8	61.7	53.2	55.0	60.0	61.9
83	171 Old Oak Road	R	35.8	43.3	59.8	51.2	53.7	56.0	60
84	Southfields First and Middle School	UB	31.4	37.3	40.6	35.8	38.1	37.3	42.5
85	Fernlea House, Hanger Lane *	R	55.8	62.4	78.0	70.6	74.0	85.6	83.5
86	27 Wells House Road	1	38.6	39.8	46.3	38.6	40.2	41.5	41.4
87	94 North Acton Road	R	40.6	40.0	51.5	44.5	46.2	52.8	49.4
88	914 Greenford Road		30.5	45.3	43.5	43.4	41.4	50.0	52.8
89	Blair Peach School	UB					27.7	33.5	30.9
90	The Straight, opposite Randolph Rd.	UB					<u> </u>		52

Site No.	Site Name	Site type	2001	2002	2003	2004	2005	2006	2007
91	Opposite No.40 Manor Rd.	R							49.4

Benzene diffusion tube monitoring results.

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	26	3.3	2.6
Feb-03	3.9	3.3	2.0
Mar-03	23	2.6	2.6
Apr-03	2.0	2.0	2.3
May-03	1.6	2.6	2.3
Jun-03	1.6	1.6	2.6
Jul-03	23	2.3	2.0
Aug-03	2.6	2.6	2.0
Sep-03	2.0	2.0	2.0
Oct-03	2.0	2.0	2.3
Nov-03	2.0	2.0	2.5
Dec-03	2.5	2.5	2.3
2003 Average	2.0	2.0	2.5
lan-04	2.0	2.3	2.5
Eeb-04	2.3	2.5	2.0
Mar-04	1.0	2.0	1.0
Δpr-04	2.3	1.0	2.3
May-04	2.5	2.0	2.5
	2.0	2.5	1.6
	2.0	2.0	2.9
	2.0	2.5	2.5
Sen-04	2.9	2.0	2.0
Oct_04	2.0	2.0	2.0
Nov-04	2.0 4.2	2.0	2.0
Dec-04	7. <u>~</u> 2.6	2.3	0.0 2 G
2004 Average	2.0	2.0	2.0 2 /
Jan-05	2.1	2.3	2. 4 2.6
Feb-05	∠.J २ २	2.3	2.0
Mar-05	2.0	2.3 2.3	2.3 2.6
Anr-05	2.3	2.5	2.0
May-05	2.0	2.0	1.0
.lun-05	2.0	2.0	1.0
	2.0	1.0	2.0 1.2
	1.0	1.0	1.0
Son-05		∠.J 2.2	2.0
Oct_05	2.0	2.3 2.0	2.U 2.2
Nov 05	2.0	2.0	∠. 3
CU-VUVI	ე პ.პ	۷.۵	2.9

Table A8Monthly 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
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
Jan-07	2.7	2.6	1.5
Feb-07	3.5	3.0	3.0
Mar-07	2.8	2.7	1.9
Apr-07	0.0	0.0	1.7
May-07	0.0	1.6	1.2
Jun-07	2.4	2.0	1.4
Jul-07	1.7	1.7	1.1
Aug-07	1.9	1.5	1.1
Sep-07	1.8	1.4	1.0
Oct-07	3.5	2.8	2.4
Nov-07	3.3	2.8	2.5
Dec-07	3.2	3.2	2.6
2007 Average	2.2	2.1	1.8

Ac	tion Plan Measure	Original Timescale	Progress with measure	Outcome to date	Comments
CI	eaner technologies and al	ternative fuels			
	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 24 th 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. Consultation (13/11/06-2/2/07) on the Scheme Order which provides the legal authority for the LEZ Charging Scheme. 2007 – Letter sent to London Councils and TfL (26/01/07) in response to the consultation detailing, in principle, its support for the LEZ and charging mechanisms but expressing reservations regarding: its cost-effectiveness; the introduction of a Scheme Order (which excludes LBE from introducing its own charging scheme); why standards regarding petrol- fuelled HGVs and other vehicles have not been introduced; and concern regarding the inclusion of minibuses as it would affect community services. Relevant to the LEZ, LBE also: supports earlier introduction than 2012 of Euro IV for PM; and Euro IV standard for NOx; inclusion of trunk roads and motorways in the scheme; stakeholder consultation regarding any proposal to include cars in the	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		A London-wide	Three days of voluntary testing carried out in March	Funding not available to
	powers to carry out	Spring 2003	programme of testing	2006 at a supermarket car park. A total of 64 cars	continue London-wide
	roadside vehicle exhaust	1 5	commenced in Aug	were tested, of which 2 failed.	programme. Funding
	emission testing and		2003 and finished in		obtained to carry out a small
	issue penalty fines on		March 2004.		number of voluntary test

Action Plan Measure	Original Timescale	Progress with measure	Outcome to date	Comments
those vehicles failing emission standards.		11 days of testing carried out in Ealing. 546 vehicles tested with a failure rate of 8.6%.	2007 – 22 nd August - LBE organized a demonstration of the remote vehicle emissions testing equipment (Accusan 4600) in Ealing Town Hall car park for West London Air Quality Cluster Group by Envirotechnology plc. LBE will use LIP grant money and other finance to secure a programme of emissions testing in the borough in 2008.	days during 2005/6.
 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. 2007 -	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 2007 – 	Some signs yet to be sited at Haven Green, Acton.

Action Plan Measure	Original Timescale	Progress with measure	Outcome to date	Comments
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. 2007 - Spring - Details of food premises sent to Proper Produce, KP Living Fuels and Energy Solutions to assist with the marketing of their waste oil collections; and dialogue about bio-diesel fuel provision has started. 10th Sept - BEST published an 'Environmental Sustainability Information for Businesses' webpage on Ealing Council's webpages on featuring a Fleet Management and Travel Plans section featuring 'What Green Car' weblink; and an Energy section. BEST Newsmail on 12th Sept 07 signposted these changes to BEST's webpages. Nov - LBE 2008/09 LIP funding application (submitted in June) for £15,000 for an electric pool car is confirmed as successful. Dec - BEST coordinated a Free Waste Cooking Oil Collection Trial for three months for 100 businesses in Ealing in Dec 07. Media coverage featured the benefits of turning the collected used cooking oil into biodiesel – BBC online (4th Dec 07); Ealing Today (6th Dec 07); 1:30pm BBC London News (TV) (Dec 5th 07); Ealing Gazette (30th Nov and 7th Dec 07); and Ealing Times (29th Nov 07). Also in BEST newsmail (4th Dec 07) featured an item on the Energy Saving Trust's funding scheme for alternative refuelling stations and electric recharging points. 	Work funded through TfL. Looking into possibility of coordinating efforts with West London Freight Quality Partnership. 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/busines sandpartners/freight/1308.as px
				53

Action Plan Measure	Original Timescale	Progress with measure	Outcome to date	Comments
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		 2007 – see 5) - LBE SUN 'Greening Events' project - Two new events in 2007 – Greenford Carnival and the Literary Festival used 100% biodiesel (810 litres). Use of hydrogen powered generator planned for the Mela 2008 supplied by the London Hydrogen Partnership. 	
7) Review the Council's Waste Minimisation and Recycling Strategy and introduce measures to ensure contractors vehicles meet specified emission standards and encourage the use of alternative fuels.	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 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.
			Difference in the Energy Saving Trust and LBE's Air Quality Project Officer. NI 194 (and NI 185) and other developments are stimulating work to improve knowledge of LBE's fleet.	2007 - Despite in-depth research and consultation with LAQM helpdesks (AEAT)

Action Plan Measure	Original Timescale	Progress with measure	Outcome to date	Comments
	Timescale	measure	 [- Dec - Procurement of Reusable Plastic Mugs for Council Staff - Partnership working with Facilities Management (FM) and Marketing & Communications department to reduce waste and air pollutants generated from the delivery and disposal of plastic cups (situated in the council). The mugs are made from recycled plastic (therefore closing the loop) and can be recycled again if they are broken. Marketed in internal magazine 'Frank' (Dec edition) with the offer of a discount to staff if they use the mugs to get coffee or tea from Just Deli.] [- Dec – Establishment of new Air Quality Working Group with representatives from sections across the council.] Ongoing – Work with LBE's Sustainability Network (SUN) regarding 'Greening Events' project has resulted in reductions in the amounts of red diesel (4444 litres) used in generators for the Mela and Walpole festivals in 2007 as compared to 2006 mainly due to implementing protocols to turning off all lights and other unnecessary appliances apart form security lights. This is despite two extra days being added to the Walpole festival. Two new events in 2007 – Greenford Carnival and the Literary Festival used 100% biodiesel (810 litres). Emissions in 2008 from events expected to fall further due to securing the use of hydrogen powered generator at the Mela 2008 supplied by 	and the GLA, air pollutant emission factors relating to biodiesel and red diesel from generators are difficult to calculate. Currently working to determine the total amount of time various generators are left on at events to calculate emissions. ECT has fitted trackers to all its vehicle and we continue to monitor driving performance. No exhaust hardware updates to euro 4 are envisaged at this stage mainly down to funding issues. All non compliant LEZ vehicles removed from greenford. (they were not used on LBE services but were in the borough)
			the London Hydrogen Partnership.	

Action Plan Measure	Original Timescale	Progress with	Outcome to date	Comments
Environmentally friendly tra	nsport	measure		
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. 	£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.
			 Programme of mostly minor schemes will continue over future years. 2007/08 – During 2007/08, several small schemes completed on routes 120, E3, E2 and 297. Feasibility work carried out on other routes. A programme of schemes will continue over future years. 	£717,000 has been allocated to Ealing by TfL for bus priority schemes in financial year 2008/09.
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. 2007/08 – Work was carried out at approximately 44 stops, 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. TfL has allocated Ealing £143,000 for further works

Action Plan Measure	Original Timescale	Progress with measure	Outcome to date	Comments
				during 2008/09.
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".	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 2007 - Ten Point Plan discussed with TfL as contribution to West London Transport multi-modal study planned by TfL from late 2008.	
		Work culminated in A Ten Point Plan for Transport in West London adopted by the West London Partnership. Published in 2008.		
 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. 2007 – Tram plans are shelved, but Ealing Council	Earliest construction start date will be 2009, with completion in 2013. More information can be found at (website): http://www.tfl.gov.uk/

Action Plan Measure	Original Timescale	Progress with	Outcome to date	Comments
12) Encourage improvements to all railway stations and public transport interchanges.	2003 - 2006	Ealing working closely with TfL on Public Transport hubs.	 welcomes the Crossrail Project TfL and Ealing have agreed to investigate the development of a bus-based alternative to the Tram along the Uxbridge Road. Major improvements to many stations on Great Western Main Line, including Ealing Broadway, proposed as part of the Crossrail project. Access and facility improvement schemes at Castlebar Park and Hanwell and Acton Central stations have been developed and consulted upon, with approvals obtained for Hanwell and Acton Central. Committee approval still required for Castlebar Park. 	Progress is at an early stage and Ealing is dependent on TfL bringing forward proposals. TfL funding still in place for 06/07for pedestrianisation of Ealing Broadway forecourt but currently awaiting legal agreements from all parties before work can begin.
			2007 - October - Ealing Council welcomes the Crossrail Project. 2008 - Royal Assent to Crossrail Bill expected summer 2008. Liaison on service levels and station designs for Acton Main Line, Ealing Broadway, West Ealing, Hanwell and Southall also underway. Ealing town centre study/Arcadia redevelopment looking at opportunites for improved bus interchange/station at Ealing Broadway. Initiatives for Greenford town centre public transport improvements also agreed.	2008 – work on forecourt not currently proceeding. Indications are that legal process would not be completed before new station to be provided by Crossrail, which may be constructed in the early stages of the project.
13) The Council, as the local planning authority, will	2003 - 2006	Measure introduced into Ealing's UDP, which	West London Transit scheme, Crossrail and A40 Green Corridor are three projects currently being	

Action Plan Measure	Original Timescale	Progress with measure	Outcome to date	Comments
facilitate the development of major transport projects consistent with the objectives of the UDP.		came into force in October 2004.	actively pursued.Ealing Council Cabinet have withdrawn support for the Tram (effective as of May 06). Support for other schemes continues. 2007 – October - Ealing Council welcomes the Crossrail Project	
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 2004.	New developments for which provision obtained include the Diageo site (L.B. Brent), Chiswick Park (L.B. Hounslow) and Grand Union Village developments. 2007 – March - Southall Gas Works, Arcadia and South Acton Estate are three redevelopment sites which will involve transport considerations (namely	Service level enhancement agreements are in place with London Buses in respect of Diageo (Park Royal) and Grand Union Village developments. Number of required
Cuoling			improving bus linkage and facilities).	improvements unknown.
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.
			2007 – All 4 CRISP (Cycle Route Implementation & Stakeholder Plan) feasibility studies carried out. Implementation of works on Uxbridge Road and on 2 north/south routes.	
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 In 05/06 550 children taught according to National	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 attained the maximum

Action Plan Measure	Original Timescale	Progress with measure	Outcome to date	Comments
			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	standard of Provision. LB Ealing has won 2 major awards for its work based on cycle training
			2007-2008 – 32 Primary school courses, 1 Secondary, 400 school trainees on Bikeability (National Standards training) with after school parent teacher sessions at 7 schools.	
17) Implement new traffic management measures to aid cyclists and improve safety, and	2002 - 2007	Measures include speed Limit cuts to 30mph and less on many routes, and exceptions for	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'.
facilities		streets	2007 – Almost no funding 07/08. One existing exemption to be improved. Expect 4 schemes 08/09, with more funding.	
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.
			2007 – Approximately 60 new cycle stands installed across the borough during 07/08. 100 planned for 08/09	

Action Plan Measure	Original Timescale	Progress with measure	Outcome to date	Comments
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 provision has been secured.	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 2004.	2007 - March - 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 2004.	 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.
			2007 – Work to improve canal towpath and access	

Action Plan Measure	Original Timescale	Progress with measure	Outcome to date	Comments
			rights with Park Royal partnership and British Waterways, and to create or upgrade routes across parks and open spaces. Towpath improvements and towpath access improvements are continuing, funded by Westrans and TfL Cycling Greenways. New route north east of Greenford Station to be completed May 08, Further bids made to TfL Cycling Greenways for 08/09. Pedestrian and cycle bridges sought linking Minet Country park in Hillingdon, as part of Southall Gasworks redevelopment.	
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. 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.	It is hoped that if successful this will instigate a rolling programme of such improvements.

Action Plan Measure	Original Timescale	Progress with measure	Outcome to date	Comments
			Funding has also been agreed for a similar walkability study in Greenford town centre.	
			2007 –	
			2008 – raised crossings at three side road junctions in Hanwell town centre to be installed this financial year, with further pedestrian environment and safety improvements to follow in next two years. Area Committee have authorized further work on an all red crossing phase at the Uxbridge Road/Church Road junction near Hanwell town centre, work to proceed to preparation of Network Assurance submission to TfL in 08/09. Funding for Walkability proposals for Greenford town centre available and details to be discussed with Transport for London early in April.	
24) Carry out street lighting improvements to enhance walking	2002 - 2006	Three Street lighting Improvement schemes initiated 03/04 (now	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
environments and increase personal safety for pedestrians. (This is on-going as part of the 5 year PFI column replacement programme).		complete or in progress). Merrick Rd Area, Acton Green and Cuckoo Estate. These schemes are completed as of March 07.	2007 (/08) – A total of 3,100 new lighting columns erected.	lighting columns being replaced and a further 5,000+ new columns installed.
25) Improve the network of cycle paths and footpaths in Major Open	2002 - 2006	Measure introduced into Ealing's UDP, which came into force in	Work to improve canal towpath and access rights with Park Royal partnership and British Waterways. New East-West route through Brent Valley Park and	

Action Plan Measure	Original Timescale	Progress with measure	Outcome to date	Comments
Areas within the borough.		October 2004.	resurfacing of Horsenden Hill shared use cycle pedestrian path done in 2005. British Waterways resurfaced about 2Km of towpath in 05/06. 2007 - See 21	
26) Ensure that development proposals make provision for pedestrian routes/footpaths that are	2003 - 2017	Measure introduced into Ealing's UDP, which came into force in October 2004.	Ealing currently negotiate the provision of such facilities as part of development proposals through the use of appropriate planning conditions.	
safe, attractive, well-lit, comfortable and accessible for all.			2007 – A requirement of all planning applications.	Number unknown.
Traffic reduction				
27) Consult on ten new Controlled Parking Zones (CPZs) per year	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.	For 2008-9 CPZ Review Programme to monitor 8 CPZs have been approved.
for the next live years.			2006-2008 – 18 CPZs were consulted (10 new & 8 Review). 8 new CPZs have been implemented and 6 extended/modified.	CPZs will be considered by CPZs will and 1 st April.
28) Develop new Home Zones every two years for the next six years, subject to winning the	2001 - 2007	No funding obtained to continue Home Zone development. The only Home Zone (Five	Continuing to install 20mph zones across the borough as part of a rolling programme mainly funded by Transport for London (TfL).	Costs of installation seem to have seen such Home Zones fall out of favour nationally. However, we do not have
necessary funding.		Roads) in the borough was implemented as a DfT funded national pilot. The zone was	2007 - April - the installation of 20mph zones is happening where practicable.	any objection to Homes Zones being incorporated as part of new developments and regeneration projects
		introduced in Sept. 2003.	2008 -	where the prospect of securing funding as part of an overall package is high.

Action Plan Measure	Original	Progress with	Outcome to date	Comments
	Timescale	measure		
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.	The current redevelopment of Perceval House and the proposed redevelopment of Dickens Yard will
			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.	dramatically reduce car parking space for Council Staff.
			2007 - Nov – LBE 2008/09 LIP funding application (submitted in June) for £15,000 for an electric pool car is confirmed as successful.	council's impact on climate change (as of March 07) may involve a fleet audit.
			- 18 th Dec – Green Fleet Review Meeting for LBE departments and contractors featured presentations from the Energy Saving Trust and LBE's Air Quality Project Officer. NI 194 (and NI 185) and other developments are stimulating work to improve knowledge of LBE's fleet.	
			- LBE (Green) Travel Plan under development. Revised Travel Plan Action Plan and business case about to go to CLT for approval. Dedicated Travel Plan Co-ordiantor to be appointed ASAP.	
			2008 – April – Travel Plan Coordinator Job Description under development.	
30) Ensure appropriate	2003 - 2017	Measure introduced into	For all 'Major Developments' (i.e. over 1000 sq. m.,	Ealing currently negotiate
developments have in		Ealing's UDP, which	developers are required to prepare Green Travel	GTPs as part of development

Action Plan Measure	Original Timescale	Progress with measure	Outcome to date	Comments
place green travel plans covering all aspects of vehicle movements.		came into force in October 2004.	Plans. Supplementary Planning Guide (SPG 21) on Green Travel Plans was adopted in October 2004. 2007 – Applies only to planning applications over 1000m ² (gross floor area)	proposals through the use of appropriate planning 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) 2007 - 5th and 19th March - BEST mailouts to businesses flagged up the TREND 'Lets Get Going: Sustainable Business Transport' event. 9th Sept - BEST mailout to business detailed the £20,000 worth of funding for Workplace Travel Initiatives. 10th Sept - BEST published an 'Environmental Sustainability Information for Businesses' webpage on Ealing Council's webpages featuring a Fleet 	

Action Plan Measure	Original Timescale	Progress with measure	Outcome to date	Comments
			Management and Travel Plans section. - 12 th Sept - BEST Newsmail signposted these changes to BEST's webpages and provided information on >£20,000 worth of funding for Workplace Travel initiatives.	
			- Widespread promotion of TfL's A NEW WAY TO WORK programme throughout the borough across the year.	
			- Production of West London Voluntary Travel Plan Strategy and Marketing Plan.	

Action Plan Measure	Original Timescale	Progress with measure	Outcome to date	Comments
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. Workshops are run regularly for schools; these provide advice and support in writing a school travel plan. These workshops have been very successful and each school attending has left with a draft school travel plan.	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. 2007-2008 – There are 31 schools with approved school travel plans with an additional 23 schools with plans submitted to TfL. Theatre in Education Productions highlighting environmental issues and sustainable transport have been performed in schools across the borough. The team has run a 'design a coverpage competition' for pupils art for the front cover of the school travel plan. This has been highly successful with 15 schools winning a bicycle and prizes for the winning coverpages. The team has expanded the walk on Wednesdays scheme to involve the schools who have completed school travel plans with 7000 pupils participating. Walk to school weeks have been very popular with 34 schools taking part in October 2007 and an estimated 40 taking part in May 2008. The team is now promoting the TfL accreditation scheme for recognition of a commitment to sustainable transport within the school community. This offers awards as bronze, silver and gold level and is recognised by Ofsted.	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.

Action Plan Measure	Original Timescale	Progress with measure	Outcome to date	Comments
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.	
			2007-2008 - Six schools have received warning school signage outside their school to alert motorists. Two schools have successfully had a zebra crossing implemented to improve the safety around the 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.	Currently negotiating to introduce CCC into TfL sites along the A40 and on Phase II of the South Acton Estate Regeneration.
			2007 - March - City Car clubs can now be put on highways as well as within sites to improve access to them.	South Acton Estate will have a CCC.
Action Plan Measure	Original Timescale	Progress with	Outcome to date	Comments
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36) Work with London City Car Club partners to develop a pilot scheme in the coming year 2002/03.	Timescale 2003 – 2006 First scheme to start Summer 2003	measure 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. 2007 - There are now 28 car club cars in Ealing with 24 cars onstreet. The Council is in the process of adding another 41 on street bays in the Borough but is meeting resistance from members of the public. It is expected that the project will be completed early to mid 2008. 	Council now has a corporate membership of City Car Club. Staff have access to 4 cars, 2 of which are electric GWhizz cars.
			installation of new bays. Officers install bays when these funds become available. The Council's corporate membership has grown to >70 members requiring that an additional 2 cars to be added at Perceval House.	new administration have not committed to a policy regarding car clubs and are seeking to do this in the development and approval of the Council's Transport Strategy.
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.	2007 – SPD 8 and SPD 9 introduced to encourage modal shift from car use to other more sustainable transport alternatives.	
38) Encourage residential	2003 - 2017	Measure introduced into	Measures are evident in SPDs 3 and 7.	

Action Plan Measure	Original Timescale	Progress with measure	Outcome to date	Comments
development which		Ealing's UDP, which		
provides less than the maximum parking requirement. Promote Low Car Housing Schemes in appropriate locations		came into force in October 2004.	2007 - Ongoing	Number unknown
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	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.	
		west London. Ealing town centre delivery bays proposals drawn up and consulted upon with local businesses.	2007 - Ealing town centre loading bays going in 2007/08. PCN hotspot survey in Southall to be funded by FQP in 08/09, with a view to designing an on-street delivery plan for the town centre.	
40) Encourage the use of non-road freight transport such as rail	2003 - 2017	Measure introduced into Ealing's UDP, which came into force in	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
and canal in industrial and warehousing development		October 2004.	2007 -	canal network. 2008 – no further work at present.
41) Investigate the potential of developing Freight Partnerships for the Park Royal and Ealing	2003 - 2006	Sign Rationalisation Project underway in Park Royal to improve deliveries.	Revised signage strategy based on the compass directional system implemented. Freight route map issued to drivers.	
Town Centre areas.		HGV advisory route	An Information Systems for Deliveries project for	

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		initiated in Perivale. Ealing Town Centre Freight Partnership under development, Stage 1 employed consultants for a	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)	
		baseline study.	2007 – (See 39) Delivery work being publicized through the BID process. No opportunity identified for further Freight Quality Partnerships at town centre or industrial estate level identified at this time.	
42) Encourage TfL to take action to reduce emissions from A40 Western Avenue and A406 North Circular roads.	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.	
			2007 - April - the New Roads and Street Works Act team have come in-house and will therefore be able to work better in partnership with TfL.	
			Bringing the NRSWA Team back in house has meant that Ealing has greater overall control of utility works and thereby fulfilling its Network Management Duty as prescribed by the Traffic Management Act 2004 of expedite traffic including pedestrians and cyclists on its network and the network of others.	
			In order to protect the network of others, the team, under the banner of Ealing Council, has forged stronger links with TfL. At operational level this is reflected by the need to submit notification to TfL's	

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			Network Assurance Team, attending site meetings with the relevant sections of TfL.	
			To increase it's coordination powers members of the team have taken part in seminars and training courses such as the Central Register run by TfL. The team has played host to neighbouring boroughs for TfL presentation on Forward Planning.	
			On the policy side the NMT have represented Ealing at policy meetings held by such bodies as London Councils.	
			In addition the NMT has attended pre Olympic meetings discussing the movement of officials, spectators and competitors around the TfL and Ealing networks. They have also attended meetings held by by TfL when discussing traffic issues such as work on the A40 at the Perryn Road bridge and the effect on the Ealing network.	
Reducing need to travel				
43) Promote mixed-use development, particularly in town centres and other areas with good public	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.	
transport accessibility.			2007 – Applied to Arcadia and Dickens Yard developments.	Number unknown apart from those mentioned.
Non-traffic measures				
44) Continue to regulate Part B processes within the borough and assess	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.	

Action Plan Measure	Original Timescale	Progress with measure	Outcome to date	Comments
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			 2006 - wheel-washer installed at the Gowing & Pursey site on 26th August 2007 - Jan - BEST event was concerned with LAPPC requirements. It is highly unlikely that Hanson Premix will replace their dry-batch concrete plant with a wet-batch system. But it has completed the installation of a background set of the system. 	
 45) Require an Air Quality Assessment for all new developments where there is potential for a significant increase in air pollution 46) Refuse planning permission where a development hinders the achievement of air quality objectives or results in significantly 	2003 - 2017 2003 - 2017	Measure introduced into Ealing's UDP, which came into force in October 2002. Measure introduced into Ealing's UDP, which came into force in October 2004.	Wheelwash. 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. [2007 – Jan - London Councils recently 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. New Air Quality SPD to be developed 2008/2009. Air quality work in development regarding
increased air pollution.		Guidance (SPG 3) produced for AQ.		Ealing's LDF (preferred locations).
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.	UDP Policy 2.9 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. 2007 - 10 th Sept - BEST published an 'Environmental Sustainability Information for Businesses' webpage on Ealing Council's webpages featuring an Energy section.	Various applications recently approved where the provision of renewables has been secured though the planning process.

Action Plan Measure	Original Timescale	Progress with measure	Outcome to date	Comments
			 12th Sept 07 - BEST Newsmail signposted these changes to BEST's webpages. Developers now required to submit an Energy Statement alongside planning application to demonstrate compliance with policy, including the application of energy conservation measures and consideration of installation of renewables. 	
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. 2007 - Above is ongoing and comments from officers responsible for air quality regarding planning applications make specific mention of the use of energy efficient boilers etc for developments where appropriate.	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. 2007 - The implementation of the Green Corridor is largely dependent on the redevelopment of part of these sites. Two planning applications were received in 2004 for the redevelopment of two of the sites. The first of these applications was for the development of a bus depot on the corner of Horn Lane and the A40, and the second for a residential scheme at the junction of the A40 and Allan Way. Both applications were refused and the decisions	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

Action Plan Measure	Original Timescale	Progress with measure	Outcome to date	Comments
			subsequently appealed. Both appeals were dismissed in 2006. Following this decision, TfL, the landowner of these sites has submitted a further planning application for the site at the junction with Allan Way. This application is currently pending, although a decision is imminent.	
			With respect of the A406 Green Corridor, no further progress has been made. This section of the Green Corridor remains designated as a Green Corridor, and applications either within or adjoining this Green Corridor will be assessed against the policies in the UDP including in particular policy 3.2, and improvements will be sought in terms of landscaping along this part of the Corridor.	
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
			2007 – Planning Conditions/Recommendations include developers working to 'The Control of Dust and Emissions from Construction and Demolition' (APPLE Working Group, 2006) where appropriate.	produced.
			2008 – March/April – Best practice guidance on the	

Action Plan Measure	Original Timescale	Progress with measure	Outcome to date	Comments
			control of dust and emissions from construction and demolition made available via Ealing's Dust and Odour webpage.	
51) Encourage domestic composting to reduce waste and discourage bonfires.	2003 - 2006	Garden waste collection scheme now available.	Scheme operates from April to November. Request only scheme operates at other times. Larger quantities accepted for composting at waste and recycling centres.	Discounted home- composting units available from Council.
			'Bonfires' leaflet produced by EHTS disseminated and made available online in June 06.	(search for 'bonfires' on ealing.gov.uk).
			2007 - Service operates weekly all year round. Residents must use free Council provided garden waste sacks.	See: www.ealing.gov.uk/services/ environment/recycling/garde n_waste_collection/ Ealing Council working in partnership with the government's Recycle Now campaign offers reduced prices on compost bins.
				Telephone 0845 077 0757 for details on these offers or visit www.recyclenow.com/compo st (order online to receive a further £1 off).
Awareness raising				
52) Undertake local travel awareness campaigns to raise the level of understanding of the consequences of an	2003 - 2006	Participated in Car Free day on 22 nd Sept 2003. 8 schools participated in 'Walk to School Week' during May and October	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.	

Action Plan Measure	Original Timescale	Progress with measure	Outcome to date	Comments
individual's choice of transport mode and how people can make a difference themselves,	Timesoule	2003.	'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.	
behind the Council's sustainable transport policies.			 2007 – LBE's Sustainability Network (SUN) developed 'Being Green in the Council' content for LBE's intranet. Due to go up late Jan 08. SUN currently developing third draft of 'Ealing's Green Pages' to inform residents of the impacts of their transport choices. 	
			- The Council received £18K for Travel Awareness in the Borough for 2007/08. 2 'TA' days were held in Greenford and Hanwell. The Hanwell event was a 'street party' coinciding with European Mobility Week 'In Town without My Car Day'. The Council also plans to hold a Dr Bike – TA day in March in Park Royal. A late night travel in Ealing is being prepared and will be available at the end of March 08.	
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.	
			2007 – Currently reviewing project options due to work being conducted elsewhere regarding sustainable transport awareness-raising.	

Action Plan Measure	Original Timescale	Progress with measure	Outcome to date	Comments
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. 2007 – LBE's Sustainability Network currently developing third draft of 'Ealing's Green Pages' to inform residents about Sustainable Transport Choices. 	
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 2004/2005/2006/2007. 2007 - Council received £20K for Travel Awareness and associated activities in 2007/08. 3 major events were held in Sept 07 and March 08. The September events at Greenford and Hanwell were in conjunction with the European Mobility Week and In Town with out My Car Initiatives. Limited funding has been allocated for events in 2008/09. However the Council is likely to receive more funding throughout the year.	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.	

Action Plan Measure	Original Timescale	Progress with measure	Outcome to date	Comments
			2007 – (As mentioned in 55.)	
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
			 2007 - Spring - Sent completed Air Quality Questionnaire (regarding co-location data) back to AQ Consultants. 12th June - Ealing's Air Quality Progress Report 2007 made available on the Council's website. 31st July - 'Local Air Quality Management: An Introduction' training delivered to efficience in 	railway.
			 - 5th Oct – 'Ealing's Local Air Quality: An Introduction' presentation delivered to Ealing's Research Group. 	
			- 6 th December – Results pertinent to the Air Quality Sustainability Indicator sent to planning.	
			 Ealing 10 installation delayed due to issues with private property company. 2008 - March - Ealing 10, monitoring particulates, 	

Action Plan Measure	Original Timescale	Progress with measure	Outcome to date	Comments
			due to be installed.	
58) Conduct further review and assessment of air quality in line with its statutory duties.	2004	Air Quality Progress Report completed April 2005.	Updating and Screening Assessment 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.	
			2007 – April - Ealing's Air Quality Progress Report 2007 completed and submitted to the GLA and DEFRA.	
59) Review and improve the amount and quality of air quality information on its Pollution Control web	2003	Ealing Air launched on Ealing's Pollution Control web site in 2003. Includes forecasts	West London Air Quality Group web site in development to provide information source highlighting West London's cross borough activities.	The West London Air Quality Group's website was published on 6 th Feb 07: www.westlondonairquality.or
Site.		information.	2007 - Inclusion of a link to the AirText website. – 12 th June - Ealing's Air Quality Progress Report 2007 made available on the Council's website. Aug – Travel Footprint Calculator added to LBE's air guality webpages: http://www.travelfootprint.org	g.uk Ealing has played an active
			2008 – March – Air quality information on Ealing Council's Air Pollution webpages reviewed and improved with changes and new information.	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	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 dote	

Action Plan Measure	Original Timescale	Progress with measure	Outcome to date	Comments
the public.			Air quality information dissemination project proposal bid submitted as part of the bid for the 2007 round of DEFRA Air Quality Grant funding.	
			 2007 - airText service publicized in/on: articles in LBE staff magazine 'Frank' (p. 5, May 07 edition); free publication 'Around Ealing' (disseminated to 130,000 residents approx.; p.4, June 07); Ealing PCT website (April 07); Ealing Council's website (April 07); a press release from the council (April 07), which resulted in a story being featured in the Ealing and Acton Gazette (April 07); posters and leaflets sent to pharmacies, community centres, care homes, GP surgeries, charity shops, libraries, school health advisors, Ealing Hospital, public areas in Ealing Town Hall and Perceval House, and Ealing Council Occupational Health Dept. (March-May 07), posters displayed in Ealing Town Hall and Perceval House in public notice boards throughout the borough (Oct 07). AirText stories also featured in the Ealing Today and Acton W3 websites (March 07). August – Air Quality, airText, and other environmental sustainability information published in 	
			the Environmental Quality Team's Annual Report 2006 (disseminated to libraries and key stakeholders).	
			- 5 Oct – 'Ealing's Local Air Quality: An Introduction' presentation delivered to Ealing's	

Action Plan Measure	Original Timescale	Progress with measure	Outcome to date	Comments
			 Research Group. Planned article for Around Ealing in late 07 regarding air quality in Ealing and a discount offer on air pollution masks not taken forward due to internal issues and financial constraints. 	
			 2008 – March – Air quality information on Ealing Council's Air Pollution webpages reviewed and improved with changes and new information. April – 'Air you views on pollution' article developed, financed and published on p.25 of the April '08 Around Ealing featuring information on air quality, a 10% discount on air pollution masks, and details of Ealing's air quality consultation. 	

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-

We issued a callout to CBISS for unstable overnight zero's on 08/02/07.

CBISS attended on 12/02/08 and replaced the silica gel. The NO2 dropped to zero after their visit and the NO and NOX readings were identical. This is usually a sign that the NO span cylinder was left on.

We attended site on 15/02 but found the cylinder had not been left on, so we issued a callout.

CBISS attended site on 19/02 and found the problem was due to a 'soleniod valve upon J7 connector from module card not cycling'.

CBISS had to order chips from the analyser manufacturer Environnment in France.

CBISS finally attended to repair the analyser on 03/03/07.

After the analyser's overnight cal on Sat 28/04 it started to flag a bench temp warning. We issued a callout on Monday 30/04.

CBISS attended to repair on 01/05. Data continued to flatline after their visit, we issued another callout on 02/05.

CBISS attended and repaired it on 03/05.

We issued a callout for unstable overnight zero's again on 24/05.

CBISS attended on 25/05. We didn't collect any data from the analyser after this visit.

CBISS attended again on 04/06 and found the analyser date was wrong. They corrected the date and we started collecting data again.

An audit on 24/08 found that the analyser's converter efficiency was only 62%. We issued a callout for this on 24/08.

CBISS attended to replace the molybdenum converter on 18/10. The repair reports states that the new moly converter blew the fuse in the analyser as it had a lower resistance than the original one (7.8 ohms compared to 350

ohms). CBISS reinstalled the original and contacted Environnment for a replacement converter.

The analyser was serviced by CBISS on 08/11. The service report shows that CBISS replaced the moly converter and the audit on 16/01/08 confirmed the converter efficiency was 100%.

Ratification of the data over this period in comparison with surrounding sites shows that the NO2 measurements between CBISS' visit on 25/05 and the service on 08/11 are low and have thus been excluded from the data set.

It is worth noting also that we have issued 5 callouts for this analyser since the beginning of this year.

16/01 - smell of ozone in cabin (internal leak or scrubber is saturated).

06/02 - Alarm, high converter temp.

11/02 - CBISS attended but still not collecting data, may need a new board.

26/02 - Overnight span breakthrough (scrubber not working effectively first 15min reading after overnight elevated) 26/03 - Alarm, low converter temp.

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

The logger stopped responding at 22:30 09/01, we attended site and rebooted the logger on 11/01.

The logger stopped responding again 18:00 11/06, we attended to reboot 13/06.

The logger locked up again 18:00 16/06, SupportingU attended and rebooted 19/06. Repair report suspected that a/c not big enough for site and logger problems due to high cabin temps.

The logger locked up again 27/07. We attended to reboot 30/07

We lost comms to the site 13:00 22/08. We attended 24/08 to find the power off, switched power back on and calibrated analysers.

The logger seized up again Sunday 26/08. We attended to reboot 28/08.

The logger seized up again on 01/10, we asked the school to press the orange reset button on the front of the logger but the caretaker switched the whole site off.

We attended site on 03/10 and switched it all back on.

We issued a callout because we suspected the NO2 looked low on 26/11. SupportingU attended site 27/11 and found the manifold fan had seized. We suspected that this may have gone back to the power off and on at the beginning of Oct.

Ratification and comparison with surrounding sites led to the removal of NOx readings from 03/10 to the repair on 27/11.