Annual Air Quality Report
And Action Plan Update
2011

Summary

All local authorities are required to undertake regular reviews and assessments of air quality within their areas according to a timetable set out by Central Government.

Local authorities are part of the UK Air Quality Strategy. The Air Quality Strategy was published by the UK Government in January 2000.

Its aims are to:

- provide best practicable protection to human health by setting health-based objectives for air pollutants
- contribute to the protection of the natural environment through objectives for the protection of vegetation and ecosystems
- describe current and future levels of air pollution
- provide a framework to help identify what we all can do to improve air quality
- map out as far as possible future ambient air quality policy in the United Kingdom in the medium term

This report is in two parts. Part 1 presents a summary of the Air Quality monitoring results for the London Borough of Lambeth during 2009 and 2010. Part 2 outlines the progress that has been made in implementing the Borough Air Quality Action Plan.

The Council published a further Updating and Screening Assessment Report (USR) of local air quality in April 2009. The main findings of USR were that there had been no significant changes to pollution sources and thus no changes to air quality objective exceedences since 2006 when the last updating and screening review was undertaken.

This report provides information for the year that has elapsed since the production of the USR. It highlights any changes affecting or likely to affect air quality and provides the results of the latest monitoring data for the borough and compares these with national Air Quality Objectives.

The 2009 USR concluded the that there was no significant risk of national objectives for carbon monoxide, benzene, 1,3-butadeine, sulphur dioxide and lead being exceeded within Lambeth.

The 2009 USR also identified that national objectives for fine particles ($PM_{10)}$ and Nitrogen Dioxide (NO2) were unlikely to be met in some parts of the borough, but as these exceedences had already been identified in the second round of review and assessment (the 2006 report) no further detailed assessment was required.

On the basis of the 2009 USR findings Lambeth council took the decision to cease monitoring for a range of air pollutants in the borough using diffusion tube technology. Budgetary constraints resulted in a decision to close both the Lambeth 3 (Loughborough Junction) and Lambeth 1 (Christchurch Road) automatic monitoring stations. Both of these sites had produced long term data showing little or no change in local air quality over the years. The closure of the Lambeth 1 and 3 stations has enabled the council to fund automatic monitoring station in the south of the borough

at Streatham Green. This is classed as an urban background site and it has been supplying data since August 2009.

In 2010 there were as in previous years, a number of pollution incidents recorded over Greater London as a whole. The United Kingdom Automatic Urban and Rural Network (AURN) of air pollution monitors measured high levels of air pollution across Southern England. Some of these episodes impacted on the Lambeth air quality monitoring sites and are discussed later in this report.

The Borough continues to suffer from high levels of fine particles (PM_{10}) and Nitrogen Dioxide (NO2). There is increasing evidence to show that despite all the efforts that have been made locally with implementing an Air Quality Action Plan, roadside and kerbside levels of Nitrogen Dioxide have not significantly decreased. Levels of fine particles (PM_{10}) have also remained broadly constant. The reasons for this are discussed below in the conclusions section. The main findings of this review are summarised below:

- Average NO2 levels exceeded the UK and EC air quality targets at all 3 of the Lambeth automatic road and kerbside sites as well as at Crystal Palace which is close to the Borough boundary on Crystal Palace Parade.

- The NO2 standard was exceeded by a very significant margin at the Lambeth 4 site (Brixton Road A 23 Kerbside). The reasons for this unclear and could be due to a failure of EU emission controls for new diesel vehicles to deliver NO2 reductions in practice. However, an audit of the monitoring equipment used at Lambeth 4 site is being conducted by the National Physical Laboratory in liaison with The Environmental Research Group (ERG) at King's College, London.

- The results for fine particles (PM_{10}) show little change for the automatic monitoring stations apart from at the Lambeth 5 site where significant reductions were recorded and the site only just failed to meet the UK annual mean objective. The Lambeth 4 kerbside site again failed to meet UK objectives.

- Ozone monitored at the Horseferry Road automatic monitoring station which is situated just 0.7 kms beyond the northern edge of the borough was well within the annual mean EC levels for information and warning.

- Carbon monoxide monitored at the Crystal Palace automatic station until its closure in July 2010, continued to be low and well within the 8hr rolling average limits set by the EC and adopted by UK Government. The nearest alternative Carbon Monoxide Station at Horseferry Road (Westminster) also recorded levels well with the objectives.

- Sulphur Dioxide was monitored at all the Lambeth automatic stations. Levels remain low and the national objectives were met at all of the monitoring stations.

Air Quality Assessment and Review 2001 - 2010

Lambeth declared an initial Air Quality Management Area (AQMA) in 2001 covering the northern part of the borough for Nitrogen Dioxide (NO2) (both the annual mean and hourly mean objectives were found to be regularly breached) as well as Particulate Matter (PM_{10}) (24 hour objective only). By 2003 it had became clear that predicted improvements in motor vehicle engine emission technology were unlikely to give the benefits originally anticipated. In 2003 Lambeth undertook its Stage 4 Review and Assessment of local air quality which indicated a likelihood of national air quality objectives continuing to be exceeded. As a result the whole of the Lambeth borough area was declared an AQMA (for the NO2 annual mean objective only).

A second Updating and Screening Assessment (USA), was undertaken in 2006 and it became apparent that hourly mean objectives for NO2 as well as PM_{10} should have been included in the 2003 AQMA Order. During 2007 the original 2003 AQMA was revoked and replaced with a new Order to cover the two additional objectives. A full copy of the 2006 Lambeth USA is available on the Council's website www.lambeth.gov.uk

The Pollutants

Road traffic continues to be the primary cause of air pollution in London and in Lambeth around 90 % of all air pollution is caused by road vehicles. Vehicle pollutants of greatest concern are Nitrogen Dioxide and Fine Particles (PM_{10}). Carbon Monoxide and Volatile Organic Compounds such as Benzene and 1, 3-Butadiene are of potential concern, as is Ozone.

Nitrogen Dioxide

NO_2 is largely a secondary pollutant formed by the oxidation of Nitrogen Oxide (NO). In Lambeth, road transport is the dominant source of oxides of Nitrogen (NOx). This is reflected in the general distribution of NO_2, with the greatest annual mean concentrations being measured near roads and in central London locations.

The National Air Quality Strategy stipulates two objectives for NO_2:

(i) An annual mean of 21ppb (40 µg/m^3) and
(ii) An "incident based" Objective of 104.6ppb (200 µg/m^3) as an hourly mean not to be exceeded more than 18 times a year.

Fine Particles (PM_{10})

Unlike other air pollutants, fine particles (known as PM_{10}), do not comprise a single defined chemical compound like for example Sulphur Dioxide. The composition of PM_{10} varies with location and time of year. PM_{10} can often contain a mixture of primary sources, which tend to be locally emitted from vehicle exhausts, as well as secondary sources (mainly from distant sources) and coarse particles whose origin can be as far away as continental Europe. PM_{10} levels can also be elevated by local building and road works.

There are two Air Quality Standards for PM_{10}. These are in line with EC Daughter Directive – Stage Limit Value for PM_{10}:

(ι) An annual mean of 40 μg/m^3.
(ιι) An incident-based objective of 50 μg/m^3, measured as a daily mean not to be exceeded on more than 35 days a year.

Sulphur Dioxide

The distribution of Sulphur Dioxide (SO^2) concentrations is influenced by both road traffic and industrial point sources. Road traffic is the main factor influencing annual mean concentrations, whereas industrial point sources can produce short-term high values due to plume grounding. The annual mean concentrations of SO^2 do not vary to a large extent over London.

The Air Quality Strategy stipulates three objectives for SO^2:

(i) No more than 24 occurrences of an hourly mean of >150 μg/m^3.
(ii) No more than 3 days where the daily mean >125 μg/m^3.
(iii) No more than 35 occurrences of 15min mean >267 μg/m^3.

Ozone

Ozone is caused by complex reactions in the atmosphere involving a cocktail of combustion generated pollutants. In the presence of sunlight and high temperatures chemical reactions take place in which Ozone gas (O3) is formed. Ozone is often described as a seasonal pollutant, with the highest concentrations being recorded during the summer months. It is also a regional pollutant, with episodes of high concentrations often extending over hundreds of miles.

The greatest concentrations of Ozone have, in recent years, been measured at sites in outer London and the Home Counties, with somewhat lower levels being recorded in Lambeth and other inner London boroughs. Significant local variations in Ozone concentrations have also been reported. In heavily trafficked areas this is believed to be due to the scavenging effect of NO close to NOx emission sources, for example at roadsides, which has the effect of lowering Ozone levels around the immediate area.

The Air Quality Strategy has a single objective of 100 μg/m^3(50ppb) measured as a rolling 8 hour mean, which should not be exceeded on more than 10 days a year.

Benzene

The main source of Benzene in the UK is the combustion and distribution of petrol, of which Benzene is a minor constituent. Petrol is the only product marketed to the general public in the UK in which Benzene is present in more than trace amounts. There are no specific industrial processes in Lambeth emitting quantities of Benzene such as oil refineries.

The major health risk associated with low-level exposure to Benzene is leukaemia. Based on data from the Institute for Environment and Health, estimated exposure to

Benzene for the general population is three times less than the lowest exposures reported to be associated with adverse effects.

The Air Quality Strategy has a future objective of 5 µg/ m^3 measured on an Annual Mean basis.

Carbon Monoxide

Carbon Monoxide (CO) is a toxic gas which is emitted into the atmosphere as a result of combustion processes. It is also formed by the oxidation of hydrocarbons and other organic compounds. In Lambeth, CO is produced almost entirely from car and lorry engines although it is eventually oxidised naturally in the air to Carbon Dioxide (CO_2). High levels of CO can prevent the normal transport of oxygen by the blood. This can lead to a significant reduction in the supply of oxygen to the heart, particularly in people suffering from heart disease.

The Air Quality Strategy has a single objective of:

10 mg/m^3 (8.6 ppm) maximum on a daily running 8 hour Mean

Air Quality Objectives within London

Air Quality Objectives are health based standards set out within the main UK Air Quality Strategy which are to be achieved by a given date. These objectives must continue to be met beyond the deadline. Objectives have been set with different time averaging periods for each pollutant. The different averaging periods reflect the way in which some pollutants may be harmful to health over relatively short exposure times. Table 1 below, identifies the pollutants of concern that have been incorporated into UK regulations together with the relevant information in relation to each of the objectives.

Table 1 - Air Quality Objectives.

Pollutant	Concentration	Measured as	Date to be achieved
Benzene	16.25µg/m^3 5.00µg/m^3	running annual mean annual mean	31.12.2003 31.12.2010
1,3-butadiene	2.25µg/m^3	running annual mean	31.12.2003
Carbon Monoxide	10 mg/m^3	max daily running 8hr mean	31.12.2003
Lead	0.5 µg/m^3 0.25 µg/m^3	annual mean annual mean	31.12.2004 31.12.2008
Nitrogen Dioxide	200 µg/m^3 (not to be exceeded more than 18 times per year) 40 µg/m^3	1hr mean annual mean	31.12.2005 31.12.2005
Particles (PM_{10})	50µg/m^3 (not to be exceeded more than 35 times per year) 40µg/m^3	24 hr mean annual mean	31.12.2004 31.12.2004
Sulphur Dioxide	350 µg/m^3 (not to be exceeded more than 24 times per year) 125µg/m^3 (not to be exceeded more than 3 times per year) 266 µg/m^3 (not to be exceeded more than 35 times per year)	1 hr mean 24 hr mean 15 minute mean	31.12.2004 31.12.2004 31.12.2005

Ozone	100µg/m3 not to be exceeded by more than 10 times a year	Daily maximum 8 hour mean	31.12.2005

Monitoring Air Quality in Lambeth

This section considers pollution monitoring results and trends in Lambeth. Additional data have been obtained from other monitoring stations located close to the borough boundary where necessary.

During 2009 and 2010 the council continued to undertake monitoring using automatic high quality continuous monitoring analysers (active monitoring).

Automated long-term continuous analysers providing information for this report are located at:

- Christchurch Road (Lambeth 1) - a roadside site in Streatham Hill towards the south of the Borough (this site has been operating since 2000 but was closed in December 2010

- Loughborough Junction (Lambeth 3) – an urban background site installed in late 2001. This was also closed at the end of 2010

- Brixton Road (Lambeth 4) – a kerbside site installed in late 2003.

- Vauxhall Cross (Lambeth 5) - a kerbside site re-sited in the middle of a traffic island that started operating in 2005.

- Crystal Palace – a jointly operated site located on Crystal Palace Parade on the southern edge of the Borough. This was closed in July 2010.

- Streatham Green - an urban background site commissioned in August 2009.

N.B There is no longer a Lambeth 2 site. Lambeth 2 was formerly the Vauxhall Cross site. The Lambeth 2 site started operating in late 2001 and closed in July 2003 due to remodelling of the Vauxhall Cross Interchange. A repositioned monitor, known as Lambeth 5 began operating at the Vauxhall Cross Interchange again in 2005. The future of the Lambeth 5 site is currently being considered in light of its close proximity to a potential pollutant source (TfL flue vent) which could be influencing PM_{10} readings at the site

Following a successfully grant award for a new automatic site in the south of the borough the new site located at Streatham Green was commissioned at the start of 2010. This is classed as an Urban Background location. Table 10 shows a summary of the first year's monitoring results.

The Lambeth monitors provide a useful contribution to the London Wide Air Quality Network, as well as provide valuable real time air quality information covering arterial roads (kerbside) main roads (roadside) and less busy (urban background) sites in the Borough. The monitors measure levels of Nitrogen Dioxide (NO^2), Particulates (PM_{10}) and Sulphur Dioxide (SO^2).

Standards of quality control of the LAQN are similar to those of the Government's ARUN sites. Regular calibrations are carried out, with subsequent data ratification undertaken by ERG at King's College London.

A national scheme for describing air quality based upon possible ill health effects has been in place for some time. The scheme has been designed to provide a readily understandable system for people to be able to relate air pollution levels to possible ill health effects. This classes levels into bands from 'low' to 'very high'. Each band is subdivided into three to produce an Air Pollution Index, from 1 to 10, 1 being 'low', 10 being 'very high'.

The bands together with the potential health effects are set out at Table 2 below.

Table 2 - Public Dissemination Banding

Banding	Index	Health Descriptor
Low	1	Effects are unlikely to be noticed even by individuals who know they are sensitive to air pollutants
	2	
	3	
Moderate	4	Mild effects, unlikely to require action, may be noticed amongst sensitive individuals.
	5	
	6	
High	7	Significant effects may be noticed by sensitive individuals and action to avoid or reduce these effects may be needed (e.g. reducing exposure by spending less time in polluted areas outdoors). Asthmatics will find that their 'reliever' inhaler is likely to reverse the effects on the lung.
	8	
	9	
Very High	10	The effects on sensitive individuals described for 'High' levels of pollution may worsen.

Different pollutants have different concentrations and averaging periods, related to the estimated health effects of each. The thresholds for each pollutant are set out in Table 3 below:

Table 3 - Public Dissemination Banding Thresholds

Band	Index	Ozone		Nitrogen Dioxide		Sulphur Dioxide		Carbon Monoxide		PM10 Particles**
		8 hourly or hourly mean*		hourly mean		15 minute mean		8 hour mean		24 hour mean
		µg m-3	ppb	µg m-3	ppb	µg m-3	ppb	mg m-3	ppm	µg m-3
Low										
	1	0-32	0-16	0-95	0-49	0-88	0-32	0-3.8	0.0-3.2	0-19
	2	33-66	17-32	96-190	50-99	89-176	33-66	3.9-7.6	3.3-6.6	20-40
	3	67-99	33-49	191-286	100-149	177-265	67-99	7.7-11.5	6.7-9.9	41-62
Moderate										
	4	100-126	50-62	287-381	150-199	266-354	100-132	11.6-13.4	10.0-11.5	63-72
	5	127-152	63-76	382-476	200-249	355-442	133-166	13.5-15.4	11.6-13.2	73-84
	6	153-179	77-89	478-572	250-299	443-531	167-199	15.5-17.3	13.3-14.9	85-94

Band	Index	Ozone		Nitrogen Dioxide		Sulphur Dioxide		Carbon Monoxide		PM10 Particles**
		8 hourly or hourly mean*		hourly mean		15 minute mean		8 hour mean		24 hour mean
		µg m-3	ppb	µg m-3	ppb	µg m-3	ppb	mg m-3	ppm	µg m-3
High										
	7	**180-239**	**90-119**	**573-635**	**300-332**	**532-708**	**200-266**	**17.4-19.2**	**15.0-16.5**	**95-105**
	8	**240-299**	**120-149**	**363-700**	**333-366**	**709-886**	**267-332**	**19.3-21.2**	**16.6-18.2**	**106-116**
	9	**300-359**	**150-179**	**701-763**	**367-399**	**887-1063**	**333-399**	**21.3-23.1**	**18.3-19.9**	**117-127**
Very High										
	10	**360 or more**	**180 or more**	**764 or more**	**400 or more**	**1064 or more**	**400 or more**	**23.2 or more**	**20 or more**	**128 or more**

** For ozone, the maximum of the 8 hourly and hourly mean is used to calculate the index value.*

*** from August 2009 the PM10 index uses Reference Equivalent PM10 measurements.*

Table 4 below shows the number of days where air pollution was measured as being moderate or above on the Public Dissemination Banding in Lambeth

Table 4. - 2010 Air Quality Banding (2008 and 2009 figures in brackets)

Pollutant	Location	Days Moderate	Days High	Days Very High
Nitrogen Dioxide	Christchurch Road (R)	(0) (0) 0	(0) (0). 0	(0).(0).0
	Vauxhall Cross (R)	(1) (0) (0)	(1) (1)	(1) (0) 0
	Loughborough Junction (U)	(0) (0) 0	(0) (0) 0	(0) (0) 0
	Brixton Road (K)	(253) (154) 169	(1) (1) 0	(0) (0) 0
	Crystal Palace(R)	(0) (0) 0	(0) (0) 0	(0) (0) 0
	Streatham Green	0	0	0
Particulate Matter (PM_{10})	Christchurch Road (R)	(5) (15) *closed*	(0) (0)	(0)
	Vauxhall Cross (R)	(122) (32) 52	(29) (0) 0	(3) (0) 0
	Loughborough Junction (U)	(10) (6) 3	(2) (0) 0	(2) (0) 0
	Brixton Road (K)	(27) (19) 6	(2) (1) 0	(0) (1) 0
	Crystal Palace (R)	(3) (3) 0	(0) (0) 0	(0) (0) 0
	Streatham Green	4	2	2
Sulphur Dioxide	Christchurch Road (R)	(0) (0) 0	(0) (0) 0	(0) (0) 0
	Vauxhall Cross (R)	(0) (0) 0	(0) (0) 0	(0) (0) 0
	Loughborough Junction (U)	(0) (0) 0	(0) (0) 0	(0) (0) 0
	Brixton Road (K)	(0) (0) 0	(0) (0) 0	(0) (0) 0
	Crystal Palace (R)	(0) (0) 0	(0) (0) 0	(0) (0) 0

Pollutant	Location	Days Moderate	Days High	Days Very High

Key: Levels 1 to 3 = Low Levels 4 to 6 = Moderate Levels 7 to 9 = High Level 10 = Very High
R = Roadside Site K = Kerbside Site U = Urban Background Site

Compliance with National Air Quality Objectives

The Following tables show the results of each active monitoring station in Lambeth and to what extent the National Air Quality Objectives were met in 2010 (2008 and 2009 figures in brackets).

Table 5

Lambeth 1 – Christchurch Road (Roadside)

Note: values for 2010 should be used a guide only as capture rate was less than 90%

Pollutant	Objective	Result	Achieved Objective
Nitrogen Dioxide	Annual mean not exceeding 40 µg/ m^3	(59) (61).52	NO
Nitrogen Dioxide	No more than 18 occurrences of hourly mean >200 µg/ m^3	(2) (0) (0)	YES
PM_{10} Particles	Annual mean less than 40 µg/ m^3 (gravimetric)	(22) (23) 20	YES
PM_{10} Particles	No more than 35 days where daily mean >50 µg/ m^3 (gravimetric)	(11) (4) 3	YES
Sulphur Dioxide	No more than 35 days where daily mean > 350 µg/ m^3 (gravimetric)	(0) (0) 0	YES
Sulphur Dioxide	No more than 3 days where daily mean > 125 µg/ m^3 (gravimetric)	(0) (0) 0	YES
Sulphur Dioxide	No more than 35 occurrences of 15 min mean >267 µg/ m^3	(0) (0) 0	YES

Data for 2010 only until 2nd December and not yet Fully Ratified

Table 6

Lambeth 5 Vauxhall Cross (Roadside)

Pollutant	Objective	Result	Achieved Objective
Nitrogen Dioxide	Annual mean not exceeding 40 µg/ m^3	(83) (77) 77	NO
Nitrogen Dioxide	No more than 18 occurrences of hourly mean >200 µg/ m^3	(38) (12) 17	YES
PM_{10} Particles	Annual mean less than 40 µg/ m^3 (gravimetric)	(52) (42) 43	NO
PM_{10} Particles	No more than 35 days where daily mean >50 µg/ m^3 (gravimetric)	(160) (71) 76	NO
Sulphur Dioxide	No more than 35 days where daily mean > 350 µg/ m^3 (gravimetric)	(0) (0) 0	YES
Sulphur Dioxide	No more than 3 days	(0) (0) 0	YES

	where daily mean > 125 µg/ m^3 (gravimetric)		
Sulphur Dioxide	No more than 35 occurrences of 15 min mean >267 µg/ m^3	(0) (0) 0	YES

2010 Data not yet fully ratified

Table 7.

Lambeth 3 Loughborough Junction (Urban Background)

Note: The following results should be used only as a guide for 2010 as the data have not yet been fully ratified

Pollutant	**Objective**	**Result**	**Achieved Objective**
Nitrogen Dioxide	Annual mean not exceeding 40 µg/ m^3	(36) (37) 33	YES
Nitrogen Dioxide	No more than 18 occurrences of hourly mean >200 µg/ m^3	(0) (0) 0	YES
PM_{10} Particles	Annual mean less than 40 µg/ m^3 (gravimetric)	(22) (25) 21	YES
PM_{10} Particles	No more than 35 days where daily mean >50 µg/ m^3 (gravimetric)	(9) (10) 3	YES
Sulphur Dioxide	No more than 35 days where daily mean > 350 µg/ m^3 (gravimetric)	(0) (0) 0	YES
Sulphur Dioxide	No more than 3 days where daily mean > 125 µg/ m^3 (gravimetric)	(0) (0) 0	YES
Sulphur Dioxide	No more than 35 occurrences of 15 min mean >267 µg/ m^3	(0) (0) 0	YES

Table 8.

Lambeth 4 – Brixton Road (Kerbside)

Note: The following results for 2009 and 2010 should be used only as a guide NO2 (capture rate was only 80% of the year) , PM_{10} (capture rate was only 76%) , SO_2 (capture rate was only 68%).

Pollutant	**Objective**	**Result**	**Achieved Objective**
Nitrogen Dioxide	Annual mean not exceeding 40 µg/ m^3	(216) (179) 173	NO
Nitrogen Dioxide	No more than 18 occurrences of hourly mean >200 µg/ m^3	(4011) (2272) 2563	NO
PM_{10} Particles	Annual mean less than 40 µg/ m^3 (gravimetric)	(37) (34) 33	YES
PM_{10} Particles	No more than 35 days where daily mean >50 µg/ m^3 (gravimetric)	(54) (59) 16	YES -
Sulphur Dioxide	No more than 35 days where daily mean > 350 µg/ m^3 (gravimetric)	(0) (0) (0)	YES
Sulphur Dioxide	No more than 3 days where daily mean > 125 µg/ m^3 (gravimetric)	(0) (0) 0	YES
Sulphur Dioxide	No more than 35 occurrences of 15 min	(0) (0) 0	YES

	mean >267 µg/ m^3		

Table 9.

Crystal Palace (Roadside) - Closed July 2010 - 2009 Annual results

Note: The results for NO2 (2009) should be used with caution - Capture rate less than 90%

Pollutant	**Objective**	**Result**	**Achieved Objective**
Nitrogen Dioxide	Annual mean not exceeding 40 µg/ m^3	(216) (179) closed	NO
Nitrogen Dioxide	No more than 18 occurrences of hourly mean >200 µg/ m^3	(4011) (2272) closed	NO
PM_{10} Particles	Annual mean less than 40 µg/ m^3 (gravimetric)	(37) (34) closed	YES
PM_{10} Particles	No more than 35 days where daily mean >50 µg/ m^3 (gravimetric)	(54) (59) 16	YES
Sulphur Dioxide	No more than 35 days where daily mean > 350 µg/ m^3 (gravimetric)	(0) (0) closed)	YES
Sulphur Dioxide	No more than 3 days where daily mean > 125 µg/ m^3 (gravimetric)	(0) (0) closed	YES
Sulphur Dioxide	No more than 35 occurrences of 15 min mean >267 µg/ m^3	(0) (0) closed	YES

Table 10.

Streatham Green (Urban Background)

Pollutant	**Objective**	**Result**	**Achieved Objective**
Nitrogen Dioxide	Annual mean not exceeding 40 µg/ m^3	43	NO
Nitrogen Dioxide	No more than 18 occurrences of hourly mean >200 µg/ m^3	0	YES
PM_{10} Particles	Annual mean less than 40 µg/ m^3 (gravimetric)	23	YES
PM_{10} Particles	No more than 35 days where daily mean >50 µg/ m^3 (gravimetric)	6	YES

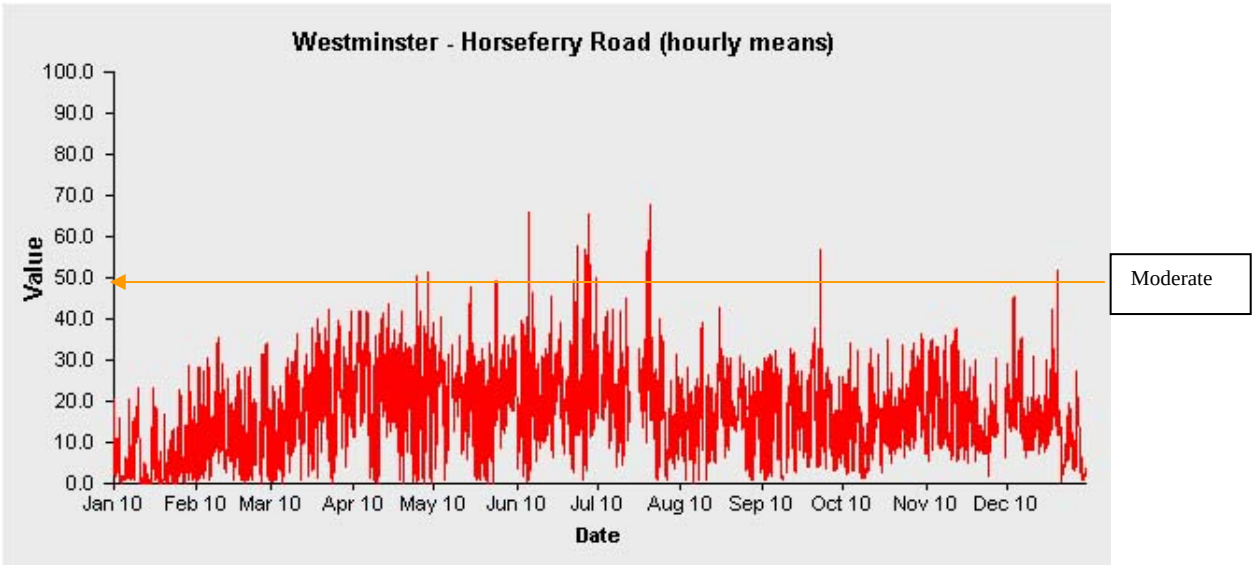
2010 Data not yet fully ratified

Commentary on Results

Ozone

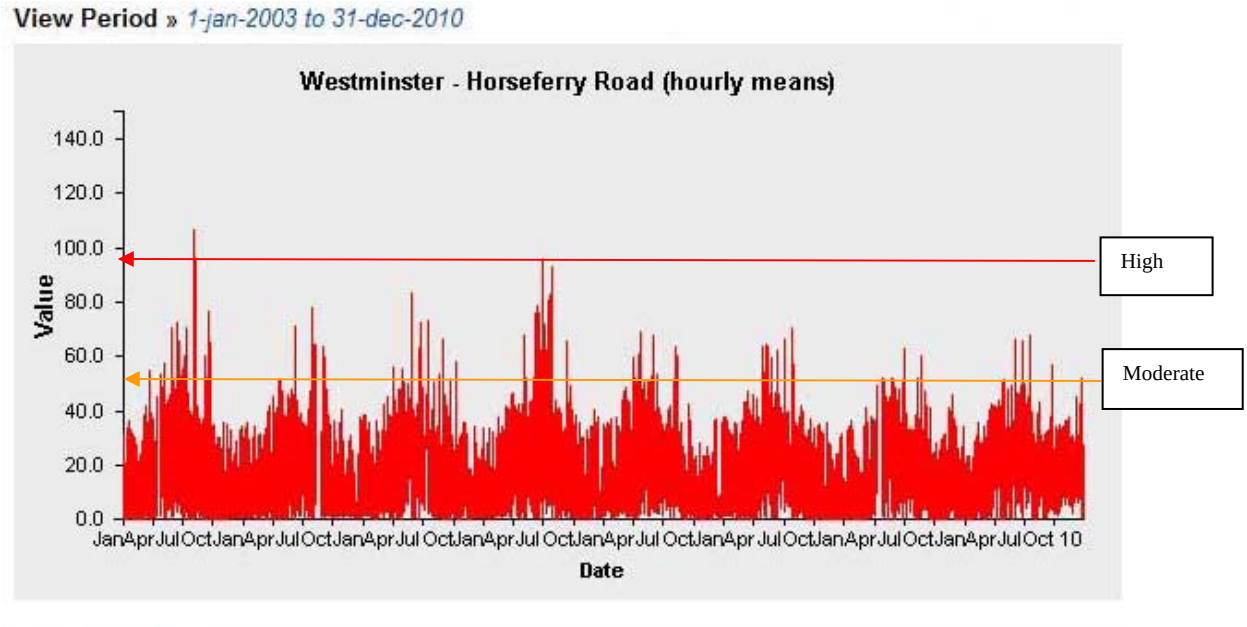
Some moderate levels (100µg/m3) were recorded at Horseferry Road, which is the nearest Ozone active Monitoring Station to Lambeth. This is located about 0.75km from the borough boundary with Westminster City Council. Chart 1 below shows the daily variation in Ozone concentrations from January to December 2010 These followed a similar pattern to those recorded in recent years. However the "moderate" levels seen in the hot summers of 2003 and 2004 were not repeated during 2010.

Chart 1 - Ozone Concentrations 2010



Ozone ppb

Chart 2 - Ozone Concentrations 2003 - 2010



Ozone (ppb)

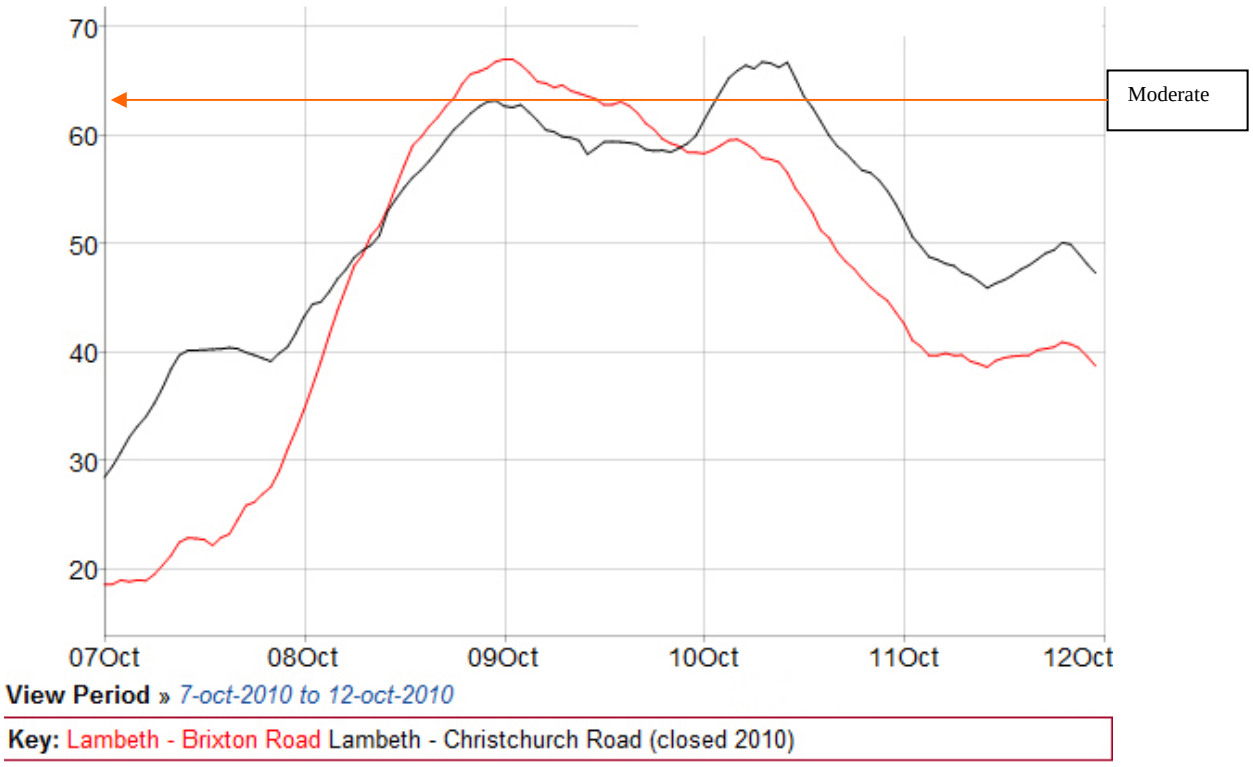
Particles

Several discreet episodes of PM_{10} pollution were recorded during 2009 and 2010 These episodes were not confined to the borough but were all reported widely across London and parts of south east England. These episodes have now been confirmed as being part of a regular pattern of adverse air quality that can affect London and the south east when there are settled weather conditions in combination with light south easterly winds from continental Europe. These conditions bring an influx of "secondary" PM_{10} generated from agriculture fertilizers from Western Europe, as well as power stations in Central and Eastern Europe.

It is possible to see in some detail the local impact of some of the episodes by interrogation of the Lambeth monitors. For example the chart below shows the how elevated PM_{10} particulate levels were recorded at both Lambeth roadside sites over the weekend of the 8th - 10th October 2010.

PM $_{10}$ Episode October 2010

Chart 2 – PM $_{10}$ Episode October 2010



PM_{10} Episode - 2010 Guy Fawkes and Diwali Celebrations

Locally elevated PM_{10} particulate was measured close to Guy Fawkes and Diwali events on the night of Friday 5th November but the wet and windy weather prevented build up of widespread pollution.

The greatest PM_{10} particulate levels were measured on the night of Saturday 6th November at most sites during calm weather conditions with elevated concentrations persisting into Sunday morning. A further PM_{10} particulate peak was seen on Sunday evening but increased winds caused rapid dispersion and only one London site measured 'moderate' PM_{10} into Monday morning.

The Lambeth 1(Christchurch Road) site measured daily mean PM_{10} particulate above the EU Limit Value concentration of 50 μgm^{-3} on the 6th November 2010. EU Directives permit 35 daily means above this value per year. Guy Fawkes therefore makes a significant contribution to annual PM_{10} limits.

Fireworks have been shown to produce "metal rich" PM_{10} particulates which is increasingly being viewed with concern over their potential effects on human health.

Chart 3 – Elevated PM_{10} levels associated with Guy Fawkes Celebrations Christchurch Road

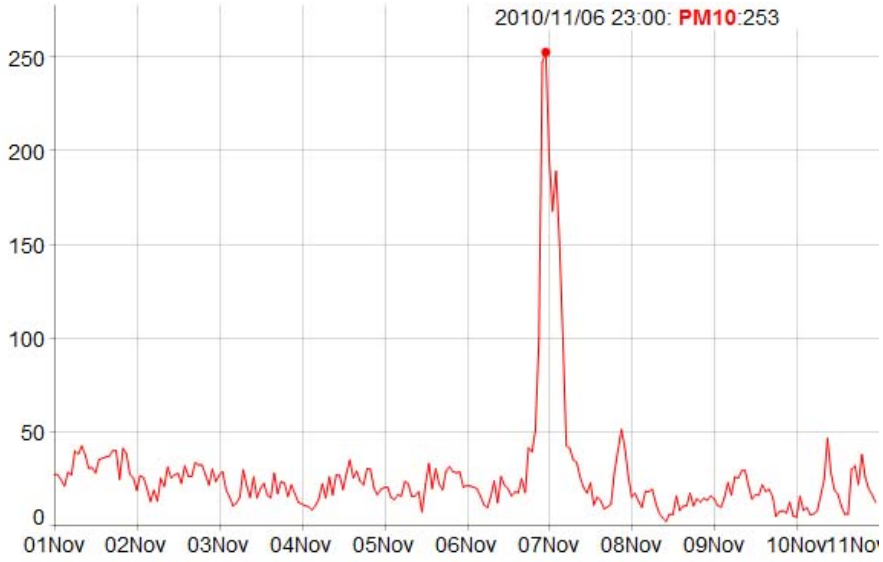
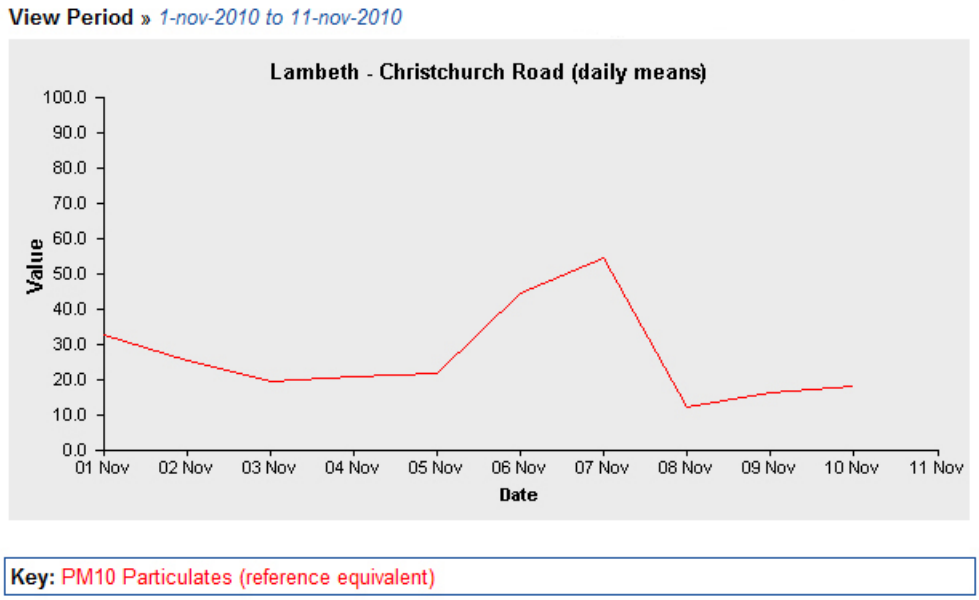


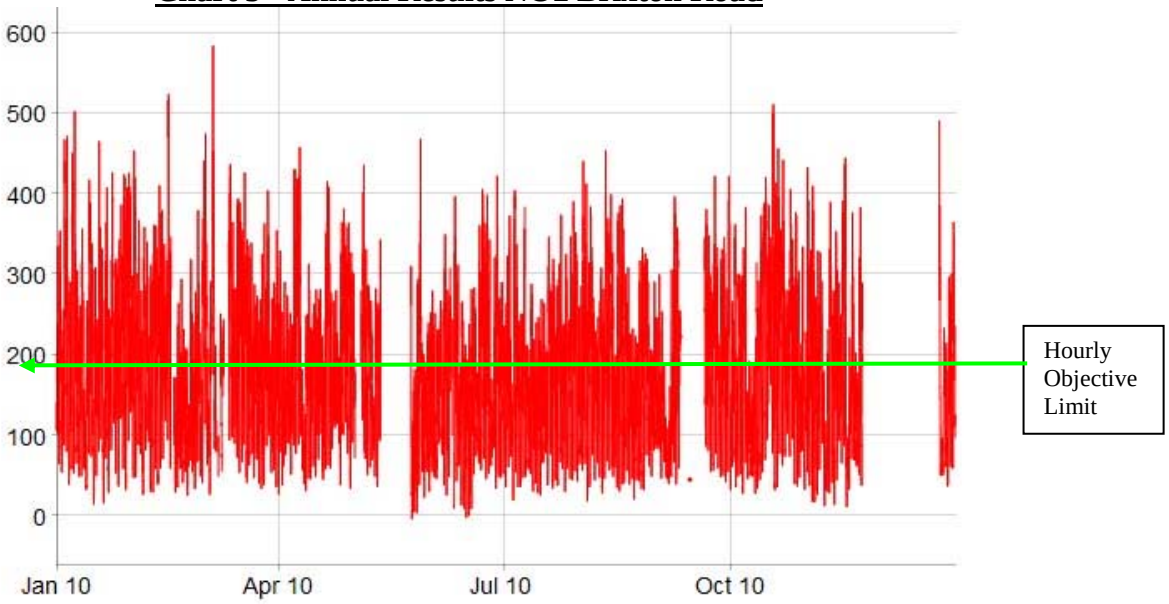
Chart 4 -PM 10 Particulates



Nitrogen Dioxide

As in previous years the Brixton Road kerbside site consistently recorded levels at or above the 200 µgm^{-3} hourly objective. The recorded levels were again the highest recorded at any of the automatic sites in London Air Quality Network. The following chart (Chart 5) shows the 2010 annual results compared to the objective.

Chart 5 - Annual Results NO2 Brixton Road

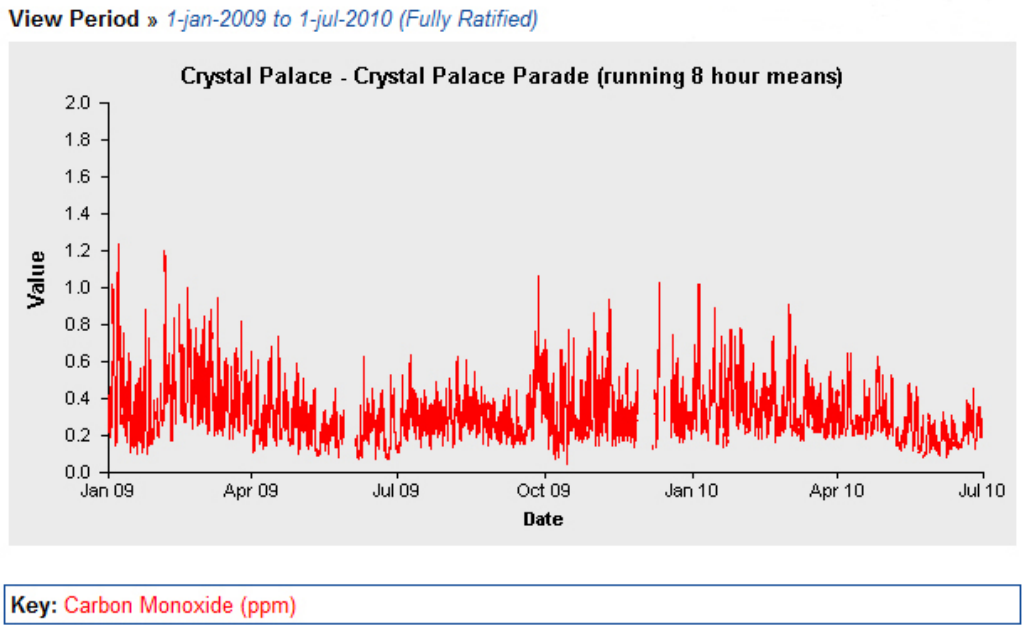


Hourly Means (µg/m3)

Carbon Monoxide

CO was actively monitored at the Crystal Palace roadside site until July 2010 when the site closed.

Chart 6 - Crystal Palace Roadside Site.



The above chart shows average levels for were consistently within the objective values, (8.6ppm).

Point Sources of Air Pollution - Authorised industrial activities -Part A and Part B processes

There are no Part A processes operating or planned in the Borough. Currently there are 25 authorised Part B processes which have been operating for some time. 52 permits to operate dry cleaning processes were granted as part of an EU initiative to control the release of Hydrocarbon solvents into the atmosphere. All dry cleaning establishments in the UK now have to control solvent losses to atmosphere and hold a permit to operate from their respective local authority.

New Local Developments

On 6 August 2007 Lambeth Council adopted a new Unitary Development Plan (UDP) 2007. The adopted UDP sets out the planning policies which govern the way that development within the borough is shaped, to encourage balanced and sustainable communities which make Lambeth an attractive place to live in, work in and visit.

The Lambeth Local Development Framework Core Strategy (adopted January 2011) partially supersedes the Lambeth Unitary Development Plan. (Annex 10 of the Core Strategy sets out which UDP policies are still in use.)

All new applicants promoting developments of a significant size must now undertake an air quality assessment, which should include a cumulative assessment where other developments are planned nearby. The assessment must be based on a framework that has been approved by the Council's Transport section.

A risk assessment and a report for dust control (including an inventory and timetable of dust generating activities and emission control methods) are also requested for applications for new developments in the borough. Baseline monitoring may also be required. Developers are requested to follow The London Best Practice Guidance for The Control of Dust and Emissions from Construction and Demolition'.

At the time of preparing this report a number of major projects are under consideration by the Lambeth Major Projects planning team these are:

- The Streatham Hub project, which involves the redevelopment of several sites in Streatham for a Tesco foodstore, a new leisure complex and 250 residential units.

- Two applications for tall buildings in Vauxhall

- Ongoing work at the Westminster Bridge Road sites

- The (temporary) Electric Storm scheme for the South Bank.

Where air quality assessments have been submitted to the Council, none are predicted to have a significant impact on air quality. The Council is not aware of any plans for any new processes listed in government guidance on air quality (Annex 2 TG 03) for undertakings which require detailed assessment.

Transport Local Implementation Plan 2005-2011

In July 2001 a London-wide framework came in the shape of the Mayor's Transport Strategy (MTS). This document set clear targets, priorities and proposals of which boroughs must adhere to. Following on from the MTS, the Greater London Authority Act 1999 (GLA Act) section 145 required each London borough council to prepare a Local Implementation Plan (LIP) containing its proposals for implementing the MTS and how it will meet these over the next 5 years.

The LIP process allows Lambeth to plan transport projects, related expenditure and thus financial requirements over a longer period; as opposed to a yearly basis as per the previous BSP. It is envisaged that this will help towards giving boroughs more financial certainty on which to base work programmes and enable boroughs to better demonstrate valuable contributions to improving London's transport infrastructure and service provision.

As a result of the LIP, the BSP (which is referred to in part 2 of this report - Progress with Air Quality Action Plan) has been replaced by a LIP Annual Progress Report. This new format focuses on reporting and monitoring rather than programme and policies – as these are already in existence in the LIP. Therefore the main objective of the LIP Annual Progress Report is to show how Lambeth are meeting the Mayor's targets and performance indicators. The Lambeth Transport Local Implementation Plan can be downloaded from the Council's website.

New Initiatives to Reduce Local Air Pollution in Lambeth

Lambeth Council has been introducing a range of policies and practices designed to encourage the use of sustainable forms of transport. The Council received an allocation of £5.2m of funding from Transport for London (TfL) in 2010 to make much-needed improvements to transport in Lambeth. This is the largest ever award to Lambeth and reflects the Council's continued success in delivering projects and initiatives that make a real difference to how people travel around Lambeth. £1.2m has been allocated to deliver a targeted and complementary range of improvements in town centres. Measures may include 20mph zones, tree planting, car clubs and de-cluttering

Other initiatives to assist with improving local air quality include:

(i) An "emissions based" policy on parking permits that charges the owners of less fuel efficient vehicles more, and owners of environmentally friendly vehicles less, for their parking permits. As an incentive to residents to buy and run less polluting vehicles, cars with emissions less than 100g/km do not incur a charge for a resident parking permit.

(ii) Support for Car Clubs - the Council has set aside a number of parking spaces for the exclusive use of Car Club members in Lambeth, to encourage more people to join the schemes.

(iii) Providing a fleet of 'pool' bikes for use by staff and councillors to cycle between meetings.

(iv) Promotion of sustainable transport, including weekly cycling events during the months of April and October, alongside other activities such as promotion of walking, car clubs and public transport.

(v) Travel Plans - Lambeth aims to meet the national target where every primary school in the borough will have a School Travel Plan by 2009. Currently 85% of schools have a School Travel Plan and interest is growing.

(vi) An electric “pool” car for use by staff while at work (in operation since 2006).

(vii) Air Quality Alerts London: “Airtext” is a free service which has been introduced London wide. It gives health advice and information on air quality to people who are potentially most vulnerable during times of poor air quality. Under the scheme, people can sign-up to receive local air pollution alerts by mobile phone text message, voicemail or email. People in need of the service can register for the alerts online at www.airtext.info or by calling the Airtext co-ordinators on 020 8760 5483. Users of the service can arrange to either receive a text, email or voice message during the evening before increased pollution levels are forecast, thus allowing them to make changes to their plans for the next day. If no message is received it means that air pollution levels are forecast to be low and the user should not be at risk. Alternatively, if participants prefer, messages can be sent out in the morning of the day when increased pollution levels are forecast.

(viii) Investigating greater use of town planning powers (section 106 agreements) - to seek to ensure that commercial applicants use the best technology readily available to control emissions to air e.g. requiring supermarket operators to use electric powered vehicles on site.

(ix) Lambeth Transport officers hold a quarterly public forum on transport issues to allow residents, community groups and other interested parties an opportunity to hear and discuss what Lambeth Council are doing in terms of transport issues.

(x) The provision of electric vehicle charging points. As of August 2010 3No. electric charging points have been provided as a joint venture between Lambeth Council and Transport for London. The charge points are located at Upper Ground and Concert Hall Approach in the South Bank, and Pulross Road in Brixton. The initiative is part of the council's and TfL's drive to improve air quality and cut pollution.

(xi) Herne Hill Junction Improvement. - Herne Hill Junction has caused long traffic tail-backs and bus delays for many years. Improvement works started in 2010.

Conclusions.

Despite continuing to make good progress in implementing our Air Quality Action Plan and adopting a wide range of innovate local initiatives, it has become clear local air quality is not significantly improving with regard to oxides of Nitrogen and particles (PM_{10}).

In 2010, as in previous years, the borough along with much of the southeast of England was also affected by fine particles, which have been found to be transported from continental Europe

Concentrations of oxides of nitrogen (NOx) and of nitrogen dioxide (NO2) - the harmful component of NOx have not been reducing London wide over the past 5-6 years. The main source of these pollutants is motor vehicles.

A recent Defra study [1] has demonstrated that the emissions of vehicles in day-to-day driving conditions in cities-particularly diesel cars - have not been decreasing in line with the increasingly stringent EU limits applied to new designs.

The study found that the standard EU emission test which new vehicles have to pass as part of their EU type approval is fundamentally flawed as it does not test all types of driving conditions. The Defra found that although vehicles have been passing their type approval tests they emit differently in real-world use.

Therefore despite the introduction of new generation "Euro IV and V" controls on new private cars and light goods vehicles, actual emissions of NOx from diesel cars has not improved significantly over the last 10-15 years. This problem has been exacerbated by UK road fuel pricing in recent years which has encouraged more car owners to switch to diesel in attempt to lower their fuel bills. There are now a large number of diesel cars in the UK fleet[2] - all of which are emitting more NOx than was expected.

The Defra study also shows that emissions of HGVs remained roughly static until the Euro IV standard. There is some evidence to suggest that HGV emissions are now beginning to fall.

Bus NOx emissions also have also failed to improve over the 10 years despite the rapid London bus fleet replacement programme. The drive to reduce sot emissions has to date relied on the use of using oxidation catalysts and other similar treatments). It has now been found that the treatment technology itself has also led increases in NO2 emission.

[1] led by Dr David Carslaw, supported by Sean Beevers, Emily Westmoreland and Martin Williams at King's, along with colleagues from AEA and the University of Leeds.

Despite the above set backs there is some hope at the Lambeth Brixton road site (where the highest concentrations in London are often recorded) that there may be an emerging trend of reduction in overall levels of NO2.

Although in absolute terms levels are still the highest recorded average over the London network it can be seen that there is some indication of an overall reducing trend from 2008 onwards. This may be as a result of the improvement in HGV fleet.

The following chart shows recorded annual NO2 concentrations from 2001 to 2010 for the Brixton Road Site:

Chart 7. - Lambeth Brixton Road NO2

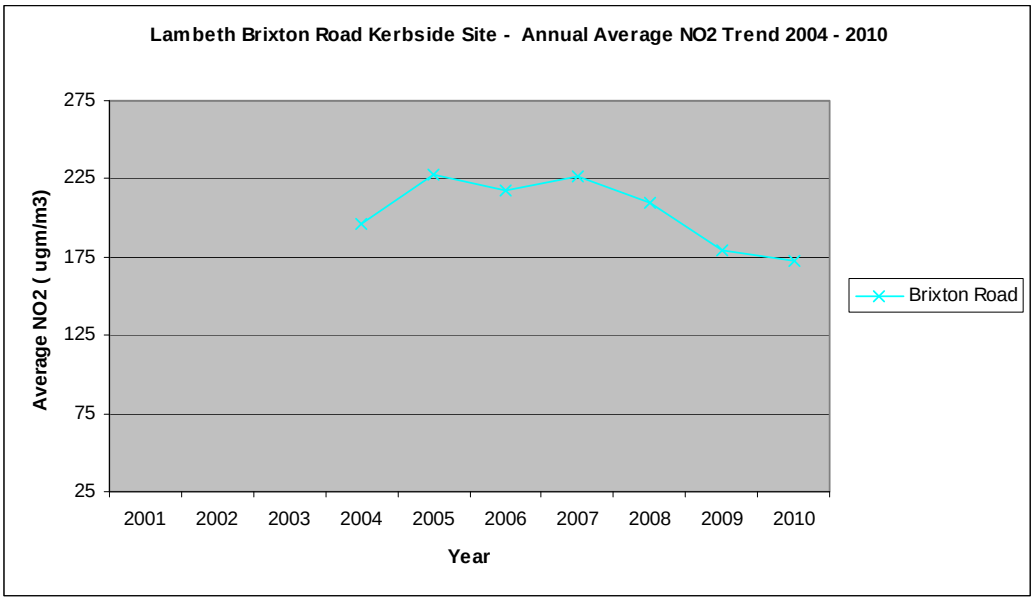
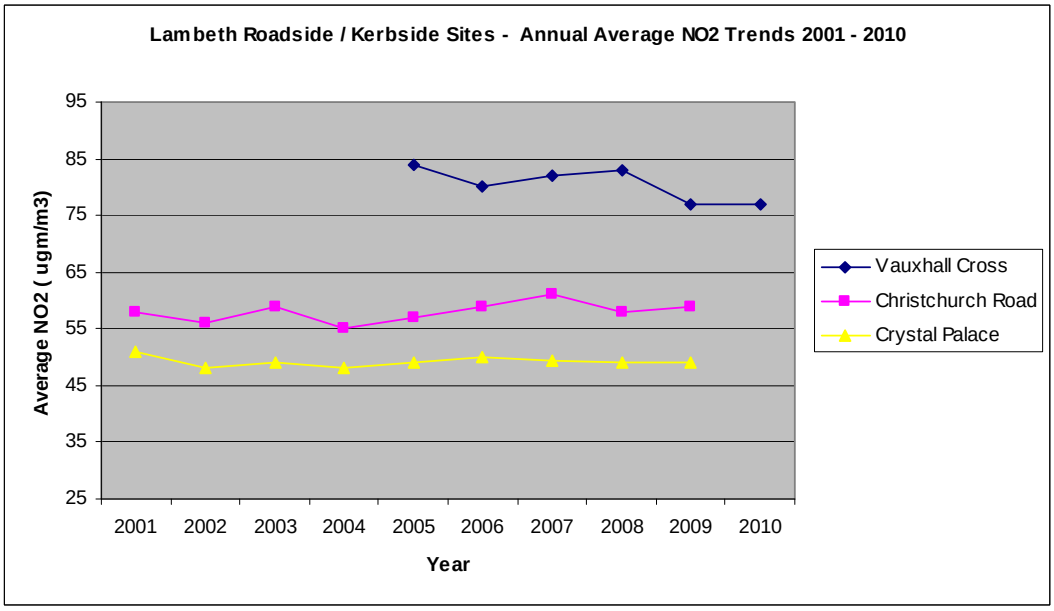
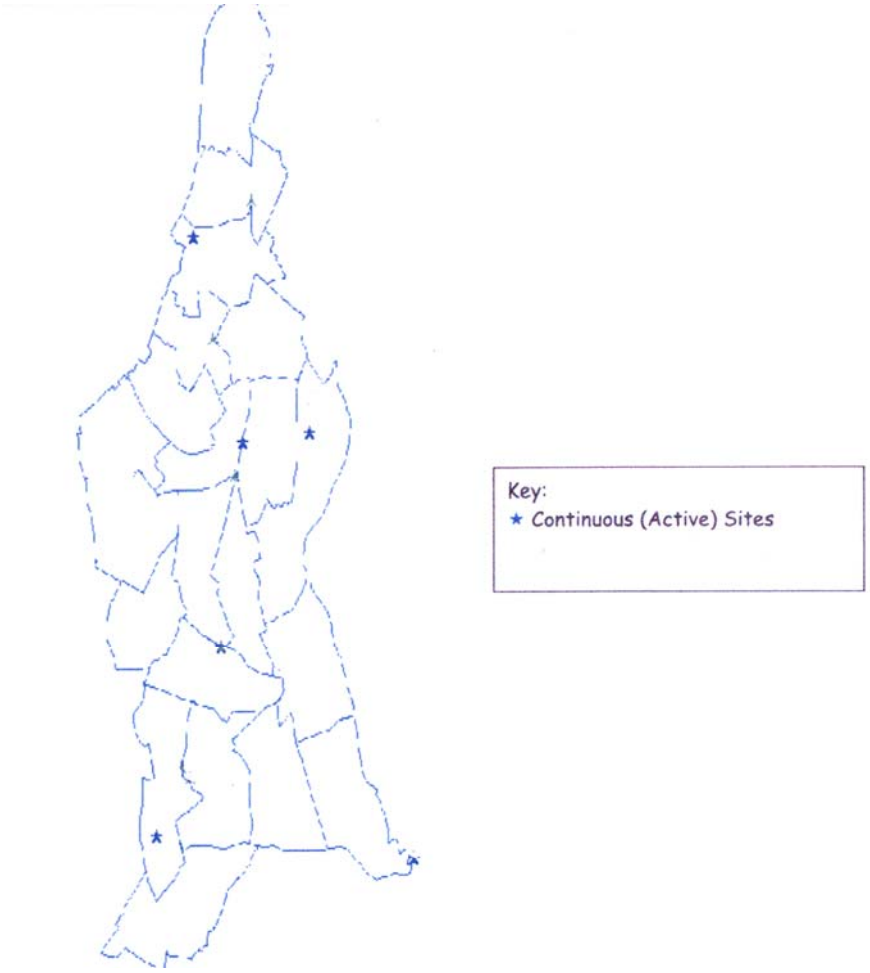


Chart 8 - Lambeth NO2 - All Sites



Appendix 1.

Monitoring Location map



Technical Appendix

Conversion Factors for Pollutants

EC Standards for Pollutants	World Health Organisation (WHO) Standards
20° C and 1013mb	**25° C and 1013mb**
Ozone 1 ppb = 2.00 μg m-3 1	Ppb = 1.96 μg m-3
Nitrogen dioxide 1 ppb = 1.91 μg m-3	1 ppb = 1.88 μg m-3
Carbon monoxide 1 ppm = 1.16 mg m-3	1 ppm = 1.15 mg m-3
Sulphur dioxide 1 ppb = 2.66 μg m-3	1 ppb = 2.62 μg m-3
1,3-butadiene 1 ppb = 2.25 μg m-3	1 ppb = 2.21 μg m-3

Annual Air Quality Report 2010
Part 2 –
Progress with the Air Quality Action Plan

Cost Effectiveness Rating C=cost ER=emissions Reduction	PROPOSAL	Key Actions	Implementation	Responsibility	Target Date	Progress as at December 2010
C: High	1. Proposal: Low Emission Zone	The Council will continue to work with the ALG, GLA and other London Boroughs in assessing the feasibility of a introducing a London – wide LEZ The Council will implement the scheme if the proposal is shown to be viable following the results of the feasibility study.	Participation in and support for the feasibility study Provide air quality and traffic data to support the feasibility study and implementation of the LEZ	Environment Culture & Community Safety, Transport and Streets	On going Jan 2008	LEZ introduced London Wide as from February 2008
C: High (Est. funding of £30m to 2004) ER: High (for individual vehicles)	2. Proposal: Promotion of cleaner vehicle technologies and alternative fuels	The Council will promote the environmental and financial benefits to both its staff and other organisations through its travel plans strategy The Council will lobby the Government and GLA to encourage the increased uptake of cleaner vehicles and fuels and to provide the necessary infrastructure to support such expansion Support the GLA and TfL in their efforts to achieve a programme of replacement to Euro2 + RPC and increasing the use of water-diesel emulsion by 2005	Introduce travel information into staff induction packs Response to future consultation documents Consultation and liaison groups	Cultural Change Board / Strategy & Corporate Services Environment Culture & Community Safety, Transport and Streets	March 2003 On going 2005	Staff Travel Plan in place. Staff re-surveyed in 2006 and 2008. No new initiatives from Government – "Powershift" government grants scrapped. The water – diesel option no longer being progressed on cost / benefit grounds.
C: High (but EST. funding and offset by low fuel costs)	3. Proposal: Replace Council's own vehicle fleet with green fuelled fleet	Provide properly equipped cars/ vehicles (using zero or very low emission fuels) for duties where it is deemed essential for a vehicle to be used When appropriate but before March 2007, only pay expenses to staff who use their own vehicle to work	Each business unit to provide sufficient pool vehicles to allow essential visits to be covered using low emissions transport. Negotiations with Senior Management Board and Unions will be needed before	Each Directorate Cultural Change Board / Strategy &	Cost Benefit Analysis by March 2003 March 2007	Fleet replacement on going with new LPG vehicles 75% of fleet now LPG powered. Not pursued.

Cost Effectiveness Rating C=cost ER=emissions Reduction	PROPOSAL	Key Actions	Implementation	Responsibility	Target Date	Progress as at December 2010
		duties if that vehicle is using zero or very low emission fuels	implementation can proceed	Corporate Services		
		Due to the above mentioned action, begin the phase out of essential user car allowances as the staff receiving them are provided with the use of low emission pool vehicles	Review of car allowance system	Strategy & Corporate Services	March 2007	Only the lowest nationally agreed rate paid – to encourage the purchase of Fuel efficient vehicles
		Continue with the programme of converting its own fleet to zero or low emission vehicles	Rate of implementation depends upon availability of vehicles and the renewal dates of current contracts	Each Directorate	March 2003	Fleet diesel vehicles now all meet Euro III standards
		Investigate the feasibility of replacing the Mayors car with a low emission vehicle.	Replaced Mayors Car (lease expires-2002) with LPG powered vehicle	Transport and Streets		Mayoral car now LPG powered
		Commitment to the minimum standard for the Council vehicle fleet and those of any contractors of Euro2 + RPC or Euro2 by 2005			Implementation started- Final completion date March 2005	Fleet diesel vehicles now all meet Euro III standards Project on going.
C: High (but EST. funding and offset by low fuel costs)	4. Proposal: Encourage greater availability of green fuels throughout the borough	The Council will approach local fuel providers to encourage them to stock fuels such as LPG Any new development including proposals for a filling station will be required though the planning system to stock LPG	Promotional leaflet to be produced and circulated to local fuel providers	Sustainable Development Policy Officer/ Pollution Team Environment Culture &	December 2003	Done. 3No. local fuel providers stocking LPG. LPG outlets published on the Council's website
		The Council will investigate the installation of electric charging points in its car parks to facilitate the lease of electric pool vehicles	UDP Policy – through the planning process	Community Safety	December 2003	Electric Pool Car funded by TfL and now operating from Blue Star House
			Investigate costs and practicalities of providing charging points for electric cars pool	Facilities Mangers	December 2003	3 Electric Vehicle Charging points now operations at kerbside locations in the borough
H: High (but Govt funded £0.5m bid to DfT for 2 yr joint testing programme) ER: Low (	5. Proposal: Support a London wide approach to Vehicle Emissions Testing	The Council will carry out vehicle emissions testing within its Air Quality Management Areas in order to enforce the vehicle emissions standards (with a target to carrying out 18 test days per year within the borough) The Council is supporting and participating with the ALG joint working party in developing a detailed	The Council will adopt new legal powers to enforce exhaust emissions standards	Pollution Team, Pollution Team	Adopt new powers May 2002 Commence Test programme	Done participated in the London wide emissions testing

Cost Effectiveness Rating C=cost ER=emissions Reduction	PROPOSAL	Key Actions	Implementation	Responsibility	Target Date	Progress as at December 2010
although may have a significant effect on requiring improvements in individual vehicles)		proposal and costings for a coordinated London-wide programme of testing The Council will bid for the full Government (DTLR) funding of a 2 year programme of testing		ALG working party /Pollution Team	April 2003 Funding to support year London-wide programme secured October 2002	initiative 2003 -2004 Awaiting further Government future years
	6. Proposal: Implementation of traffic reduction measures	The Council endorse the concept of traffic reduction in Lambeth through policies in the UDP	The UDP will incorporates the mechanisms for achieving targets set within the framework of the Mayors Transport Strategy and guidance from TfL The Statutory Road Traffic Reduction Report will be included as part of the LIP (formerly Borough Spending Plan)	Planning Transport and Streets	December 2003 LIP for 2006/2007	Traffic Reduction Strategy embraced in Updated UDP (2007) and will be carried forward into the Council's future LIP bids Done
C: High ER: Low Area wide but may have high impact in localised areas such as car free developments	7. Proposal: Traffic reduction through land use planning	The Council will seek to reduce the impact of transport on the environment by coordinating land-use and transport so as to reduce the need to travel, and by encouraging more use of public transport, walking cycling and less car use.	Developing a programme of Home Zones and looking at the role of car free or car capped housing combined with on-street parking controls as a way of discouraging car dependency, reducing vehicle volumes and managing on-street parking stress associated with residential development Strategic proposals for improving the level and continuity of cycling provision along the major arteries in the borough, with some schemes designed and ready for construction	Planning	On going – Currently consulting on proposals On going	The 2007 UDP Policies 8 – 14 establishes the policy framework to deliver this objective Strategic proposals contained in the 2007 LIP for promotion and marketing of cycling
C; High for implementation but offset by revenue stream C: Low for individual vehicles ER: Low/med	8. Proposal: recognises Congestion Charging as a method of direct traffic restraint	The Council is working with TfL and others to study in more detail the effects of congestion charging in North Lambeth and along the principal routes into the north of the Borough	Infrastructure works now in place throughout the central London charge area boundary to allow monitoring and enforcement of the scheme	GLA	On going	On going – DfT Traffic Statistics show decrease in car use across Lambeth 2000 – 2010.
	9. Proposal: Lambeth and	The Council is proposing a number of local actions through its UDP and LIP in support of the Mayors	Congestion Charging and the infrastructure to support it implemented	GLA / TfL	Implemented Feb 2003	Done

Cost Effectiveness Rating C=cost ER=emissions Reduction	PROPOSAL	Key Actions	Implementation	Responsibility	Target Date	Progress as at December 2010
	neighbouring boroughs will work with the GLA and TfL to maximise the within the congestion charge area of North Lambeth	congestion charging scheme. These include A combination of area wide traffic management and street improvements to encourage through traffic to keep to the principal route network Review of Controlled Parking Zones in the north of the borough Improvements for pedestrians and cyclists combined with safety measures on the Wandsworth Road Implement with TfL the Vauxhall "pod" Public Transport interchange and associated bus, cycle and pedestrian measures "Gating" traffic on radial routes to extend the traffic reduction benefits back into Lambeth Working through the Cross River Partnership and with TfL to deliver Cross River Transit/The London Tram to provide quick and clean access into and across the proposed charge area..	by the London Mayor The Council is seeking funding not only to implement these local supporting measures but also encouraging the Mayor to invest a proportion of congestion charging revenue within the street environment around the boundary in Lambeth for a number of years.	Planning	On going	On going Vauxhall Interchange now operational
C; Medium ER: Low (depending on uptake)	10. Proposal: Lambeth will promote Workplace and School Travel Plans	Introduce travel information into induction packs Audit and improvement to walking routes between council offices Audit and Improvements to cycle routes between council offices Investigate travel options for staff needing to work late Provide properly equipped cars/vehicles/ pool cycles (using zero or very low emission fuels) for duties where it is deemed essential for a vehicle to be used	Lambeth has a strategy for promoting travel plans in its own offices and on other organisations within the borough We are working to: Ensure Travel Plans are produced and adhered to by developers and agreed as part of development control process Promote Travel Plans on a voluntary basis to existing employers through an awareness campaign involving publicity literature, presentations at business forums and employers groups. The promotion of Voluntary Travel Plans requires extensive time resource and funding to support awareness raising initiatives. The Travel Plan development is part funded by contributions from DfT	Cultural Change Board/ Strategy & Corporate Services Transport and Streets Transport and Streets Cultural Change Board / Strategy & Corporate Services	March 2003 March 2004 On going completion by March 2007 March 2003	Development of Green workplace travel plan incorporated into 2004 – 2007 Service Plan objectives. Council internal Travel plan produced. Copy published on the Council's website Done – publicity on going to encourage Lambeth Businesses to prepare voluntary travel plans Funding via LIP Travel Awareness Allocation.

Cost Effectiveness Rating C=cost ER=emissions Reduction	PROPOSAL	Key Actions	Implementation	Responsibility	Target Date	Progress as at December 2010
			and TfL.			
		Review essential and casual car user allowance system	Individual initiatives are to be funded from facilities budgets unless other funding sources can be found. Lambeth council will provide a specified travel plan budget to cover the initiatives listed	Strategy & Corporate Services Corporate Finance/ Travel Plans co-ordinator	March 2003	Done - only the lowest national rate now paid for essential car users (up 999cc)
		Provide cycle parking facilities, shower and changing facilities at all sites where over 10 employees are based		Each Directorate Facilities Manager	December 2002 March 2004	Done – facilities now provided at all significant offices / centres.
		Introduction of car share data base for setting up car clubs		Lambeth IT	March 2007	Done
		Review cycle allowance/ cycle loan scheme		Cycle Officer	On going	Scheme in place
		Investigate the provision of an intranet based journey planning service		Transport and Streets /Lambeth IT	March 2007	Done
		Only pay expenses to staff who use their own vehicle for work duties if that vehicle is using zero or very low emission fuels		Cultural Change Board		Not taken forward
		Each year the Council will support international , national , and local promotional events to support sustainable travel and promote these to council staff e.g. Don't Choke Lambeth, Walk to School etc.		Cultural Change Board		Support given to 2010 European Car Free Day - Clapham Old Town was closed to motor traffic and turfed over with real grass.
C: Low/Med For Individual schemes offset by income from parking revenue ER: Low	11. The Council will manage the supply of parking spaces as a means of restricting traffic and promoting sustainable choices	The Council seeks to prioritise the use of existing spaces for the disabled, local residents and essential business use. Through the careful and strategic use of street parking regulations such as: Limiting parking supply at new developments Prioritising road- space for local communities e.g. Home Zones Special arrangements for deliveries by large vehicles	The London Mayor's Strategy sets out issues for the local authorities to incorporate within a fair and effective parking management system. The Council is now developing a strategy for parking in Lambeth that reflects the competing interests of road users in the Borough , as well as " promote sustainable transport choices and reduce reliance on the car for travel to work and	Regeneration and Planning/Highways/TfL	Parking Strategy by March 2003	Parking & Enforcement Plan published. A copy is available on the Council's website.

Cost Effectiveness Rating C=cost ER=emissions Reduction	PROPOSAL	Key Actions	Implementation	Responsibility	Target Date	Progress as at December 2010
		Special parking arrangements at transport interchanges(e.g. tube and rail)	other journeys" The Council seeks to prioritise the use of existing parking space for the disabled, local residents and essential businesses			
C: Low ER: Low	12 Proposal: The Council will develop its Parking Enforcement Plan to discourage commuter traffic and improve bus journey times/reliability	The Council is currently developing a parking Enforcement Plan that aims to introduce consistent enforcement strategies across Lambeth The introduction of roadside camera (CCTV) enforcement on some of the busiest bus routes As a response to congestion charging, Lambeth will be reviewing the operation of Controlled Parking Zones (CPZ's) in the north of the borough and will be looking at the need for them at unofficial park-and ride- locations around certain rail stations	Lambeth is currently consulting on its Parking Strategy. It will consider enforcement strategies for bus lanes (to improve bus journey times and reliability) and the use of CCTV to improve our ability to enforce parking restrictions across the Borough	Regeneration and Planning/Highways /TfL	Parking Strategy by March 2003 CCTV enforcement by December 2003 In line with congestion charging timetable	Done - Lambeth Parking Plan now adopted. Implemented
C: not known ER: low	13. Proposal: The Council will work with TfL to promote and implement a package of enhanced, intensified and enforced bus priority measures in the most heavily used bus routes	Expansion of the Bus Priority Network throughout Lambeth CCTV roadside camera enforcement on busiest routes Provision of more road space for buses and longer bus stop clearways (subject to impact on congestion) Extended bus lane operating hours Bus Plus routes will be introduced along some of the most heavily used bus route in Lambeth, which give enhanced bus priority	These measures are being delivered through the London Bus Initiative (a partnership between the London Boroughs and TfL) The Lambeth bus network must be planned and implemented to meet the changing demands and needs of its customers, and to integrate effectively with other modes. TfL will undertake research into bus travel patterns to ensure that it is customer-focussed, reflecting passenger needs and priorities, and responding to changes in local demand or operating conditions. Particular attention will be paid to developing routes that fit the real needs of all bus users.	TfL/Lambeth (London Bus Initiative)	Initial Target April 2003 with future funding on going programme of improvements	The Council continues to work with TfL. CCTV cameras / enforcement in place On going. The effective and appropriate enforcement of bus priority measures has been incorporated into Lambeth's parking enforcement plan.
C: Medium / High	14. Proposal: All bus routes	As above	As above	As above		CCTV cameras/ bus lane enforcement now in place

Cost Effectiveness Rating C=cost ER=emissions Reduction	PROPOSAL	Key Actions	Implementation	Responsibility	Target Date	Progress as at December 2010
	will be effectively enforced					
C: High ER: Low	15. Proposal: Lambeth is supporting and developing the Cross River Transit/London Tram scheme	Working with TfL/ GLA to develop the new Tram link from Camden to Brixton The Council will look at the possibility of extending the link from Brixton to Streatham and Norwood and possible extensions to the Croydon Tram link	The Council will through its UDP process, safeguard the corridors for this scheme in terms of applications for other developments and streetscape. Parking proposals etc. along these routes The Council is proposing to undertake the study on service feasibility from Croydon to Streatham Authorisation has now been given to secure the Transport and works order to allow construction	Council / TfL LB Lambeth/ LB Croydon /TfL		Cancelled to due lack of funding Study confirmed that extensions to Streatham and Crystal Palace feasible.
C: High ER: Low	16. Proposal: Lambeth will work with the GLA and TfL in their programme of investment and expansion of the underground tube network as a means of enhancing more sustainable transport in London	The Council welcomes and supports the extension of the East London Line via Tulse Hill and Streatham to Wimbledon The Council will work with TfL to investigate the long term possibility of an additional extension of the East London Line to fit in with the Brixton hub proposals and the southwards extension of the Victoria Line to provide a new interchange at Herne Hill Station	Powers for the southern extension of the line are currently being sought by the GLA. If granted services could be operating on the line by 2006 Response to future consultation	Council/ GLA/TfL Council /TfL	2006 At discussion stage	The Council continues to maintain that access to the East London Line Extension (ELLX) is viable either at Brixton or Loughborough. The Council is concerned that the inner 'South London Line' that runs between Victoria and London Bridge is set to be axed in 2012.
C: High ER: Low	17. Proposal: Lambeth will pursue possibilities to improve rail services provision in the borough in order	The Council is developing a number of proposals to promote improved rail service in Lambeth The Brixton Hub proposals Examining the feasibility of providing South London Line High Level platforms at Brixton Station Linking to this are proposals by the Mayor to develop	An Urban Design Framework for East Brixton was published in December 2001 providing a basis for all future development in the Hub area. Development is likely to take an incremental form due to the variety of transport proposals at this point	Transport and Planning Council	On going	On going

Cost Effectiveness Rating C=cost ER=emissions Reduction	PROPOSAL	Key Actions	Implementation	Responsibility	Target Date	Progress as at December 2010
	to promote rail travel as a viable alternative to the car	the South London Line between Victoria and London Bridge to become part of a possible longer term "orbirail" providing orbital opportunities to bypass congested central London lines and stations (such as Victoria and Waterloo) In terms of frequency of service the Council, working with SELTRANS and the GLA is supporting the investigation of the development of a South London Metro. The aim is to create a high frequency, high capacity, "turn up and go" metro service	Funding is currently being sought from the Strategic Rail Authority for these improvements Response to future consultation Development is on going in conjunction with the South West trains. All stations are being brought to the minimum standards set by the SRA additional funding is being sought to extend platforms to cope with the increased frequency and capacity.	Council / TfL Council / TfL / GLA	At discussion stage On going	On going On going
	18. Proposal : The Council supports river transport on the Thames as an alternative mode of transport for commuters and tourists	The Council will investigate the options for improved interchange facilities that both encourage greater passenger use, and transfer of freight from road to river to relieve road congestion	The Council will through its UDP policies protect existing piers and where possible investigate interchange facilities to encourage greater passenger use	Regeneration and Planning	On going	2005 LIP confirmed commitment in 2007 Replacement UDP.
C: Low ER: Low	19. Proposal: Lambeth will continue to develop its Walking Strategy in order to improve the walking environment	Lambeth has set up a transport taskforce (Feet First) to promote walking and re-balance the priorities for action away form the car and towards pedestrians The Taskforce will identify the fine detail of those factors presently discouraging walking, such as poor lighting levels, footway conditions, poor pedestrian safety and pedestrian signing, and propose ways in which these issues can be rectified	The LIP has provision for a significant programme of footway maintenance, and a programme of street clutter removal along key walking routes Audit and Improvements to walking routes between council offices	Feet First / Taskforce Transport and Streets	On going date for completion 2007 On going due for completion March 2005	On going Work done to contribute to Mayor's 2004 Walking Strategy including implementation of TfL walking plan.
C: Medium (£20k) funding from TfL) ER: Low	20. Proposal: Lambeth will work with TfL to encourage walking as a	The Council is developing a walking map of Lambeth Lambeth is commissioning a study to develop a North South-South Walking route in Lambeth	The map is being drawn with the help of the Walk First group in Lambeth - £20k funding from TfL to develop and implement the scheme	Transport and Streets	On going	Work done to contribute TfL Walking Plan

Cost Effectiveness Rating C=cost ER=emissions Reduction	PROPOSAL	Key Actions	Implementation	Responsibility	Target Date	Progress as at December 2010
	viable alternative to other forms of transport	TfL are developing an internet based journey planner that will include waking routes in addition to pubic transport options	Lambeth are working with TfL to make this internet service available to Lambeth staff and residents	TfL / Transport and Streets	On going	On going
	21. Proposal: The Council will continue to develop its Walking Strategy to encourage children to walk to school as an alternative mode of transport	Identify safe routes to school Improvements to physical road safety Road Safety Education Promoting national schemes such as Walk to School Week	School Travel Plans – promotion and awareness raising / survey/ questionnaire Surveyed by school/Highways- identified funding Kerb craft- a road safety initiative for schools	Transport and Streets Transport and Streets TfL/ Transport and Streets	On going due for completion 2007 On going due for completion March 2005	Lambeth has adopted its own School Travel Policies New initiatives identified in the current LIP On going
C: high ER: Low	22. Proposal: The Council will continue to carry out and support measures to promote and make cycling safer and more convenient	The Council supports the continued development of the London Cycle Network throughout the borough Provide continuous and safe cycle networks and other facilities such as cycle parking – the aim is to reduce road anger and improve driver attitude so that all roads can be used by cyclists, but also to provide separate cycle lanes where traffic speeds are high The provision of separate cycle paths will be done by taking road space from motor vehicles rather than pedestrians and shared use of footpaths will only be considered where pedestrian safety can be maintained Improving facilities at public transport interchanges to ensure secure cycle parking at transport hubs and the council will lobby for spaces for bikes to be provided on trains Major road-works and junction improvements will take into account the needs of the cyclist, adapting infrastructure for improved cycle provision The introduction of formal cycle audit and review procedures for all schemes as part of a Cycling Strategy to be incorporated within the Local	Audit and Improvements to cycle routes Cycle audit and identification of "level of service" on the Transport of London road network in Lambeth to identify strategic proposals for improving the level and continuity of cycling provision along the major arteries in Lambeth with some schemes designed and ready for construction Lambeth's commitment to promoting cycling is reflected in it s UDP, its policy to "Think Bike" and the high priority given to cycling within the Lambeth Road Use Hierarchy. However, this will not be carried out to the detriment of other high volume public transport modes such as the bus.	Transport and Streets Cultural Change Board / Strategy & Corporate Services	Ongoing Awaiting finance from TfL On going On going	On going – cycle map of the borough produced Finance awarded - on going On going On going

Cost Effectiveness Rating C=cost ER=emissions Reduction	PROPOSAL	Key Actions	Implementation	Responsibility	Target Date	Progress as at December 2010
		Implementation Plan				
C: High ER: Low	23. Proposal: The Council will require developers to include cycle facilities within new developments and where appropriate encourage them to provide shower and changing facilities	Cycling will be considered in all aspects of transport planning in accordance with the council's policy of developing a truly integrated transport system. Provision of secure and assessable cycle storage at new developments Provision of changing and shower facilities	The Council will use its planning process to require safe, secure and accessible cycle parking provision and facilities in all new public and commercial developments	Development Control	On going	On going
	24. Proposal: Lambeth will support the work of the Mayor to investigate methods for reducing emissions from their diesel powered stock wherever possible	The council is supporting the programme of diesel replacement of rail freight stock through its liaison with SELTRANS	Future consultation	Council / GLA	On going	On going
C: High (cost of monitoring stations, monitoring programme and review & assessment	25. Proposal: Lambeth welcomes the commitment in the Mayor's Strategy to take action to reduce particulate emissions	The Council will continue to work in partnership with other central London Boroughs (Central London Cluster Group) to support the work of the GLA to reduce particulate emissions throughout London The Council will produce a 4th Stage Review and Assessment of Air Quality in Lambeth which will specifically model existing and future levels of particulate pollution in the borough	Future consultation and feedback The Council will continue its programme of monitoring, reviewing and assessing the levels and future trends of ambient particulate pollution throughout the borough through a network of continuous air quality monitoring stations provided by central Government funding (SCA bids) and air pollution modelling	Pollution Team Environment Culture & Community Safety / Central London Air Quality Cluster Group Pollution Team (E&C)	March 2003 March 2003	Done Done
C: High R: Low NO2	26. Proposal: Lambeth welcomes and	Air Transport movement limit cap to Heathrow at 480,000 air transport movements (atms) Lambeth will give full consideration to the environmental,	Future consultation	Pollution Team Environment Culture &	On going	

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	supports the environmental controls proposed for London wide airport development	economic and transport implications of any future proposals for further development of Heathrow.	Representation through SERAS (South East Regional Airports Study) £5k funding to support legal challenge for expansion for night flights	Community Safety / GLA	On going On going	
C: High (for enforcement / admin costs as well as remedial works by industry ER: low/ med (locally)	27. Proposal: The Council will continue to regulate pollution form industrial processes	Part B authorisation / Statutory Nuisance Air Quality Review and Assessment	Regulate industrial processes in line with DEFRA guidance and to ensure Best Available Techniques are used to reduce emissions such that these emissions do not lead to exceedences of the NAQS objectives Investigate complaints about Nuisance Monitor air quality and undertake mandatory air quality strategy commitments	Pollution Team Environment Culture & Community Safety	On going On going On going	All Part B authorised premises now transferred to national permit to operate regime. As a result, installations will have to meet stricter conditions. All current installations have now been issued with permits On going
C: High/ Med ER: low/ Med(locally)	28. Proposal: Reduce emissions of Volatile Organic Compounds from industrial processes	Part B authorisation of Dry Cleaners, small scale vehicle resprayers , degreasing operations	The Council will fulfil its obligations under EU Directive on volatile organic compounds, which will bring new processes within the remit of Part 1 of the EPA 1990 as prescribed industrial processes requiring authorisation (including certain vehicle resprayers, degreasing operations and dry cleaners)	Pollution Team Environment Culture & Community Safety	On going	Done – 52 dry cleaning businesses in the borough have been granted a permit to operate
C: Low /Med ER : Med/ High (locally)	29 Proposal: Promote the best practices and procedures to ensure pollution emissions and dust generation is kept to a minimum during construction activities	Council to promote the uptake of the BRE Code of Construction Best Practice when finalised Ensure Air Quality is taken into account along with other material considerations in making decisions on development proposals	Make it a standard recommendation on planning consents that developers adopt the BRE practices and procedures to ensure dust generation is kept to a minimum Housing to investigate feasibility of requiring compliance with BRE Code of Best Practice for Housing Contracts Produce supplementary planning guidance on air quality	Regeneration and Planning and / Pollution Team Environment Culture & Community Safety Housing and Planning (Regeneration) Pollution Team Environment Culture & CS	April 2003 April 2003 December 2004	On going Done No further action taken.
C: Medium	30. Proposal:	Statutory nuisance action to be taken in cases where	Service of Statutory Notices under the	Pollution Team	On going	On going

Cost Effectiveness Rating C=cost ER=emissions Reduction	PROPOSAL	Key Actions	Implementation	Responsibility	Target Date	Progress as at December 2010
(enforcement costs) ER: high individual /. locally)	The Council will use its statutory nuisance powers to control smoke nuisance from bonfires	such action is considered necessary and appropriate Council to increase priority of bonfires complaints by improving response time. Target: same day response	Environmental Protection Act 1990 where Statutory nuisance has been substantiated Draft corporate enforcement policy directing new same day response time (within office hours)	Environment Culture & Community Safety Pollution Team Environment Culture & Community Safety	 April 2003	 Done
C: High E: Low	31. Proposal: The council will promote composting and recycling of waste to encourage greener methods of disposal other than bonfires	To recycle or compost 15% of household waste To ensure 100% of the population of Lambeth is either serviced by a kerbside collection of recyclables or lives within a kilometre of a recycling centre To have the green box service available to all street domestic properties To have 20% of households with gardens participate in home composting To Achieve 100% composting of all horticultural arisings in Lambeth's Parks and Estates	The Council's Waste Recycling Plan – set out the Council's waste recycling objectives and how they will be achieved. The policy is one of reductions, Reuse , Recycling and composting The aim is to increase the number of residents in the borough who participate in recycling services by increasing their level of involvement and understanding	Street Care & Cleaning Environment Culture & Community Safety - Street Care & Cleaning with Planning (Parks) / Housing (Ground Maintenance)	On going April 2004	New contractor Target Achieved On going
C: High ER: High on an area wide basis over a 5-10 yr period	32. Proposal: The Council will seek to use the cleanest conventional energy sources in its own buildings	The Council continue an ongoing programme of oil to gas conversion	In order to reduce the amount of fuel burned and therefore emissions created by domestic and commercial heating systems throughout Lambeth, the UDP will incorporate the principles of sustainable design and construction having regard to the Mayor's Energy Strategy for London	Housing /Regeneration	Ongoing – completion 2005	On going
C: High ER: Medium	33. Proposal: The Council will introduce policies in its revised UDP to encourage high standards of energy	The Council will: Require developers to consider sustainable design and resource efficient principles in new buildings in line with its Sustainable Construction Policy (2001) Encourage the use of natural ventilation and lighting and effective energy conservation and thermal	Planning policies will require the layout of new developments to promote energy conservation and hence reduce the emissions of greenhouse gasses. They will also encourage building designs and materials that have the least environmental impact as well as regulating and encouraging renewable	Planning	On going April 2004	 In 2007 Replacement UDP

Cost Effectiveness Rating C=cost ER=emissions Reduction	PROPOSAL	Key Actions	Implementation	Responsibility	Target Date	Progress as at December 2010
	efficiency and the use of renewable energy in developments through sustainable design principles	insulation to conserve energy and reduce heat loss and air pollution Encourage new developments to meet the highest standards of sustainable design and construction, including the re-use of existing building stock where practicable Consider and require efficient local energy generating schemes where practicable Consider and require efficient local energy generating schemes where practicable Assess combined heat and power schemes (CHP) proposals using Customs and Excise "Good quality CHP" index and ensuring developers demonstrate that opportunities for utilising heat have been fully assessed	energy. Review opportunities to integrate renewable energy sources in all office/school refurbishments	Design and Technology Services / Education	On going On going On going	