Southwark Council

2014 Air Quality Progress Report for London Borough of Southwark

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

Date May 2015

Local Authority Officer	Bill Legassick
Department	Environment & Leisure Services
Address	Community Safety & Enforcement Environmental Protection Team 3rd Floor, Hub 2, PO BOX 64529, London, SE1P 5LX
Telephone	020 – 7525 - 4253
e-mail	Bill.Legassick@southwark.go.uk
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Executive Summary

This report fulfils the Council statutory duty under part IV of the Environment Act 1995 and guidance to have a continuous mechanism for ensuring that action and measures pertaining to the Local Air Quality Management regime are managed, resourced, reviewed, assessed and reported. This report is the second report to show the progress against the air quality improvement measures in the Authority's "Air Quality Strategy 2012 – 2017 & Air Quality Action Plan 2012 – 2017".

This report demonstrates The Council's commitment in tackling poor air quality in the borough and raising the awareness of air quality issues. It can be used to keep residents and stakeholders informed of the progress made in reducing or controlling air pollution, assist developers and the planning department in identifying areas of concern with regards to air pollution and in making decision on proposed land use or development likely to impact on air quality.

The second chapter has assessed the data from the continuous pollution monitoring in the borough to check whether the Authority is required to change or revoke the borough's Air Quality Management Area.

The third chapter has reviewed the built environment sources within its borough and concluded that since the last Updating and Screening Assessment that there have been no significant changes in the borough.

The following sections of the report reviews air quality policies in the regional and local planning policies, transport plans and Climate Change strategies.

Chapter 9 of this report assesses the progress of the Local Authority in respect of the measures within the Air Quality Improvement Plan, with the conclusions in the last section (Chapter 10).

The L.B. Southwark concludes from the monitoring data that the levels of Nitrogen Dioxide and Particles (PM_{10}) will not be met within the timescales as defined in the Air Quality (England) Regulations 2000 (as amended).

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1 Introduction

1.1 Description of Local Authority Area

The London Borough of Southwark is situated to the south of the Thames in the southeast quadrant of the Greater London area extending from Blackfriars in the west to Rotherhithe in the east to Crystal Palace in the south. The north part of the borough is mainly a commercial area, with a mainly residential area in the central area and a leafy suburban area to the south. The borough experiences poor air quality, similar to in other London boroughs. The Authority has part of the London Congestion Zone, the South Circular Road and radial roads A2, A200, A202 and A215 within its area. The major source of air pollution is traffic; with a significant Part A process on the eastern boundary in the L.B. Lewisham (SELCHP).

1.2 Purpose of Progress Report

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

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

They are not intended to be as detailed as Updating and Screening Assessment Reports, however, if the Progress Report identifies the risk of exceedence of an Air Quality Objective, the Local Authority (LA) should undertake a Detailed Assessment immediately and not wait until the next round of Review and Assessment.

1.3 Air Quality Objectives

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

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

Pollutant	Air Quality Objective		Date to be achieved by
	Concentration	Measured as	
Benzene	16.25 $\mu g.m^{-3}$	Running annual mean	31.12.2003
	5.00 $\mu g.m^{-3}$	Annual mean	31.12.2010
1,3-Butadiene	2.25 $\mu g.m^{-3}$	Running annual mean	31.12.2003
Carbon monoxide	10 $mg.m^{-3}$	Running 8-hour mean	31.12.2003
Lead	0.50 $\mu g.m^{-3}$	Annual mean	31.12.2004
	0.25 $\mu g.m^{-3}$	Annual mean	31.12.2008
Nitrogen dioxide	200 $\mu g.m^{-3}$ not to be exceeded more than 18 times a year	1-hour mean	31.12.2005
	40 $\mu g.m^{-3}$	Annual mean	31.12.2005
Particulate Matter (PM_{10}) (gravimetric)	50 $\mu g.m^{-3}$, not to be exceeded more than 35 times a year	24-hour mean	31.12.2004
	40 $\mu g.m^{-3}$	Annual mean	31.12.2004
Sulphur dioxide	350 $\mu g.m^{-3}$, not to be exceeded more than 24 times a year	1-hour mean	31.12.2004
	125 $\mu g.m^{-3}$, not to be exceeded more than 3 times a year	24-hour mean	31.12.2004
	266 $\mu g.m^{-3}$, not to be exceeded more than 35 times a year	15-minute mean	31.12.2005

1.4 Summary of Previous Review and Assessments

1.4.1 First Round of Review and Assessment 2000

As part of the Local Authority Air Quality Management Process, the borough has a duty to review and assess the local air quality against the objectives of the Air Quality Regulations 2000 (as amended) as part of a rolling three – year cycle. The air quality objectives to be assessed are for the following seven pollutants: - Carbon Monoxide, Benzene, 1,3-Butadiene, Lead, Nitrogen Dioxide, Sulphur Dioxide and Particulate Matter (PM_{10}).

The First Round of Review and Assessment in the borough was carried in four stages[i,ii,iii]

The result of the First Round found that the National Air Quality Strategy objectives for Nitrogen Dioxide and Particulate Matter would be exceeded in the borough. An Air Quality Management Area (AQMA) was declared for whole of the borough, except for an area of the Authority south of the South Circular Road. See Figure 1.1

The Authority produced an Air Quality Strategy and Improvement Plan in January 2003[iv] introducing 83 measures to enable the Authority to work towards meeting the National Air Quality Strategy objectives.

1.4.2 Second Round of Review and Assessment 2003

The Second Round of Review and Assessment was done in a two phased approach with an Updating and Screening Assessment and a Detailed Assessment where there was the likelihood of an air quality objective being exceeded at locations with relevant exposure on a three – year cycle commencing in 2003 for London.

The result of the second round was the Updating and Screening Assessment indicated that the borough was likely to exceed the standards for the following pollutants Nitrogen Dioxide, Particulate Matter PM_{10} and Benzene[v].

This led to the Authority to carry out a Detailed Assessment for the pollutants for the whole of the borough. However due to problems with the London Atmospheric Emission Inventory 2003 not containing the projected emissions data for 2010 and issues with staffing resources, the detailed assessment was carried out in parallel with the Third Round Updating and Screening Assessment in 2006.

1.4.3 Third Round of Review and Assessment 2006

The Third Round of Review and Assessment (September 2006)[vi] continued the two - phased approach with an Updating & Screening Assessment and then, where appropriate, a detailed assessment is carried out.

The Authority carried out the Updating and Screening Assessment of the air quality in the borough in accordance with the amended technical guidance LAQM TG (03)[vii].

It was found that Carbon Monoxide, 1,3-Butadiene, Lead and Sulphur Dioxide concentrations in the borough were below the relevant national air quality objectives.

From the delayed Detailed Assessment[viii] from the last round, it was concluded that Benzene would also meet the relevant national air quality objective. For Nitrogen Dioxide and Particulate Matter (PM_{10}) there were exceedences of the various objectives, however, circumstances have not significantly changed in the borough to require a change or revocation of the borough's Air Quality Management Area.

1.4.4 Fourth Round of Review and Assessment (2009)[ix]

The conclusions of the fourth round of Updating and Screening Assessment are as follows: -

- **For Carbon Monoxide, Benzene, 1,3-Butadiene, Lead, Sulphur Dioxide there is no significant risk of exceeding the National Air Quality Objectives in the London Borough of Southwark.**

- **For Nitrogen Dioxide there is a significant risk that the National Air Quality Objectives in the London Borough of Southwark will be exceeded. There are no significant changes in the emissions from previous assessments of the pollutant in the borough to warrant a Detailed Assessment to amend or revoke the Air Quality Management Area for the Authority.**

- **For Particulate Matter (PM_{10}) there is a significant risk that the National Air Quality Objectives in the London Borough of Southwark will be exceeded.**

- **There are no significant changes in the emissions from previous assessments of the pollutant in the borough to warrant a Detailed Assessment to amend or revoke the Air Quality Management Area for the Authority.**

The overall conclusions of the report was that the authority is not required to undertake Detailed Assessment for any pollutants.

1.4.5 Fifth Round of Review and Assessment (2012)[x]

The fifth "Updating and Screening Assessment" report fulfilled the Council statutory duty under part IV of the Environment Act 1995 and guidance to have a continuous mechanism for ensuring that action and measures pertaining to the Local Air Quality Management regime are managed, resourced, reviewed, assessed and reported.

The report described the review and assessment of the current air quality in the borough and any changes since the fourth round of the regime in accordance with current air quality technical guidance, which might lead to an increase or decrease in the Air Quality Management Area.

The conclusions of the fifth round of Updating and Screening Assessment were as follows: -

- **For Nitrogen Dioxide there is a significant risk that the national air quality objectives in the London Borough of Southwark will be exceeded.**
- **For Particulate Matter (PM_{10}) there is a significant risk that the national air quality objectives in the London Borough of Southwark will be exceeded.**
- **For the other regulated pollutants - Carbon Monoxide, Benzene, 1,3-Butadiene, Lead, Sulphur Dioxide there is no significant risk of exceeding the national air quality objectives in the London area**
- **There are no significant changes in the emissions from previous assessments of Nitrogen Dioxide and Particulate Matter (PM_{10}) in the Authority to warrant a Detailed Assessment to amend or revoke the Air Quality Management Area for the Authority.**

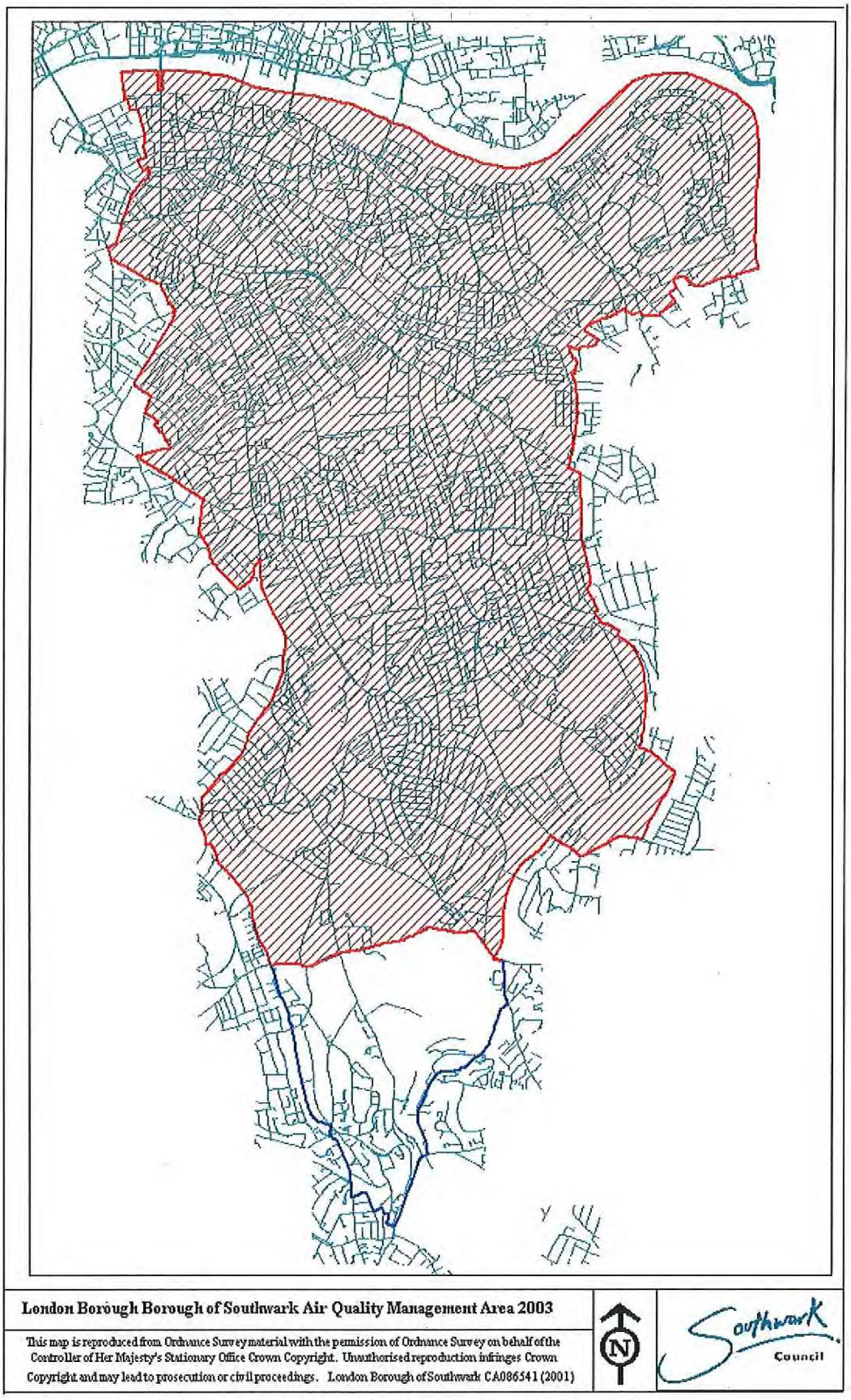

Figure 1.1 Map of AQMA Boundary

2 New Monitoring Data

2.1 Summary of Monitoring Undertaken

2.1.1 Automatic Monitoring Sites

In November 2010 the Authority re-established an air quality monitoring station on the Old Kent Road – Southwark 5[1] after the closure of the Livesey Museum – Southwark 2 in 2006. In January 2013 the authority commenced monitoring the air quality at St Mary's Churchyard Elephant & Castle – Southwark 6, after the closure of Larcom Street – Southwark 1 in 2009. The location of these air quality monitoring stations in shown in Figure 2.1 below.

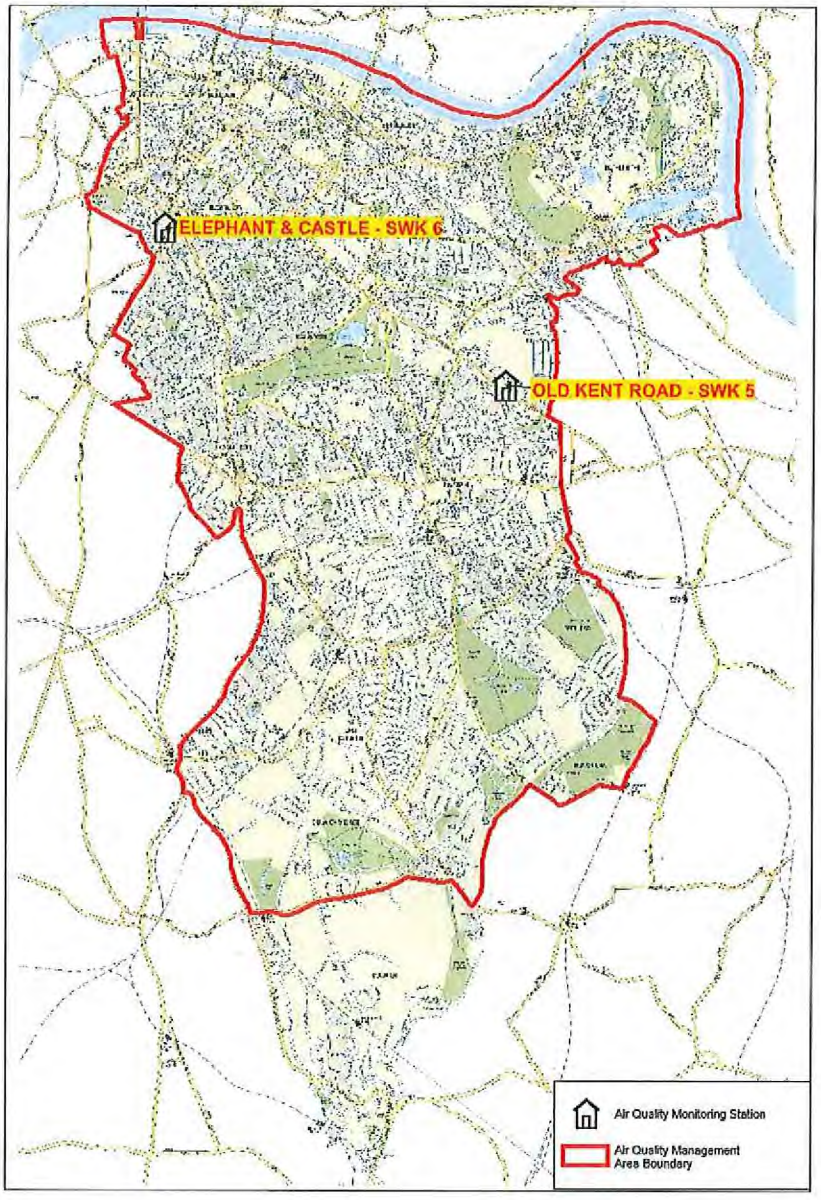

Figure 2.1 Map of Automatic Monitoring Sites

[1] Southwark 3 & 4 was assigned by ERG King College to the separate Particulate monitors previously at the Larcom Street and Livesey Museum.

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The Authority had contracted with SupportingU Ltd to perform routine calibrations and service and maintenance work for both the monitoring sites at Old Kent Road – SWK 5 and Elephant & Castle - SWK6. However, the company went into liquidation in November 2014. The authority was able to make emergency arrangements (in advance of retendering for the work) for cover of the service and maintenance work with Enviro – Technology and for the local site operator work with ERG King's College, but ongoing issues throughout this period, particularly with the air conditioning system at SWK5 which eventually necessitated replacement of the system and provision of a new enclosure, resulted in low data capture (32%) at this station.

The ratification of all the data has been carried in accordance with the London Air Quality Network procedures by King's College London.

2.1.2 Old Kent Road – Southwark 5 (SWK5)

The Authority has an air quality monitoring station on the Old Kent Road. The Authority had a previous monitoring station on the Old Kent Road at the Liversey Museum until 2006. The current site opened in November 2010 and is classified as a Roadside site and it is QA/QC to the AURN Standard.

Figure 2.2 The Old Kent Road Air Quality Monitoring Site

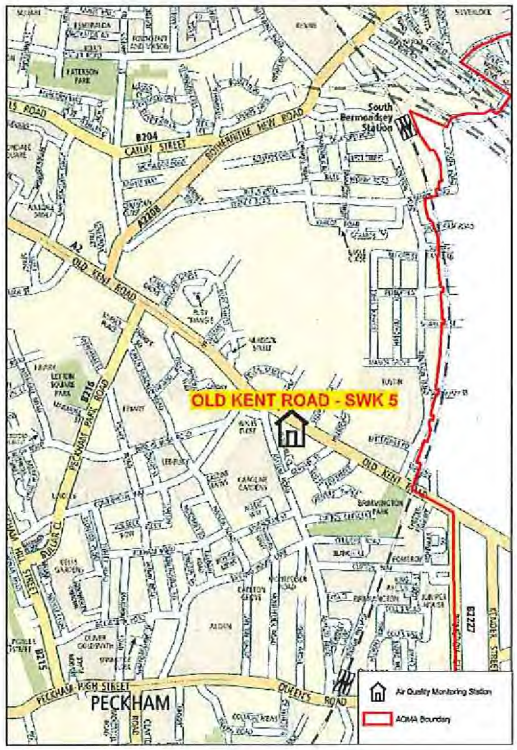


Figure 2.3 Location of Old Kent Road Air Quality Monitoring Station.

2.1.3 Elephant & Castle – Southwark 6 (SWK6)

The Authority has an air quality monitoring station in the Elephant & Castle area. The Authority had a previous monitoring station at Larcom Street until 2009. The current site opened in January 2013 and is classified as an Urban Background site and it is QA/QC to the London Air Quality Network (LAQN) Standard

Figure 2.4 The Elephant & Castle AQMS

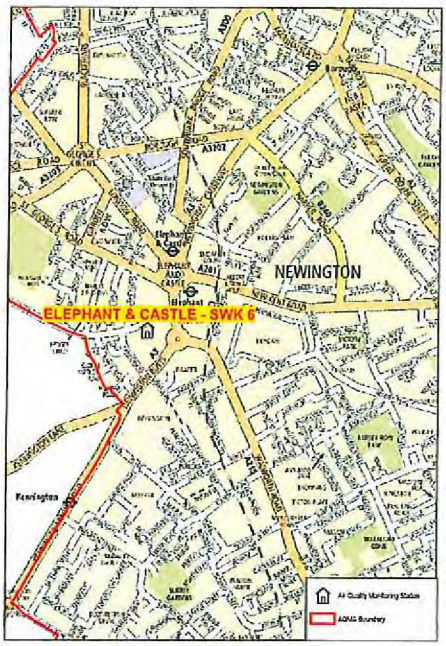


Figure 2.5 Location of Elephant & Castle AQM

Table 2.1 Details of Automatic Monitoring Sites

Site ID	Site Name	Site Type	X OS Grid Reference	Y OS Grid Reference	Inlet Height (m)	Pollutants Monitored	In AQMA?	Monitoring Technique	Relevant Exposure? (Y/N with distance (m) from monitoring site to relevant exposure)	Distance to Kerb of Nearest Road (m) (N/A if not applicable)	Does this Location Represent Worst-Case Exposure?
SWK 5	Old Kent Road	Roadside	534844	177515	2.0	NO_x & NO_2 and PM_{10}	Yes	Chemiluminescence and FDMS TEOM	Yes (1m)	5m	Yes
SWK 6	Elephant and Castle	Urban background	531884	178835	3.5	NO_x NO_2, O_3 & PM_{10}	Yes	Chemiluminescence, UV Absorption & TEOM	Yes (10m)	25m	Yes

2.1.4 Non-Automatic Monitoring Sites

The Authority recommenced non – automatic monitoring using Nitrogen Dioxide diffusion tubes in April 2012. The locations are shown on page 12 with details in connection with the sites in Table 2.2 and Table 2.3. The separate plans showing detailed location of the sites are in Appendix B. The monitoring locations are at pollution hotspots and background sites and are spread across the Authority's Community Councils areas. The results from April 2012 onwards are presented in Table 2.6.

In March 2014, the diffusion tube survey was extended to include two London Mayor Air Quality Fund projects involving an anti –Idling campaign on Tower Bridge and the construction work on the Heygate Regeneration Project in conjunction with the developer Lend Lease. The location of the tubes are shown on page 15 and the details of the location of the sites are in Table 2.4 and Table 2.5. With the detailed location of the tubes for the Heygate project shown on page 18. The details on the sites in Table 2.6 and Table 2.7.

The authority has reviewed its Nitrogen Dioxide diffusion tube survey at the end of 2014. From January 2015 the Authority has installed a diffusion tube outside the Authority's Air Quality Management Area adjacent to residential properties on Crystal Palace Parade.

The Authority is using Gradko International as the supplier and for the analysis of the diffusion tubes. The preparation of the tubes is 20% Triethanolamine (TEA) / water and they are prepared and analysed in accordance with Gradko International UKAS Procedures GLAM 07 & GLAM 09 which is based on the guidance given in Diffusion Tubes for Ambient NO_2 Monitoring: Practical Guidance for Laboratories and Users[xi].

The laboratories that offered Nitrogen Dioxide Diffusion Tubes were strongly advised to participate in an independent analytical proficiency – testing scheme. Until April 2014 this was the Workplace Analysis Scheme for Proficiency (WASP) NO_2 Proficiency Testing scheme. In April 2014 the WASP PT scheme was combined with the LGC Standards STACKS PT scheme and is now known as AIR and is operated by LGC Standards.

Gradko International participated in the (WASP) NO_2 Proficiency Testing scheme and now participates in the AIR PT scheme. The summary results of the laboratory's participation in the WASP's and AIR PT Schemes are shown in the Tables within Appendix A.

Table A.1 includes the results from Gradko International Laboratory during the first regime of the proficiency testing scheme. In April 2010 the scoring changed, however the laboratory's results were backdated and all the results using this scoring methodology are shown in Table A.2. Precision results for the Gradko International Laboratory are shown in Table A.3 of this report.

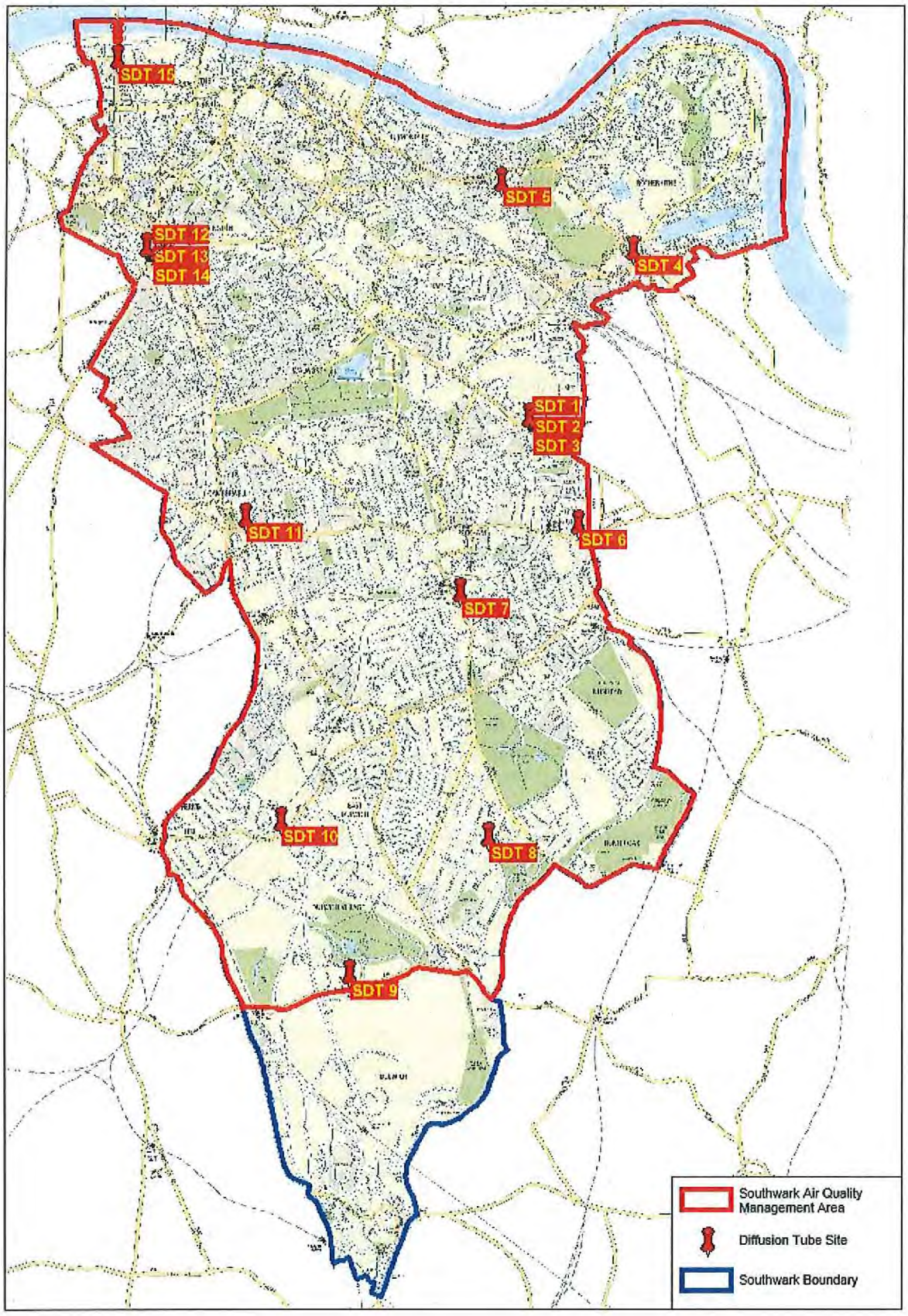


Figure 2.6 Map of Non-Automatic Monitoring Sites

Table 2.2 Details of Non-Automatic Monitoring Sites

Site Name	Site Type	X OS Grid Ref	Y OS Grid Ref	Site Height (m)	Pollutants Monitored	In AQMA?	Is monitoring co-located with a Continuous Analyser	Relevant Exposure? *distance (m) to relevant exposure)*	Distance to kerb of nearest road	Does this location represent worst-case exposure?
SDT 1	Roadside	534844	177515	2.5m	NO_2	Yes	Yes	Yes 1m	5m	Yes
SDT 2	Roadside	534844	177515	2.5m	NO_2	Yes	Yes	Yes 1m	5m	Yes
SDT 3	Roadside	534844	177515	2.5m	NO_2	Yes	Yes	Yes 1m	5m	Yes
SDT 4	Kerbside	535668	178818	2.5m	NO_2	Yes	No	Yes 2m	0.5m	Yes
SDT 5	Kerbside	534638	179335	2.5m	NO_2	Yes	No	Yes 6m	0.5m	Yes
SDT 6	Kerbside	535243	176679	2.5m	NO_2	Yes	No	Yes 14m	0.5m	Yes
SDT 7	Kerbside	534332	176157	2.5m	NO_2	Yes	No	Yes 2m	0.5m	Yes
SDT 8	Kerbside	534560	174270	2.5m	NO_2	Yes	No	Yes 8m	0.5m	Yes
SDT 9	Kerbside	533473	17246	2.5m	NO_2	Yes	No	Yes 3m	0.5m	Yes
SDT 10	Kerbside	532937	174390	2.5m	NO_2	Yes	No	Yes 13m	0.5m	Yes
SDT 11	Kerbside	532673	176738	2.5m	NO_2	Yes	No	Yes 2m	0.5m	Yes
SDT 12	Urban background	531884	178835	2.5m	NO_2	Yes	Yes	Yes 10m	25m	Yes
SDT 13	Urban background	531884	178835	2.5m	NO_2	Yes	Yes	Yes 10m	25m	Yes
SDT 14	Urban background	531884	178835	2.5m	NO_2	Yes	Yes	Yes 10m	25m	Yes
SDT 15	Kerbside	531637	180293	2.5m	NO_2	Yes	No	Yes 3m	0.5m	Yes

Table 2.3 Details of Non-Automatic Monitoring Sites

SITE NUMBER	SITE DESCRIPTION
SDT 1	Co-location Tube at Roadside Air Quality Monitoring Site Old Kent Road - Tube 1
SDT 2	Co-location Tube at Roadside Air Quality Monitoring Site Old Kent Road - Tube 2
SDT 3	Co-location Tube at Roadside Air Quality Monitoring Site Old Kent Road - Tube 3
SDT 4	Lamppost (141-02) Rotherhithe Old Road SE16
SDT 5	Lamppost (180 - 31) Drummond Road SE16
SDT 6	Lamppost (2330 - 37) adjacent to 168 Queens Road
SDT 7	Lamppost (Unmarked) adjacent to 167A Rye Lane SE5
SDT 8	Lamppost (2051 - 11) Dunstans Road adjacent to 215 Underhill Road
SDT 9	Lamppost 05-35 Dulwich Common adjacent to 23 Hambledon Place
SDT 10	Lamppost (2076 - 02) adjacent to 2 Village Way
SDT 11	Lamppost (Unmarked) adjacent to 11 Camberwell Church Street
SDT 12	Co-location Tube at Background Air Quality Monitoring Site Elephant & Castle - Tube 1
SDT 13	Co-location Tube at Background Air Quality Monitoring Site Elephant & Castle - Tube 2
SDT 14	Co-location Tube at Background Air Quality Monitoring Site Elephant & Castle - Tube 3
SDT 15	Lamppost (1390 - 58) Blackfrairs Road

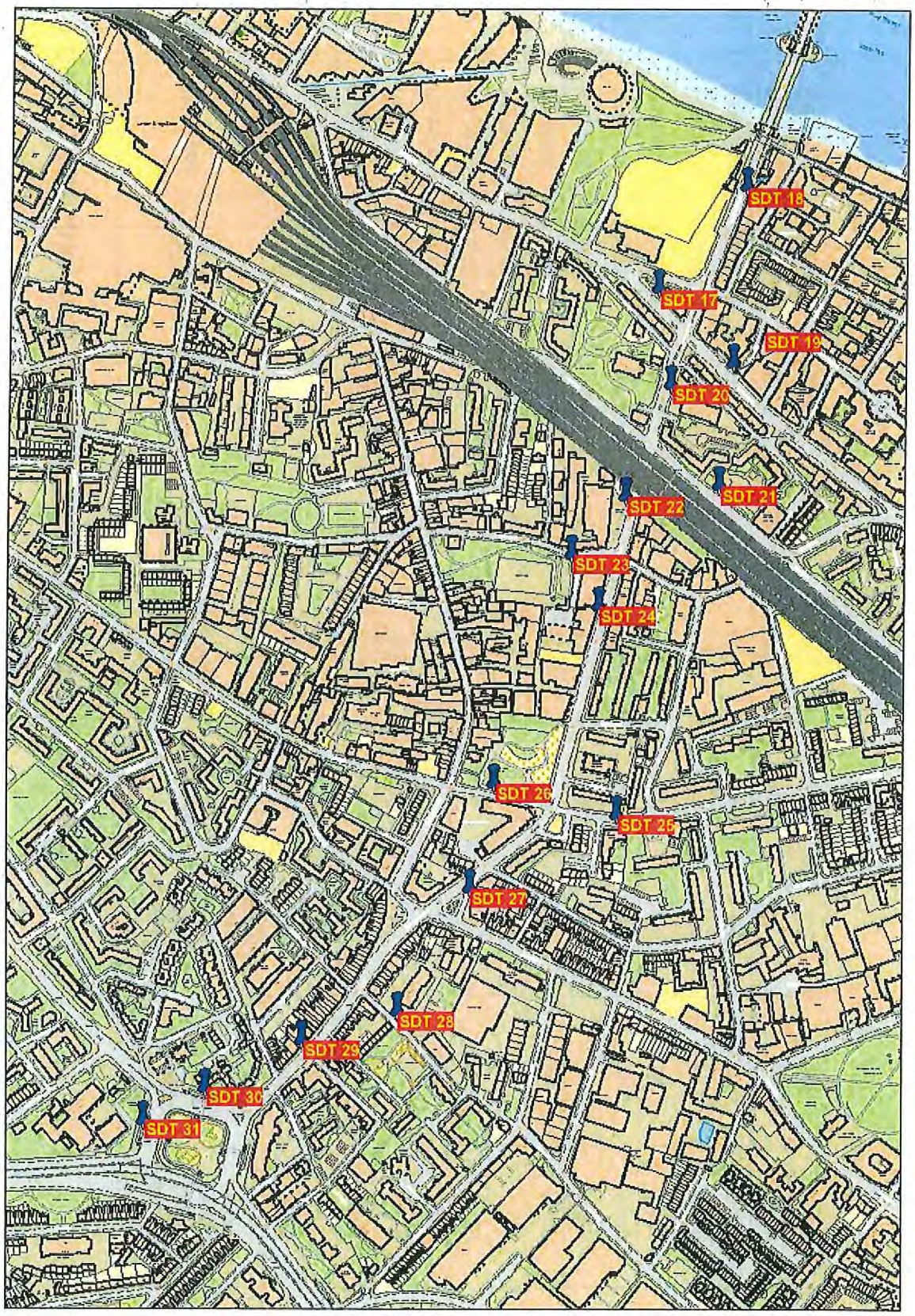


Figure 2.7 Map of Non-Automatic Monitoring Sites – Tower Bridge Project

Table 2.4 Details of Non-Automatic Monitoring Sites – MAQF Tower Bridge Project

Site Name	Site Type	X OS Grid Ref	Y OS Grid Ref	Site Height (m)	Pollutants Monitored	In AQMA?	Is monitoring co-located with a Continuous Analyser	Relevant Exposure? *distance (m) to relevant exposure)*	Distance to kerb of nearest road	Does this location represent worst-case exposure?
SDT 17	Roadside	533503.4	179949.5	2.5m	NO_2	Yes	No	3m	0.5m	Yes
SDT 18	Roadside	533599.4	180062.2	2.5m	NO_2	Yes	No	3m	0.5m	Yes
SDT 19	Roadside	533586.4	179867.1	2.5m	NO_2	Yes	No	3m	0.5m	Yes
SDT 20	Kerbside	533517.7	179843.6	2.5m	NO_2	Yes	No	2m	0.5m	Yes
SDT 21	Kerbside	533572	179731.7	2.5m	NO_2	Yes	No	6m	0.5m	Yes
SDT 22	Kerbside	533468.7	179720.6	2.5m	NO_2	Yes	No	3m	0.5m	Yes
SDT 23	Kerbside	533408.6	179656.8	2.5m	NO_2	Yes	No	3m	0.5m	Yes
SDT 24	Kerbside	533438.7	179599.5	2.5m	NO_2	Yes	No	3m	0.5m	Yes
SDT 25	Kerbside	533460.4	179368.7	2.5m	NO_2	Yes	No	2m	0.5m	Yes
SDT 26	Kerbside	533323.8	179404.1	2.5m	NO_2	Yes	No	2m	0.5m	Yes
SDT 27	Kerbside	533296.5	179288.5	2.5m	NO_2	Yes	No	2m	0.5m	Yes
SDT 28	Kerbside	533216.6	179152.9	2.5m	NO_2	Yes	No	2m	0.5m	Yes
SDT 29	Kerbside	533111.3	179121.3	2.5m	NO_2	Yes	No	2m	0.5m	Yes
SDT 30	Kerbside	533002.9	179068.6	2.5m	NO_2	Yes	No	10m	0.5m	Yes
SDT 31	Kerbside	533503.4	179949.5	2.5m	NO_2	Yes	No	10m	0.5m	Yes

Table 2.5 Details of Non-Automatic Monitoring Sites – MAQF Tower Bridge Project

SITE NUMBER	SITE DESCRIPTION
SDT 17	MAQF Tower Bridge Project 1 - Tooley Street Memorial Bus Stop North side of road
SDT18	MAQF Tower Bridge Project 2 - Tower Bridge Lamppost No 1 East side
SDT 19	MAQF Tower Bridge Project 3 - Tooley Street / Boss Street lamppost 159/04 North side
SDT 20	MAQF Tower Bridge Project 4 - Tower Bridge school fence Tower Bridge Road East side
SDT 21	MAQF Tower Bridge Project 5 - Druid Street adjacent to playground North Side
SDT 22	MAQF Tower Bridge Project 6 - Tower Bridge Road South of Rail Bridge West side
SDT 23	MAQF Tower Bridge Project 7 - Tanner Street West Camera Pole by park South side
SDT 24	MAQF Tower Bridge Project 8 - Opposite Papa Johns West side
SDT 25	MAQF Tower Bridge Project 9 - Abbey Street By phone Box South side
SDT 26	MAQF Tower Bridge Project 10 - Long Lane by St Mary's Churchyard North side
SDT 27	MAQF Tower Bridge Project 11 - Grange Road Triangle by Barclays Bank North side
SDT 28	MAQF Tower Bridge Project 12 - Webb Street By school post 48/03
SDT 29	MAQF Tower Bridge Project 13 - Opposite Haddon Hall, west side
SDT 30	MAQF Tower Bridge Project 14 - Bricklayers Arms North side
SDT31	MAQF Tower Bridge Project 15 - Bricklayers Arms Roundabout - by St Olave's School, west side

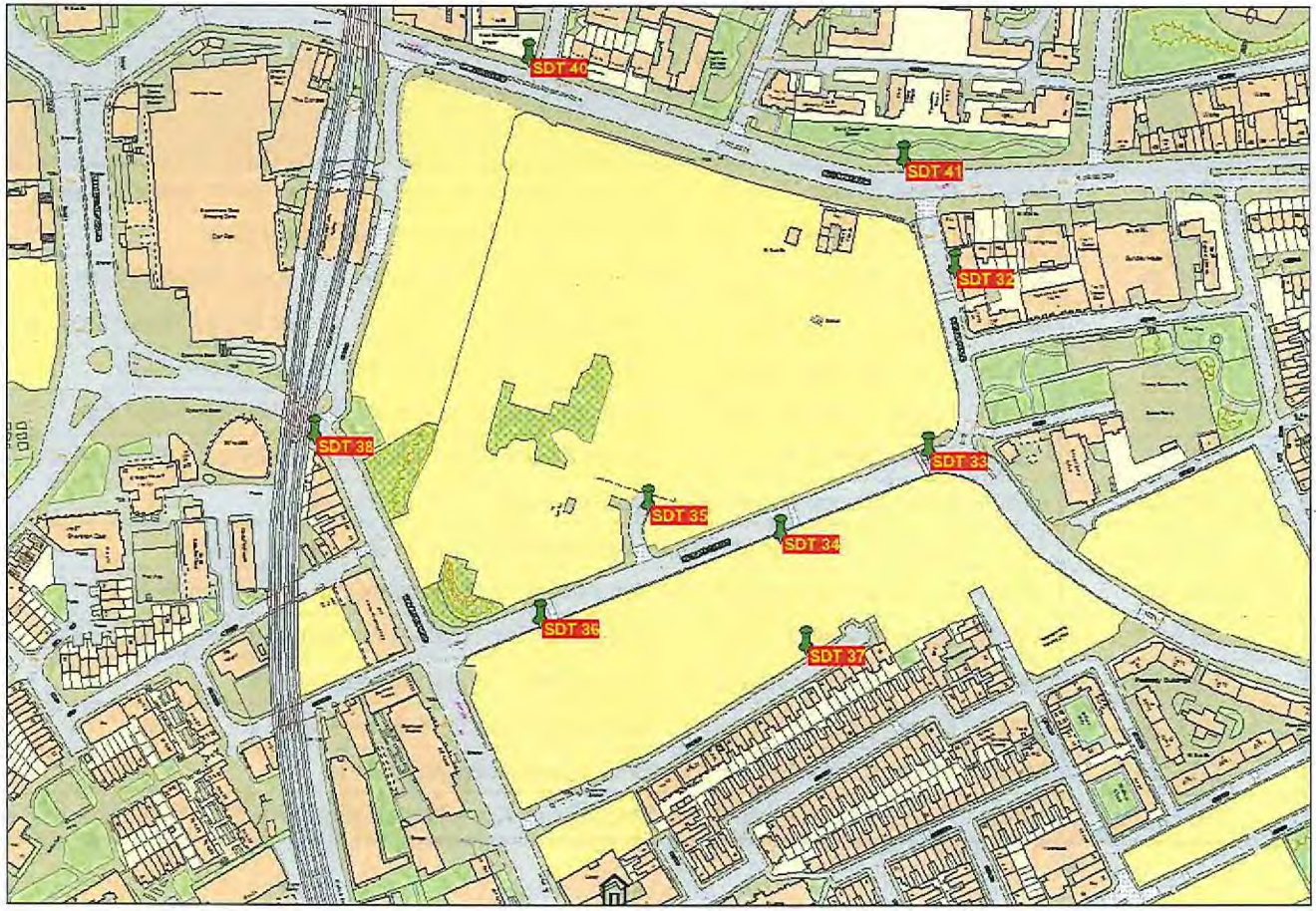


Figure 2.8 Map of Non-Automatic Monitoring Sites – Heygate Project

Table 2.6 Details of Non-Automatic Monitoring Sites – MAQF Heygate Project

Site Name	Site Type	X OS Grid Ref	Y OS Grid Ref	Site Height (m)	Pollutants Monitored	In AQMA?	Is monitoring co-located with a Continuous Analyser	Relevant Exposure? *distance (m) to relevant exposure)*	Distance to kerb of nearest road	Does this location represent worst-case exposure?
SDT 32	Roadside	533503.4	179949.5	2.5m	NO_2	Yes	No	2m	0.5m	Yes
SDT 33	Roadside	533599.4	180062.2	2.5m	NO_2	Yes	No	N/A	0.5m	No
SDT 34	Roadside	533586.4	179867.1	2.5m	NO_2	Yes	No	N/A	0.5m	No
SDT 35	Kerbside	533517.7	179843.6	2.5m	NO_2	Yes	No	N/A	0.5m	No
SDT 36	Kerbside	533572	179731.7	2.5m	NO_2	Yes	No	N/A	0.5m	No
SDT 37	Kerbside	533468.7	179720.6	2.5m	NO_2	Yes	No	12m	0.5m	Yes
SDT 38	Kerbside	533408.6	179656.8	2.5m	NO_2	Yes	No	3m	0.5m	Yes
SDT 39	Kerbside	533438.7	179599.5	2.5m	NO_2	Yes	No	3m	0.5m	Yes
SDT 40	Kerbside	533460.4	179368.7	2.5m	NO_2	Yes	No	2m	0.5m	Yes
SDT 41	Kerbside	533323.8	179404.1	2.5m	NO_2	Yes	No	2m	0.5m	Yes

Table 2.7 Details of Non-Automatic Monitoring Sites – MAQF Heygate Project

SITE NUMBER	SITE DESCRIPTION
SDT 32	MAQF Heygate Project 1 - Rodney Place Post 113-905
SDT 33	MAQF Heygate Project 2 - Heygate Street Island by Bridge
SDT 34	MAQF Heygate Project 3 - Heygate South Site entrance on green fence
SDT 35	MAQF Heygate Project 4 - Heygate North Site Entrance on green fence
SDT 36	MAQF Heygate Project 5 - Heygate Street post 04 South site
SDT 37	MAQF Heygate Project 6 - Wansey Street Lamppost North side Reference
SDT 38	MAQF Heygate Project 7 - Walworth Road opposite junction to Elephant Road - west side
SDT 39	MAQF Heygate Project 8 - New Kent Road Lamppost 3 North Side (Metro Central)
SDT 40	MAQF Heygate Project 9 - New Kent Road Lamppost 15, North side (Meadow Road)
SDT 41	MAQF Heygate Project 10 - New Kent Road Lamppost 29 North side (Rodney Place)

2.2 Comparison of Monitoring Results with Air Quality Objectives

2.2.1 Nitrogen Dioxide (NO_2)

The statistics for Nitrogen Dioxide (NO_2) are presented in Table 2.8 for the Old Kent Road (SWK5) and Elephant & Castle (SWK6) monitoring stations. Examining the data shows the annual mean concentration at both stations is exceeded the objective of 40 $\mu g.m^{-3}$ until this year. However due to the poor data capture, it shows that the objective has been met this year, but the authority is disregarding this result as the data capture is not sufficient. The trend at the Old Kent Road over the period from 2011 - 2013 shows that the annual mean is increasing. If you analyse the mean results from all the roadside and background monitoring stations in the Greater London Area within the London Air Quality Network[xii]. This clearly shows that the roadside sites are not reducing and exceed the objective, but the background is showing a gradual reduction.

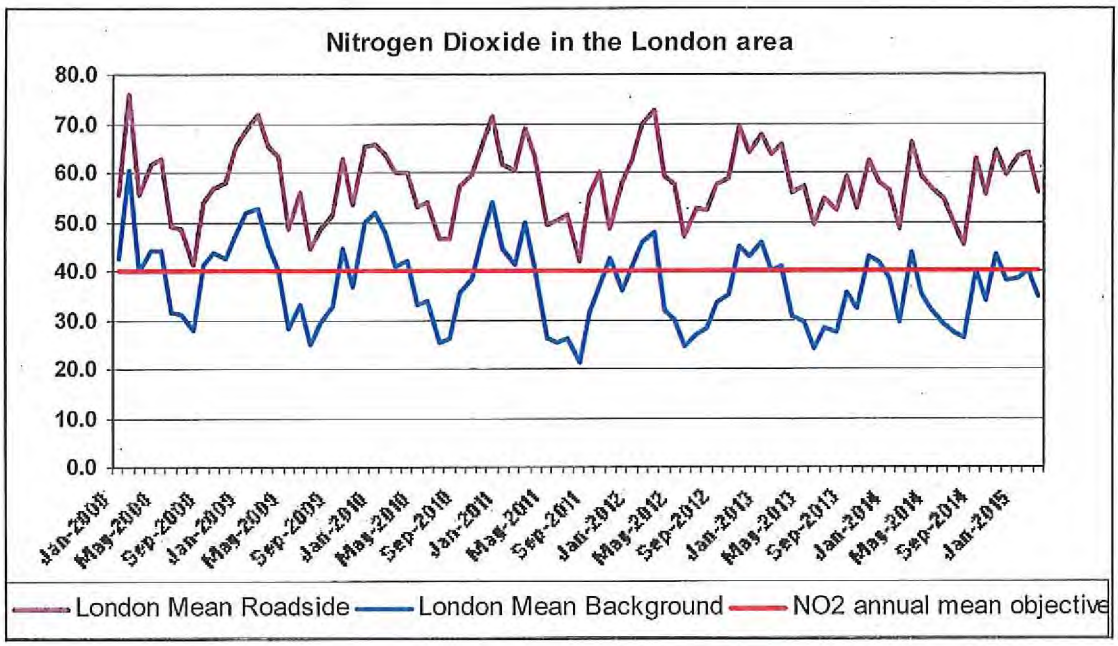


Figure 2.9 Trends of the monthly mean Nitrogen Dioxide concentrations at roadside and background sites in the London area.

The local trends at the local air quality monitoring stations are shown in Figure 2.10. The graph indicates that since 2000 air quality was slowly improving until 2006, but when the air quality monitoring station was re – introduced in 2010, the concentration was lower, but the levels are increasing before last year, but this could be due to the poor data capture.

However the Air Quality Strategy objective for the number of hourly means exceeding 200$\mu g.m^{-3}$ not to be exceeded more than 18 times a year has been met at the monitoring stations in the borough. The data can be seen in Table 2.9.

Table 2.8 Results of Automatic Monitoring for NO_2: Comparison with Annual Mean Objective

Site ID	Site Type	Within AQMA?	Valid Data Capture for Monitoring Period %	Valid Data Capture 2014 %	Annual Mean Concentration ($\mu g.m^{-3}$) (Data capture rate given in the brackets)				
					2010	2011	2012	2013	2014
SWK5	Roadside	Yes	32	32	N / A	**46** (73%)	**52** (80%)	**55** (>90%)	38
SWK6	Urban Background	Yes	84	84	N / A	N / A	N / A	**42** (85%)	37
CP1	Roadside	No	N / A	N / A	**47** (56%)	N / A	N / A	N / A	N / A

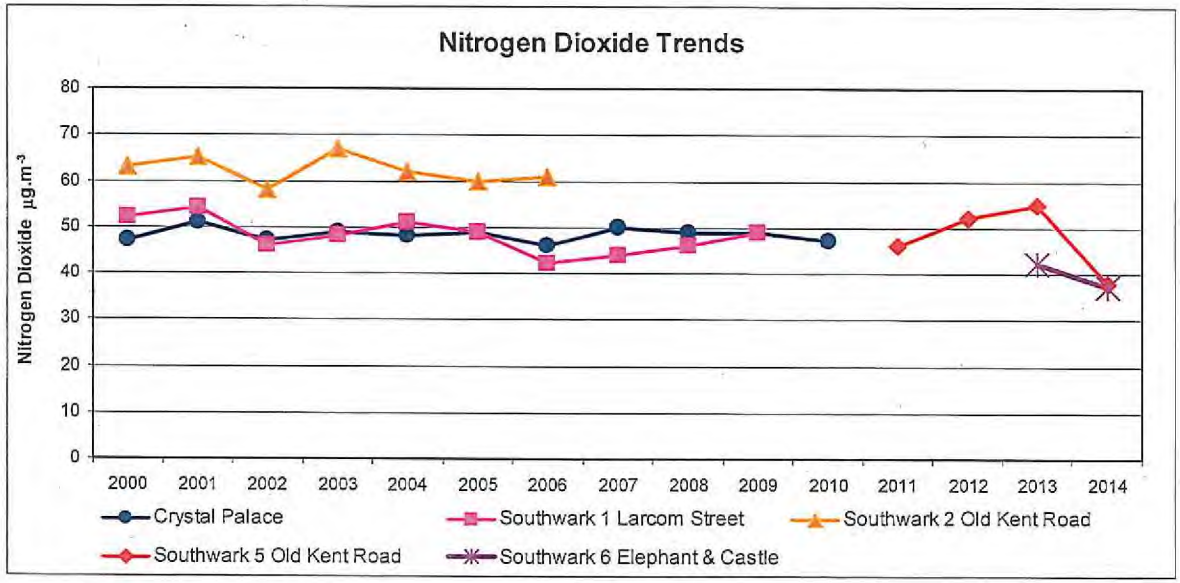


Figure 2.10 Trends in Annual Mean NO_2 Concentrations Measured at Automatic Monitoring Sites

Table 2.9 Results of Automatic Monitoring for NO_2: Comparison with 1-hour Mean Objective

Site ID	Site Type	Within AQMA?	Valid Data Capture for Monitoring Period % [a]	Valid Data Capture 2014 % [b]	Number of Hourly Means > 200µg.m^{-3} (Data capture rate given in the brackets)				
					2010	2011	2012	2013	2014
SWK5	Roadside	Yes	32	32	0 (8%)	10 (73%)	6(80%)	4(>90%)	1
SWK6	Urban Background	Yes	84	84	N / A	N / A	N / A	0(85%)	0
CP1	Roadside	No	N/ A	N / A	0	N / A	N / A	N / A	N / A

2.2.2 Diffusion Tube Monitoring Data

The bias adjusted results for the Nitrogen Dioxide diffusion tube survey are presented in Table 2.10 with the individual monthly results presented in Appendix C.

In Table 2.10 and Table 2.11 if the annual concentrations are shown as a **bold** value, then the result shows an exceedence of the NO_2 annual mean AQS objective of 40µg.m^{-3} at that location. If the annual concentrations is greater than 60µg.m^{-3} this is shown as **bold & underlined**, and this indicates that there a potential exceedence of the NO_2 hourly mean AQS objective at that location.

Table 2.10 Results of NO_2 Diffusion Tubes 2014

Site ID	Location	Site Type	Within AQMA?	Triplicate or Co-located Tube T or C	Full Calendar Year Data Capture 2014 (Number of Months) [a]	2014 Annual Mean Concentration ($\mu g.m^{-3}$)	2014 Annual Mean Concentration ($\mu g.m^{-3}$) (Bias corrected) Bias Adjustment factor = 0.71
SDT 1	Old Kent Road AQMS	Roadside	Yes	Yes	12	**59.73**	**42.41**
SDT 2	Old Kent Road AQMS	Roadside	Yes	Yes	12	**59.54**	**42.27**
SDT 3	Old Kent Road AQMS	Roadside	Yes	Yes	12	**58.68**	**41.66**
SDT 4	Rotherhithe New Road	Kerbside	Yes	No	12	**73.85**	**52.43**
SDT 5	Drummond Road	Kerbside	Yes	No	12	**41.79**	29.67
SDT 6	Queens Road	Kerbside	Yes	No	11	**86.92**	**61.71**
SDT 7	Rye Lane	Kerbside	Yes	No	12	**73.34**	**52.07**
SDT 8	Dunstans Road	Kerbside	Yes	No	12	**39.27**	27.88
SDT 9	South Circular Road	Kerbside	Yes	No	12	**68.89**	**48.91**
SDT 10	Village Way	Kerbside	Yes	No	12	**43.21**	30.68
SDT 11	Camberwell Church Street	Kerbside	Yes	No	12	**85.61**	**60.78**
SDT 12	E & C AQMS	Urban background	Yes	Yes	12	**67.74**	**48.10**
SDT 13	E & C AQMS	Urban background	Yes	Yes	12	**58.07**	**41.23**
SDT 14	E & C AQMS	Urban background	Yes	Yes	11	**72.78**	**51.67**
SDT 15	Blackfriars Road	Kerbside	Yes	No	11	**82.21**	**58.37**

Table 2.11 Results of NO_2 Diffusion Tubes (2012 to 2014)

Site ID	Site Name	Within AQMA?	Annual Mean Concentration ($\mu g.m^{-3}$) - Adjusted for Bias		
			2012 (Bias Adjustment Factor = 1.04)	2013 (Bias Adjustment Factor = 0.96)	2014 (Bias Adjustment Factor = 0.71)
SDT 1	Old Kent Road AQMS	Yes	**49.59**	**57.95**	**42.4083**
SDT 2	Old Kent Road AQMS	Yes	**48.57**	**58.27**	**42.2734**
SDT 3	Old Kent Road AQMS	Yes	**49.09**	**57.60**	**41.6628**
SDT 4	Rotherhithe New Road	Yes	**57.72**	**70.53**	**52.4335**
SDT 5	Drummond Road	Yes	37.28	**41.08**	29.6709
SDT 6	Queens Road	Yes	**71.13**	**78.24**	**61.7132**
SDT 7	Rye Lane	Yes	**58.43**	**66.25**	**52.0714**
SDT 8	Dunstans Road	Yes	35.80	**44.28**	27.8817
SDT 9	South Circular Road	Yes	**55.65**	**63.28**	**48.9119**
SDT 10	Village Way	Yes	38.95	**45.01**	30.6791
SDT 11	Camberwell Church Street	Yes	**85.78**	**97.45**	**60.7831**
SDT 12	E & C AQMS	Yes	**47.06**	**57.59**	**48.0954**
SDT 13	E & C AQMS	Yes	**48.33**	**57.88**	**41.2297**
SDT 14	E & C AQMS	Yes	**47.39**	**58.44**	**51.6738**
SDT 15	Blackfriars Road	Yes	**61.82**	**72.59**	**58.3691**

In **bold**, exceedence of the NO_2 annual mean AQS objective of $40\mu g.m^{-3}$. Underlined, annual mean > $60\mu g.m^{-3}$, indicating a potential exceedence of the NO_2 hourly mean AQS objective

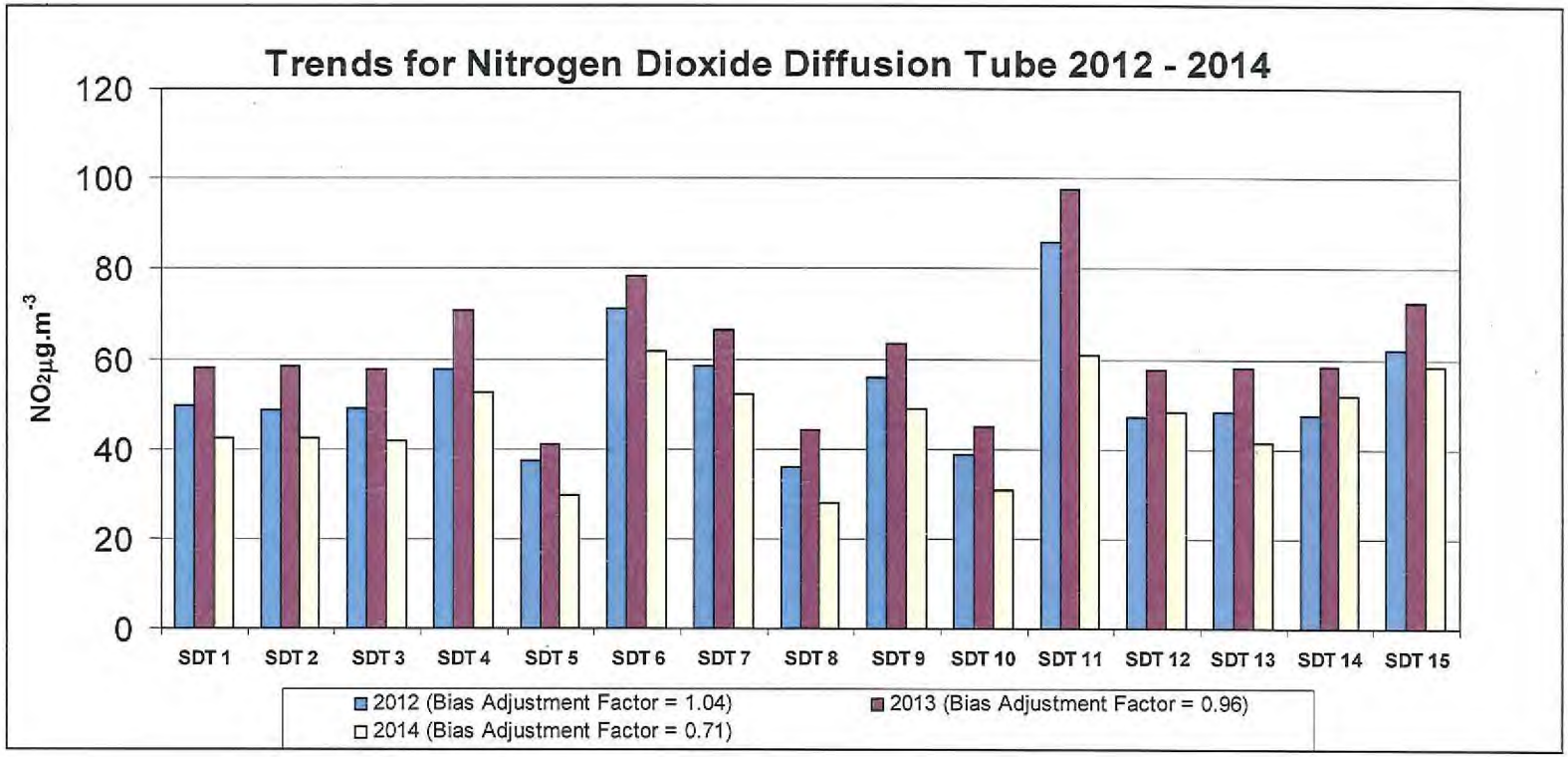


Figure 2.11 Trends in Annual Mean Nitrogen Dioxide Concentrations Measured at Diffusion Tube Monitoring Sites

Figure 2.11 shows the trends in the annual Nitrogen Dioxide diffusion tube results since the restart in the borough since 2012. the results shown that the majority of the sites indicate are above the national air quality objective for Nitrogen Dioxide of 40µg.m^{-3}. Due to the poor performance of the Old Kent Road air quality monitoring station (Annual Data Capture =32%), the bias factor for 2014 is 0.71, therefore the data for the diffusion tube need to be used cautiously.

2.2.3 Particulate Matter (PM_{10})

The Authority monitors Particulate Matter (PM_{10}) at both automatic air quality monitoring stations in the borough. The PM_{10} monitor at the Old Kent Road site (SWK5) uses the TEOM FDMS (Filter Dynamic Measurement System) instrument. At the Elephant & Castle (SWK6) the authority operates a TEOM (Tamper Element Oscillating Microbalance) instrument.

It was anticipated we would have similar instruments at both air quality monitoring stations. However as the site at Elephant & Castle will be adjacent to a large construction site for a substantial period it was likely the chemical characteristics of construction particles, would affect the TEOM FDMS instrument.

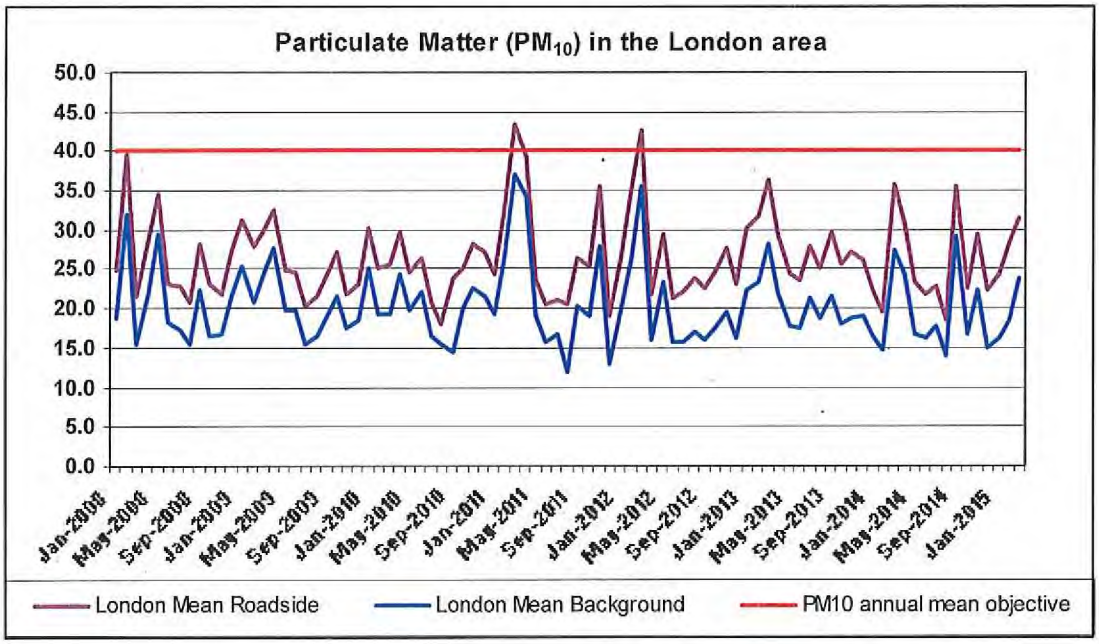


Figure 2.12 Trends of the monthly mean Particulate Matter (PM_{10}) concentrations at roadside and background sites in the London area.

Table 2.12 Results of Automatic Monitoring for PM_{10}: Comparison with Annual Mean Objective

Site ID	Site Type	Within AQMA ?	Valid Data Capture for Monitoring Period % [a]	Valid Data Capture 2014 % [b]	Confirm Gravimetric Equivalent (Y or N/A)	Annual Mean Concentration ($\mu g.m^{-3}$) (Data capture rate given in the brackets)				
						2010	2011	2012	2013	2014
SWK5	Roadside	Yes	32	32	Y	29 (8%)	27 (80%)	25 (82%)	30 (85%)	23
SWK6	Urban Background	Yes	>90	>90	Y	N / A	N / A	N / A	23 (80%)	19
CP1	Roadside	No	N / A	N / A	Y	23 (55%)	N / A	N / A	N / A	N / A

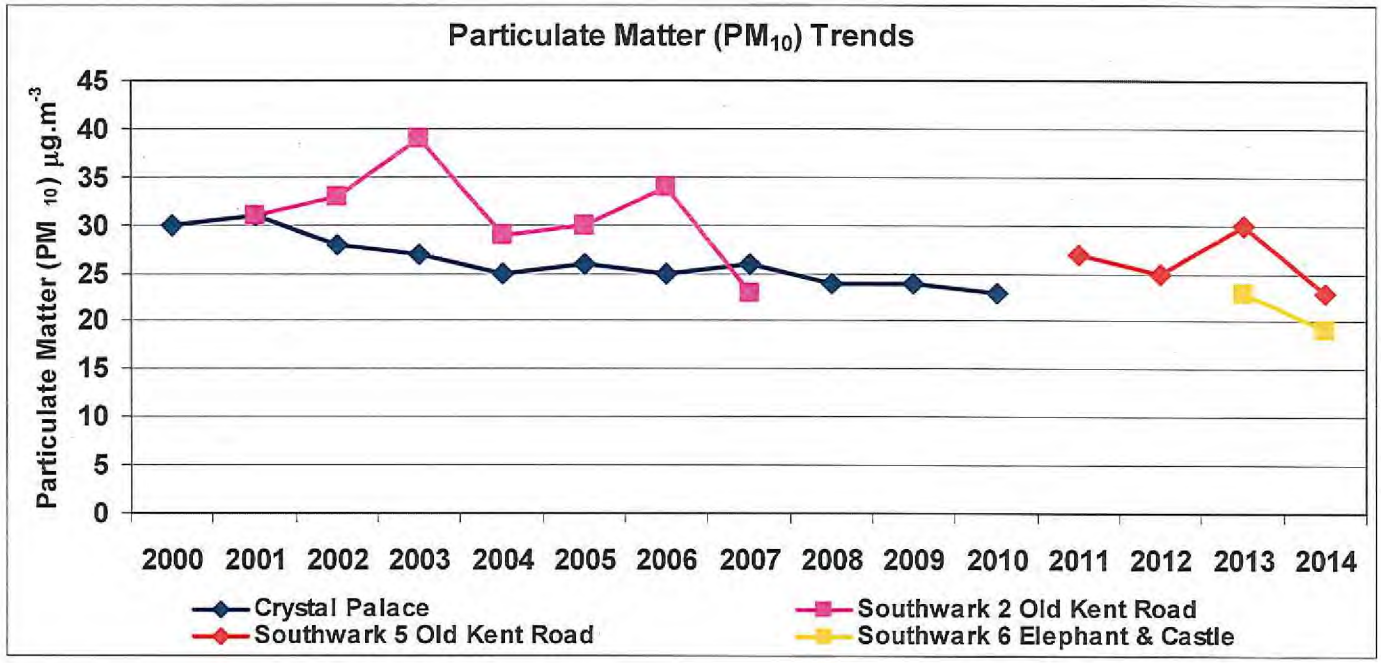


Figure 2.13 Trends in Annual Mean PM_{10} Concentrations

Comparison of the annual mean with the national air quality objective of an annual mean of 40μg.m^{-3} reveal that all the sites have met the standard over the last few years. Examining the objective for the 24-hour mean (Table 2.9) not to exceed more than 50μg.m^{-3} more than 18 times a year, it has been not met at the Old Kent Road (Southwark 6) monitoring station. However, these results do not take into account whether the exceedence are due to natural sources, however this is considered unlikely in this significant transport corridor.

Table 2.13 Results of Automatic Monitoring for PM_{10}: Comparison with 24-hour Mean Objective

Site ID	Site Type	Within AQMA?	Valid Data Capture for Monitoring Period %	Valid Data Capture 2014 %	Confirm Gravimetric Equivalent (Y or N/A)	Number of Daily Means > 50μg.m^{-3} (Data capture rate given in the brackets)				
						2010	2011	2012	2013	2014
SWK5	Roadside	Yes	32	32	Y	0 (8%)	31 (80%)	19 (82%)	30(85%)	10
SWK6	Urban Backgrd	Yes	84	84	Y	N/A	N/A	N/A	3 (80%)	0
CP1	Roadside	No	N / A	N / A	Y	1 (56%)	N/A	N/A	N/A	N/A

2.2.4 Other Pollutants Monitored - Ozone O_3

At the Urban Background air quality monitoring station at Elephant & Castle, the Authority monitors ozone using the Ultra Violet interference method. There is an ozone objective in the National Air Quality Strategy in respect of the maximum number of rolling 8-hour means are greater than 100μg.m^{-3} not to exceed 10 days in a year. This national air quality objective has not been included in the Air Quality Regulations for the purpose of Local Air Quality Management. This is due to its trans-boundary nature, but the Authority monitors the pollutant, because of it's oxidative reaction with Oxides of Nitrogen.

Table 2.14 Results of Automatic Monitoring for Ozone: Comparison with 8-hour Mean Objective

Site ID	Site Type	Valid Data Capture for Monitoring Period %	Valid Data Capture 2014 %	Number of 8 hour mean > 100μg.m^{-3}	
				2013	2014
SWK6	Urban Background	>90	>90	1	2

The ozone 8-hour objective in the borough has been met at the Elephant & Castle (SWK6) air quality monitoring station

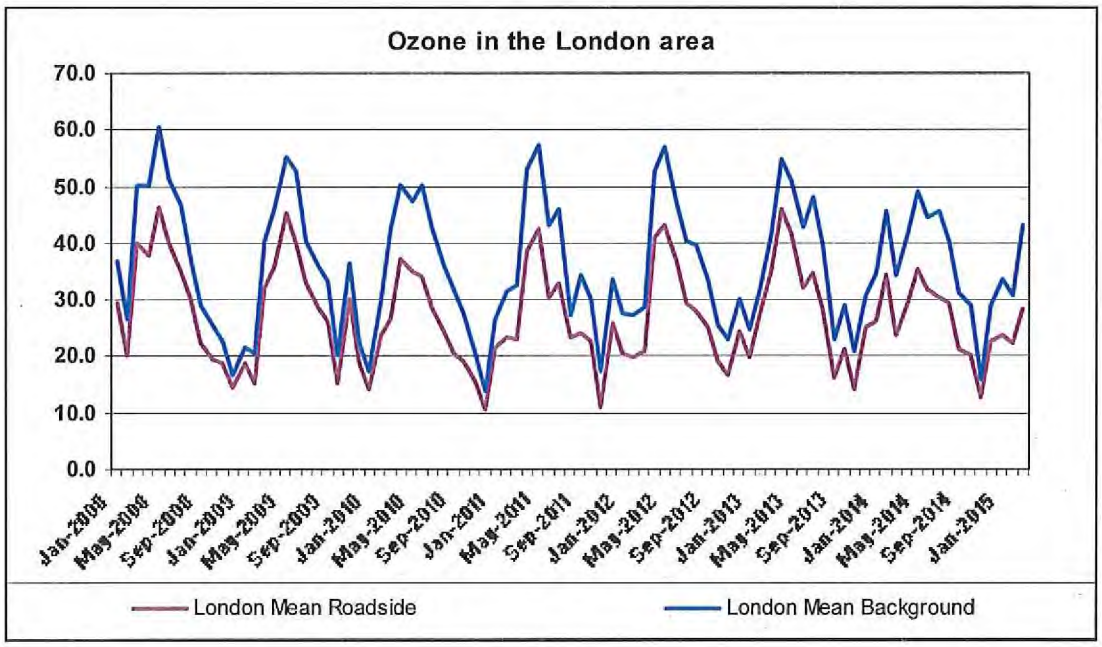


Figure 2.14 Trends of the monthly mean Ozone (O_3) concentrations at roadside and background sites in the London area.

2.2.5 Other Pollutants

Sulphur Dioxide

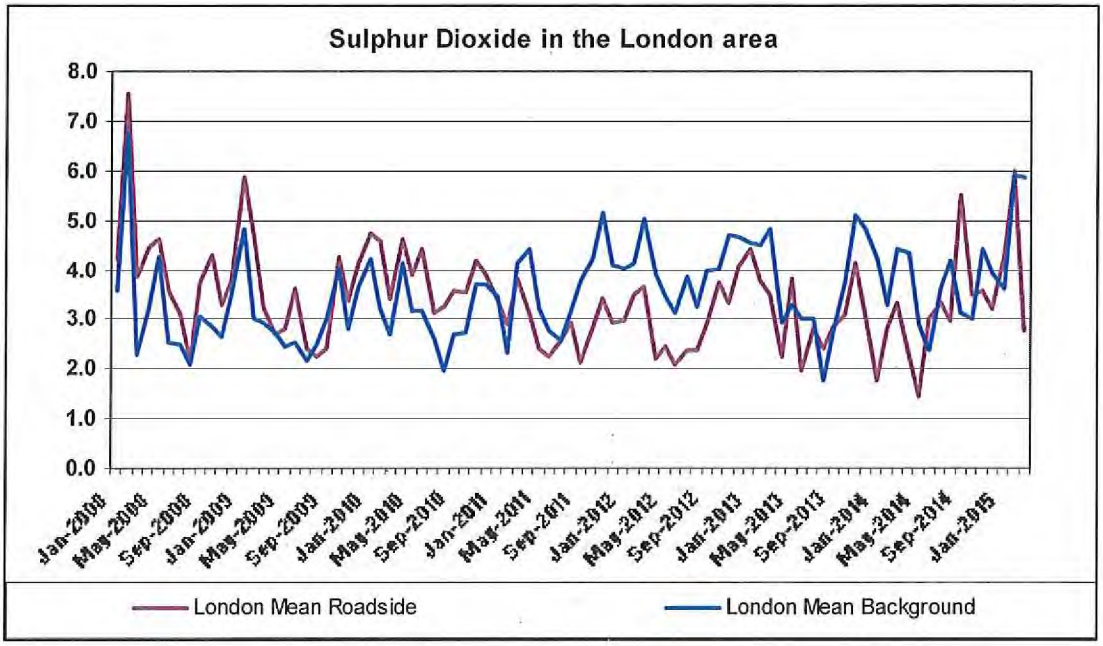


Figure 2.15 Trends of the monthly mean Sulphur Dioxide (SO_2) concentrations at roadside and background sites in the London area.

The above graph shows that the concentrations of Sulphur Dioxide in the London area at both roadside and background met the national air quality objectives for Sulphur Dioxide

Particulate Matter ($PM_{2.5}$)

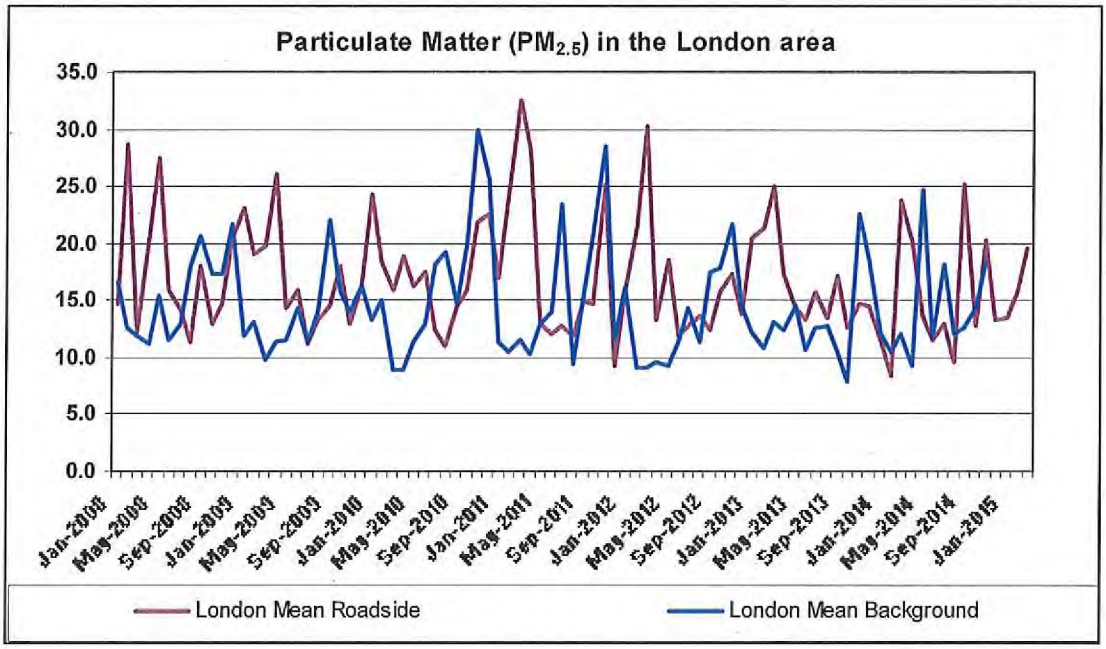


Figure 2.16 Trends of the monthly mean Particulate Matter ($PM_{2.5}$) concentrations at roadside and background sites in the London area.

At present the Particulate Matter ($PM_{2.5}$) is not within the Local Authority Air Quality Management regime at present. Within the recent Defra consultation to overhaul the air quality management regime, it was proposed for $PM_{2.5}$ to be included in the statutory guidance, the role for local authorities to work towards reducing emissions of $PM_{2.5}$. $PM_{2.5}$ is included in one of the 166 indicators within the Public Health Framework Outcome Indicators.[xiii] Within the Health Protection domain, Indicator 3.01 – Fraction of mortality attributable to particulate air pollution. This indicator value for England in 2012 (latest data available) was 5.1%, the value for Southwark for the same period is 7.1%, this value has decreased from 2010, the value was 7.9%.

2.2.6 Summary of Compliance with AQS Objectives

The London Borough of Southwark has examined the results from monitoring in the borough and from the London area.

Concentrations within the AQMA still exceed the annual objective for Nitrogen Dioxide within the borough and the AQMA should remain.

3 New Local Developments

3.1 Road Traffic Sources

Since this Authority's last Updating and Screening Assessment[xiv] and Progress Report[xv], TfL have commenced the redevelopment of the Elephant & Castle Northern Roundabout. TfL carried out an initial air quality assessment for the project without reference to this authority. When this authority was later consulted on the assessment, the council's environmental protection team made a case for a review of the design of the new proposal due to the significant impacts on the A215 at Walworth Road. The design potentially increased levels of exposure through the repositioning of the junction closer to areas of Perronet House and the London College of Communications and the relocation of a bus stop adjacent to residential properties. These concerns have been raised with the Project Team at several subsequent meetings but no direct meeting held with TfL specifically on these concerns or written acknowledgement given. From the results of the Nitrogen Diffusion Tubes survey in the area, there is a possibility that the air quality assessment associated with this project has under – estimated the impact of the new junction. The assessment did recommend further monitoring to be undertaken, but the environmental protection team understands that long term monitoring will not be carried out as this Authority has some diffusion tube in the area.

The redesign of the junction at the Camberwell Road with Camberwell Church Street is postponed.

3.2 Other Transport Sources

There are no new or newly identified following sources in the borough since the borough's last Updating and Screening Assessment.

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

3.3 Industrial Sources

There are no new or newly identified following sources in the borough since the borough's last Updating and Screening Assessment taking into account the following criteria and how applicable they are within the borough.

- **Industrial installations:** new or proposed installations for which an air quality assessment has been carried out.
- **Industrial installations:** existing installations where emissions have increased substantially or new relevant exposure has been introduced.
- **Industrial installations:** new or significantly changed installations with no previous air quality assessment.

- Major fuel storage depots storing petrol.
- Petrol stations.
- Poultry farms.

3.4 Commercial and Domestic Sources

There are no new or newly identified significant commercial and domestic sources in the borough since the borough's last Updating and Screening Assessment.

3.5 New Developments with Fugitive or Uncontrolled Sources

There are no new or newly identified of the following sources in the borough since the borough's last Updating and Screening Assessment.

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

3.6 Summary of New Local Developments

London Borough of Southwark confirms that there are no new or newly identified local developments for the following sources which may have an impact on air quality within the Local Authority area.

London Borough of Southwark confirms that all the following have been considered:

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

London Borough of Southwark has identified the following new local developments which may impact on air quality in the Local Authority area.

Road Traffic Source – the redesign of the Elephant & Castle Northern Roundabout by TfL.

This will be taken into consideration in the next Updating and Screening Assessment.

4 Local / Regional Air Quality Strategy

4.1 London Mayor's Air Quality Strategy – "Cleaner Air for London"

Under the Greater London Authority Act 1999, the London Mayor is required to produce eight statutory strategies – Air Quality, Spatial Development, Transport, Economic Development, Culture, Biodiversity, Ambient Noise and Municipal Waste Management. The current London's Mayor Air Quality Strategy - "Clearing the air" was produced in 2010. The strategy has fifteen policies and in July 2013, the GLA published its latest publically available progress report. The progress report contained information on the air quality modelling and monitoring. The report also updated Londoners on the implementation of the strategies policies and the next steps that the London's Mayor was planning to improve the air quality in London.

The 2013 update on the implementation of the strategy is given by a progress update with a traffic light ("Red, Amber and Green") summary. This report shows the traffic light summary of the policies.

Table 4.1 London's Mayor Air Quality Strategy – Clearing the Air - Policy summary 2013

Policy	Policy Description	Summary
1	Encouraging smarter choices and sustainable travel	
2	Promoting technological change and cleaner vehicles	
3	Priority locations and local measures	
4	Reducing emissions from the public transport fleet	
5	Schemes that control emissions to air	
6	Reducing emissions from construction and demolition sites	
7	Using the planning policy to improve air quality	
8	Maximising the air quality benefits of low to zero carbon energy supply	
9	Energy efficient buildings	
10	Improving air quality in the public realm	
11	Encouraging innovation	
12	Raising public awareness of air quality issues	
13	Working with government and other authorities	
14	Working with boroughs	
15	Monitoring progress and reporting	

In February 2013, the London Mayor announced an additional suite of measures to be delivered in the mayor's second term and up to 2020. The additional suite of measures include

- A new Ultra Low Emission Zone (ULEZ) for central London from 2020, subject to further studies;

- Retiring up to 900 of the oldest Euro III buses and replacing them with ultra low emissions Euro IV buses;
- Accelerating the roll out of hybrid buses;
- Clean up construction and industrial waste sites;
- Retrofitting a further 24,000 homes, public buildings and schools with energy efficiency measures;
- Introducing a new £20m Mayor's Air Quality Fund to support the boroughs in tackling local air quality hotspots.

TfL has also produced two briefings for London Assembly Environment Committee in respect of the ULEZ [xvi], [xvii]. TfL have organised several meetings in connection with the ULEZ, which officers from the borough have attended. The London Mayor / TfL consulted on the ULEZ proposal between 27th October 2014 to 9th January 2015. The Authority responded to the consultation and raised a range of concerns that are set out in section 4.3 of this report, however, this response did not result in any significant development of the proposal.

The London Mayor has introduced a number of Air Quality Focus Areas [xviii] in the Greater London area. Figure 4.1 is a map for the Air Quality Focus Areas for the Greater London Area.

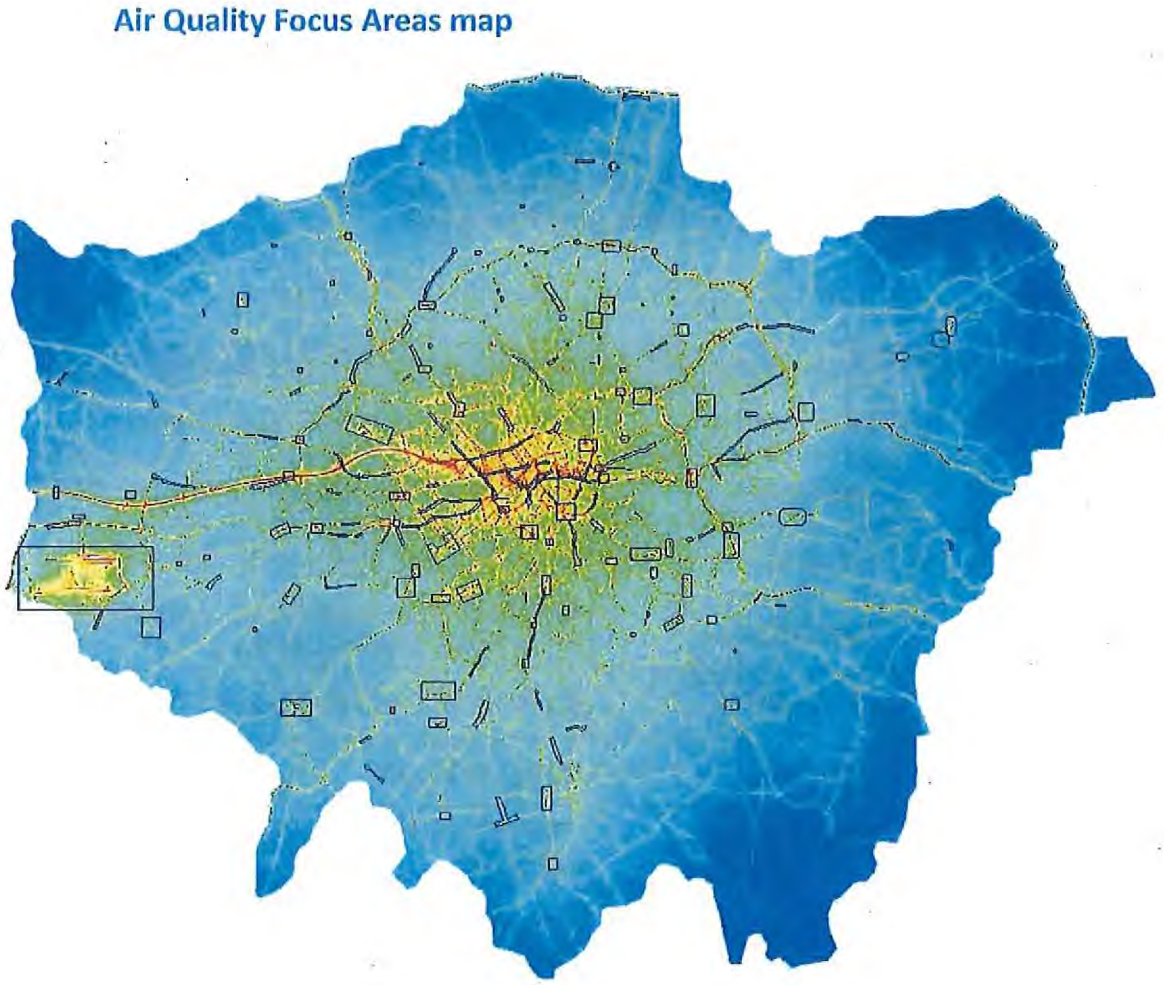


Figure 4.1 London's Mayor Air Quality Focus Areas Map

The process of how the Mayor of London developed these focus areas can be found at https://www.london.gov.uk/sites/default/files/Cleaner%20Air%20for%20London%20-%20AQ%20Focus%20Area%20methodology.pdf

Within the borough the following areas have been designated Air Quality Focus Areas by the GLA.

Table 4.2 Air Quality Focus Areas in the London Borough of Southwark

ID	Description of the Air Quality Focus Area
1	London Bridge at Borough High Street
2	Elephant and Castle to St George's Circus
3	Walworth Road / Camberwell Road / Camberwell Green
4	Tower Bridge Road A100
5	A2 Old Kent Road from East Street to Trafalgar Avenue
6	Lower Road A200 Surrey Quays
7	Peckham High Street and Clayton Road

Figure 4.1 is a map showing the GLA's Air Quality Focus Areas in Southwark with the Air Quality Focus Areas adjacent to the boundary of the Authority. Table 4.2 and Table 4.3 give descriptions of the air quality focus areas in the borough and the air quality focus areas adjacent to borough's Boundary

Table 4.3 Air Quality Focus Areas in the adjacent boroughs

ID	Local Authority	Description of the Air Quality Focus Area
8	Lewisham	New Cross Gate and New Cross
9	Lewisham	Honor Oak Park junction Brockley Road
10	Lewisham	Forest Hill and Perry Vale Junction
11	Lambeth	Herne Hill / Croxted Road / Half Moon Lane / Dulwich Rd / Norwood Rd
12	Lambeth	Kennington Oval and Camberwell New Road
13	Lambeth	Waterloo Road
14	City of London	Farringdon Road and New Bridge Street at Blackfriars
15	City of Westminster	Embankment Charing Cross to Tower Hill
16	Tower Hamlets	Tower Hill / Tower Gateway / Cable St / The Highway

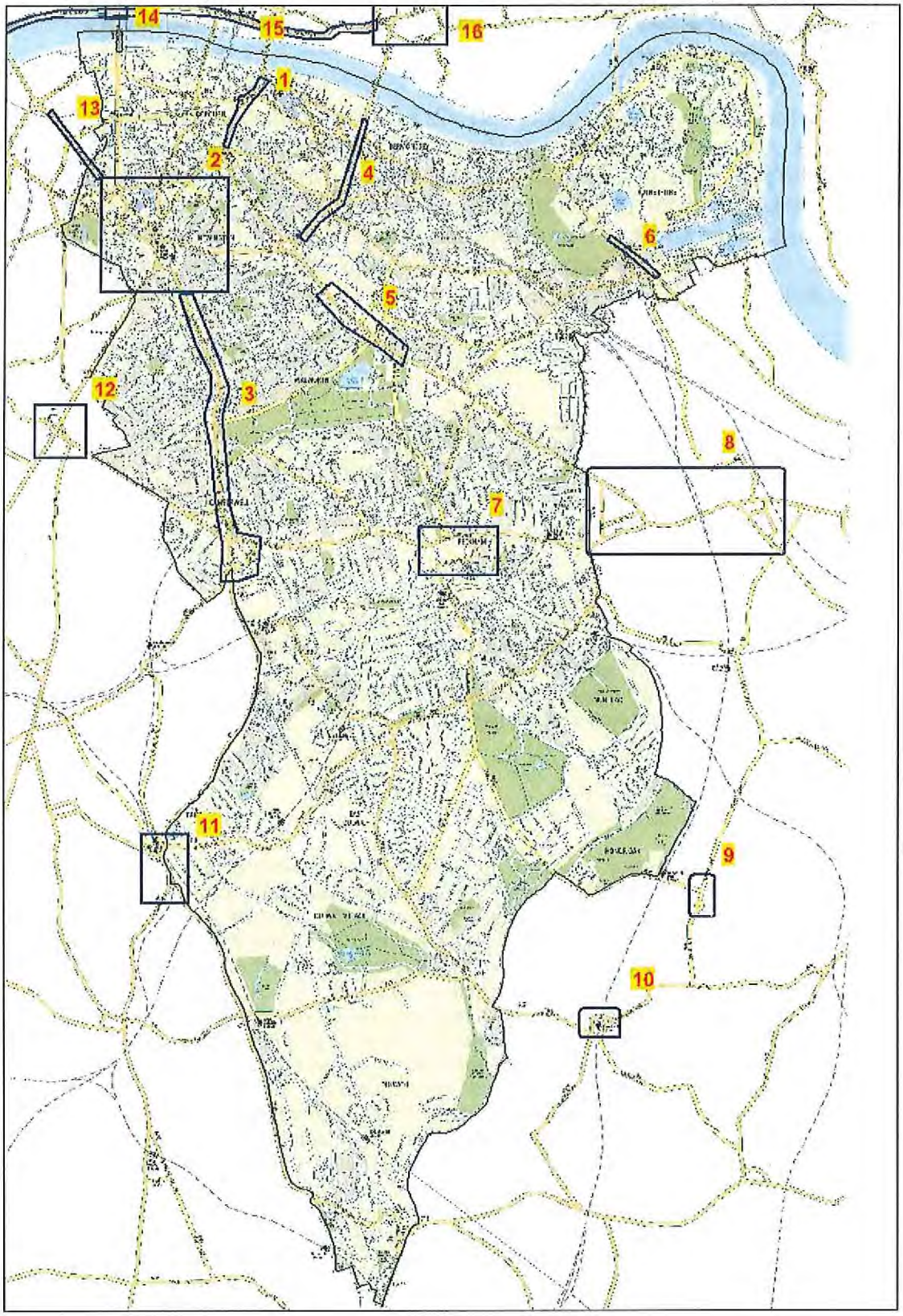


Figure 4.2 London's Mayor Air Quality Focus Areas Map in and adjacent to the L.B. Southwark

4.2 London Mayor's Spatial Development Strategy – London Plan.

In July 2011 the London Mayor published the London Spatial Development Strategy known as the London Plan. There was Revised Early Minor Alterations to the London Plan in October 2013. In January 2014 issued Draft Further Alterations to the London Plan. The consultation for this Draft was until the 10th April 2014. The comments from the consultation and the document was examined in a public planning inquiry (July 2014). On the 10th March 2015 the London Mayor published the Further Alterations to the London Plan (FALP).[xix]

The FALP did not alter the air quality policy from previous versions of the London Plan

Improving Air Quality in London is covered by Policy 7.14 of the Further Alterations to the London Plan and the text of the Policy can be found below

Policy 7.14 - Improving air quality

Strategic

A *The Mayor recognises the importance of tackling air pollution and improving air quality to London's development and the health and well-being of its people. He will work with strategic partners to ensure that the spatial, climate change, transport and design policies of this plan support implementation of his Air Quality and Transport strategies to achieve reductions in pollutant emissions and minimise public exposure to pollution.*

Planning decisions

B *Development proposals should:*

- *a* *Minimise increased exposure to existing poor air quality and make provision to address local problems of air quality (particularly within Air Quality Management Areas (AQMAs) and where development is likely to be used by large numbers of those particularly vulnerable to poor air quality, such as children or older people) such as by design solutions, buffer zones or steps to promote greater use of sustainable transport modes through travel plans (see Policy 6.3)*
- *b* *Promote sustainable design and construction to reduce emissions from the demolition and construction of buildings following the best practice guidance in the GLA and London Councils' 'The control of dust and emissions from construction and demolition'*
- *c* *Be at least 'air quality neutral' and not lead to further deterioration of existing poor air quality (such as areas designated as Air Quality Management Areas (AQMS).*
- *d* *Ensure that where provision needs to be made to reduce emissions from a development, this is usually made on-site. Where it can be demonstrated that on-site provision is impractical or inappropriate, and that it is possible to put in place measures having clearly demonstrated equivalent air quality benefits, planning obligations or planning conditions should be used as appropriate to ensure this, whether on a scheme by scheme basis or through joint area-based approaches*
- *e* *Where the development requires a detailed air quality assessment and biomass boilers are included, the assessment should forecast pollutant concentrations. Permission should only be granted if no adverse air quality impacts from the biomass boiler are identified*

LDF preparation

C *Boroughs should have policies that:*

a *seek reductions in levels of pollutants referred to in the Government's National Air Quality Strategy having regard to the Mayor's Air Quality Strategy*

b *take account of the findings of their Air Quality Review and Assessments and Action Plans, in particular where Air Quality Management Areas have been designated.*

4.3 London Mayor's Transport Strategy – London Plan.

As part of the London Low Emission Zone (LEZ) Phase 5 the London Mayor proposed in 2015 for larger diesel engines to meet a Euro IV NO_x requirement. However due to the poor performance of Euro IV and Euro V vehicles in respect of the NO_x emissions and the Government has still not produced a verification scheme for engine compliance, the London Mayor has concluded that the most cost effective scheme will be restricted to TfL buses with an commitment that all buses will meet at least Euro IV requirement for NO_x by December 2015.

In 2013 TfL consulted on and implemented the changes to the Congestion Charging Scheme, by

a) Creating a new Ultra Low Emission Discount to replace the Greener and Electric Vehicle Discounts;
b) Increasing the penalty charge from £120 to £130; and
c) Removing the option to pay the charge in shops and petrol stations.

The Ultra Low Emission Discount applies to the following vehicles:-

a) **Pure Electric vehicles**;
b) **Ultra low emissions cars** – passenger cars that emit less than 75g.km^{-1}of CO_2 as recorded on the V5C car registration document, and meet the Euro 5 emissions standard; and
c) **Ultra low emissions vans** – Vans / Light Goods Vehicles not exceeding 3.5 tonnes that emit less than 75g.km^{-1}of CO_2 as recorded on the V5C car registration document, and meet the Euro 5 emissions standard.

Ultra Low Emission Zone.

The London Mayor announced in February 2013 that he would introducing an Ultra Low Emission Zone in the central London area. In the July 2013 a briefing[xvi] was made to the London Assembly Environment Committee in connection with the London Ultra Low Emission Zone (ULEZ) which is proposed to be operational by 2020. The proposals for ULEZ are to be based around Euro 6 / VI vehicles. The briefing stated that the Congestion Charging Zone (CCZ) will be used as a basis for the ULEZ option development. The timing of the zone being operational will be modelled during the next of the feasibility study.

In February 2014, the London Assembly Environment Committee was updated with the feasibility work associated with the ULEZ[xvii].

GLA and TfL have been holding seminars, workshops and briefing with various stakeholders, including several meetings for air quality officers, which the Authority has attended. The London Mayor / TfL consulted on the ULEZ proposal between 27th October 2014 to 9th January 2015. The Authority responded to the consultation with

general support for the principal of the ULEZ; however, it concluded that the proposed scheme in its current form is not sufficient to meet the a wider challenge of improving air quality. The limited geographical scope and some technical considerations will restrict benefits to a relatively small number of people living and working in Southwark and London as whole.

The response to the consultation is summarised as follow:

- Southwark is concerned about the impact of the displaced vehicles and vehicles rerouting or skirting the zone;
- The boundary of the ULEZ should be extended to include the whole of the inner borough classification;
- The introduction of the ULEZ by 2017 / 2018 with a firm commitment to extend the scheme progressively across all boroughs by 2020;
- The modelling takes into account the real world variations in emission results.
- Provide significant support packages for sole traders and small business to become compliant with emission standards outlined in the proposed ULEZ;
- The publication of the cases for the other alternatives to the proposed zone and the justification for their rejection similarly made public;
- The full details of the cost benefit for extending the zone to the North – South Circular Road and the M25; and
- That there should be only one low emission zone in London following the existing LEZ boundary and that progressive emission and vehicle requirements are set and published in advance over the next 5 to 10 years to assist in improving the quality of vehicles across all of London.

On the 23rd March 2015 the London Mayor confirmed that the Ultra Low Emission Zone will commence on the 7th September 2020 and will apply 24 hours a day, 7 days a week. Accompanying the confirmation announcement TfL produced a report[xx] and appendices[xxi], the air quality implications of this report, will be considered in the next Authority's air quality assessment report.

4.4 Transport Emissions Roadmap

In September 2014, The Mayor of London and Transport for London (TfL) published Transport Emissions Roadmap – Cleaner transport for a cleaner London[xxii]. This document focuses on how to reduce emissions from ground – based transport in London. After an introduction to the background to transport emissions in London, there is a section on the Mayor's vision and objectives regarding transport emissions. The Mayor recognises that there are challenges and opportunities to reduce the ground – based transport emissions and produced an Action for All Toolkit which links the measures within the document and action by all parties and at all levels of government.

The measures within the document are grouped into ten lists in Chapter 5 of the document, with Chapter 6 giving an estimation of the potential impact of the measures.

1. Implementing an Ultra Low Emission Zone in central London.
2. Tightening the Low Emission Zone

3. Making traffic management and regulation smarter
4. Helping Londoners tackle air pollution and climate change
5. Driving the uptake of Low Emission Vehicles
6. Providing Clean electricity for London's transport
7. Transforming London's bus fleet
8. Delivering zero emissions taxi and private hire fleets
9. Transforming London's public and commercial fleets
10. Developing Low Emission Neighbourhoods

The measures with the Transport Emissions Roadmap are being considered for inclusion in the next version of the Southwark Plan and are being considered within the Southwark's Transport Policy Team.

5 Planning Applications

At the validation stage planning applications are checked against a planning criteria list, which includes air quality. If the planning officer considers that an air quality assessment is required and has not been submitted the planning application is not validated. All validated planning applications received by the Authority with an air quality assessment on the borough are consulted to Environmental Protection Team by Development Control Officers.

The planning applications are then considered for the impact on the ambient air quality, with recommendations formally sent to the case officer in a form of a memorandum. If the planning applications involve any type of flues as part of the development, these are normally determined using the Chimney Height procedures, before planning permission is granted. When the details are incomplete in connection with the heating provisions of the development, the outline height of the flue is determined, so that the flue can be constructed without causing any amenity issues.

If the development includes a biomass boiler as part of the proposal a condition is imposed to ensure that before the biomass boiler is operational that a suitable 'Biomass Boiler Management Plan' is submitted and approved by the Authority. There is a presumption that other fuels should be preferred if the proposed if a biomass appliance is proposed in the Air Quality Management Area.

During 2014, 132 air quality assessments were recorded on the Authority's Planning Register. All of these have been assessed by the Environment Protection Team. Since 2005 the number of planning applications with air quality assessments have increased.

6 Air Quality Planning Policies

6.1 National Air Quality Planning Policies

The national air quality planning policy is contained within paragraph 124 of the National Planning Policy Framework[xxiii] and it is a material consideration in any planning permission Department of Communities has also released a Planning Practice Guidance for Air Quality[xxiv] on the 6th March 2014.

124. *Planning policies should sustain compliance with and contribute towards EU limit values or national objectives for pollutants, taking into account the presence of Air Quality Management Areas and the cumulative impacts on air quality from individual sites in local areas. Planning decisions should ensure that any new development in Air Quality Management Areas is consistent with the local air quality action plan.*

6.2 Regional Air Quality Planning Policies

The London Mayor has produced a planning policy within the London Spatial Development Strategy known as the 'London Plan' See paragraph 4.2 above.

As part of his planning responsibilities the London Mayor has produced several Supplementary Planning Guidance (SPG) and Best Practice Guides (BPG) to provide further details on the policies within the Further Alterations to the London Plan. The SPG's with Air Quality are as follow: -

a) The Control of Dust and Emissions from Construction and Demolition
b) Sustainable Design and Construction

The Control of Dust and Emissions from Construction and Demolition SPG [xxv] was published in July 2014. This document was consulted in November 2013 as a result of the Control of Dust and Emissions from Construction and Demolition BPG[xxvi] which was produced in November 2006 not being fully implemented London wide. The BPG was a joint publication between the London Mayor and London Councils. This document was based on the an original 'Best Practice Guidance' chaired by Mr Alan Blissett from this Authority as part of the APPLE (Air Pollution Planning and the Local Environment) working group with other London boroughs.

The Control of Dust and Emissions during Construction and Demolition' SPG is a companion document to the Sustainable Design and Construction SPG [xxvii].

The Mayor of London - Sustainable Design and Construction SPG has been reviewed and the latest version has been published April 2014. The references to air quality are in connection with low NO_x boilers emitters, the selection of materials with low lifecycle impacts, low emission developments and reducing the exposure of people to air pollution and introduces the principles of the 'Best Practice Guide - The Control of Dust and Emissions from Construction and Demolition'.

In the Sustainable Design and Construction SPG, there is a section included on assessing new developments for being "Air Quality Neutral". There was no guidance how to achieve this, so the GLA commissioned Air Quality Consultants in conjunction with Dr. Clare Holman of Environ to develop a scheme demonstrating whether a new

development is Air Quality Neutral. The document Air Quality Neutral, Planning Support [xxviii] provides benchmarks against which calculated emissions from buildings and transport can be compared. Where a development does not meet the air quality neutral benchmark after mitigation has been applied, the developer will be required to off – set emissions off – site.

6.3 Local Air Quality Planning Policies

Southwark's Local Development Framework consists of the Core Strategy[xxix] (2010), the Southwark Plan[xxx](2011), the Aylesbury Area Action Plan[xxxi] (2010) and the Canada Water Area Action Plan[xxxii].

The Core Strategy only contains policies which are strategic in nature and does not repeat policies in existing documents such as London Plan. In cases where the core strategy has no policies on a particular issue, policies in the London Plan and Saved Southwark Plan may apply.

In the Core Strategy air quality is included in the Strategic Policy 13 – High Environmental Standards.

Strategic Policy 13 – High environmental standards

How we will achieve our vision to improve our places

SO 1C: Be healthy and active
SO 2B. Promote sustainable use of resources
SO 2C: Provide more and better homes

Our approach is

Development will help us live and work in a way that respects the limits of the planet's natural resources, reduces pollution and damage to the environment and helps us adapt to climate change.

We will do this by

1. *Requiring development to meet the highest possible environmental standards, including targets based on the Code for Sustainable Homes and BREEAM.*
2. *Requiring all new development to be designed and built to minimise greenhouse gas emissions across its lifetime. This will be achieved by applying the energy hierarchy (as illustrated in Figure 4 of the London Plan):*
    - *Designing all developments so that they require as little energy as possible to build and use.*
    - *Expecting all major developments to set up and/or connect to local energy generation networks where possible. We will develop local energy networks across Southwark.*
    - *Requiring developments to use low and zero carbon sources of energy.*
3. *Enabling existing buildings to become more energy efficient and make use of low and zero carbon sources of energy.*
4. *Increasing recycling and composting, minimising waste, reducing landfill and making more use of waste as a resource. By 2015 we will be recycling and composting at least 45% of municipal waste, 50% by 2020 and aspiring to achieve 60% by 2031. By 2020, we will be recycling at least 70% of commercial and industrial waste. We are aiming to meet the Mayor's target of recycling or reusing 95% of construction, excavation and demolition waste by 2020.*
5. *Requiring applicants to demonstrate how they will avoid waste and minimise landfill from construction and use of a development.*
6. *We will meet the London Plan waste apportionment target set for Southwark of managing at least 243,000 tonnes of waste by 2016, at least 275,000 tonnes by 2021 and at least 343,000 tonnes by 2031. We will implement this though a development plan document and our Waste Management strategy. We are building a state of the art resources centre at Old Kent Road to help us meet this target. We have set aside enough facilities and land to make sure we can fully meet our targets.*
7. *Requiring developments to minimise water use and use local sources of water where possible.*

8. *Setting high standards and supporting measures for reducing air, land, water, noise and light pollution and avoiding amenity and environmental problems that affect how we enjoy the environment in which we live and work. This includes making sure developments are designed to cope with climate conditions as they change during the development's lifetime.*
9. *Allowing development to occur in the protected Thames flood zone as long as it is designed to be safe and resilient to flooding and meets the Exceptions Test.*

This Policy is mapped to Policy 3.1 to Policy 3.11 of the saved Southwark Plan, the Sustainable Design & Construction[xxxiii] and Sustainable Assessment SPD's[xxxiv], policies in Chapter 5 and Policy 7.13 & 7.14 of the London Plan and the appropriate Planning Policy Statement Guidance documents.

The Southwark Plan was adapted in July 2007[xxxv], some of the detailed policies within this plan were 'saved' with permission of the Secretary of State in July 2010. Some of the policies have now been superceded by policies in the Core Strategy which was adopted on April 6th 2011. The saved policies and the policies superceded by the Core Strategy 2010 have been incorporated in the Southwark Plan 2011[xxx]

Within the Southwark Plan 2011 the planning policy related to air quality is Policy 3.6

Policy 3.6 – Air Quality

Planning permission will not be granted for development that would lead to a reduction in air quality.

Reasons

The Air Quality Management Area (AQMA) identifies where in Southwark levels of air quality are below national standards. The LPA has a responsibility to reduce activities which cause air pollution in order to contribute to achieving national air quality objectives. Southwark's Air Quality Strategy and Improvement Plan contain policies and measures to improve the air quality in Southwark including measures that address the emissions from industry, construction, domestic properties and traffic. The Strategy also promotes modal shifts towards public transport and low and zero emission vehicles and raises awareness of air quality issues. It identifies planning policies to be a key action in improving local air quality through influencing developments to consider air quality impacts.

The Authority has started the process to replace the current Core Strategy (2011) and Saved Southwark Plan (2010) policies with a New Southwark Plan[xxxvi]. is be prepared over the next three years with different stages of consultation taking place up to 2017.

Between October 2013 and February 2014 there was a consultation with the community on the 'Health of the High Streets'.

From October 2014 until March 2015 the Authority consulted on an 'Issues and Options' paper sets out a detailed strategy for regeneration in Southwark and updates the strategy and area visions in the Core Strategy. The document explains the strategy for the regeneration of Southwark and contains area visions setting out aspirations for places and detailed development management policies which are numbered 'DM XX' within the consultation paper.

The detailed development management policy in respect of air quality is shown below with two consultation questions: -

DM68: Improving air quality

Southwark will have improved local air quality.

DM 68.1 Development must not lead to a reduction in air quality.

Key questions:
24. To support this work, we could identify areas of particularly poor air quality where new development will be required to include more measures to help improve local air quality. We could require new development to incorporate measures to help improve air quality such as green walls, electric charging points or increased cycle parking or measures to help us monitor air quality. Where this is not provided, we could ask for a payment in lieu to contribute towards local air quality improvements. Do you support this approach?

25. Are there any areas you think should be designated as air quality improvement areas?

The consultation period closed at the beginning of March 2015, the Authority will be reviewing the consultation responses over the next few months.

Supplementary Planning Document

The relationship between air quality and planning policy is further enhanced within the Authority's Supplementary Planning Document – Sustainable Design and Construction[xxxiii].

This document examines how the development can avoid pollution and environmental nuisance through site selection, design of the development, planning construction activity, the combined heat and power (CHP) or combined cooling, heating and power (CCHP) operation and use of the completed development[2].

The guidance highlights the emissions from boiler systems: -

- *Low NO_x burners should be used.*
- *Fuels and technology chosen for CHP and other energy systems should be of a high quality resulting in low air pollution. If bio-fuels are to be used, the preference is for biogases, such as methane and hydrogen and alcohol, or for systems that use a gasification process. Generally, large scale community combined heat and power (CHP) or combined cooling, heating and power (CCHP) systems are preferred as these are likely to be less polluting than the combined impact of individual boilers.*
- *Arboricultural waste, such as clippings from parks, is a potential good local supply of fuel. Steps will need to be taken to ensure that these are processed and used in a way that reduces air emissions.*
- *As a last resort, technical measures such as filters may be required to keep polluting emissions at an acceptable level.*
- *Polluting emissions from energy supply systems must not exceed legal limits. A permit from the Environment Agency may be required. You may also need to get approval from the Council's Environmental Protection Team to burn permitted fuels.*

Advice is given in respect of reducing the impact of construction activities on the surrounding area by controlling dust emissions. Planning conditions will be imposed to control the impacts of the construction phase of new developments.

[2] See section 10 of the Sustainable design and Construction SPD.

Section 11 of the document, provides the 'Development standards for major developments" with the overall target that the 'Code for Sustainable Homes' should aim to achieve a Code level 4 or a BREEAM "Very Good" rating for non- residential developments. The stated standards in connection with 'Outdoor Air Quality' are given below:-

- Development in the Air Quality Management Area will need to provide a formal air quality impact assessment.
- Applications for district CHP and CCHP schemes will need to be accompanied by a formal air quality impact assessment. This includes explaining the type of fuels to be used and how these have been sourced as close to the site as possible. Where biomass boilers are proposed, further information will be required to be submitted.
- Where the use of zero emission fuels is not demonstrated to not be feasible, systems should be designed to allow easy conversion to these fuels in the future.
- All gas boilers should produce low levels of NO_x.

Appendix 6 of the document provides the details required to be submitted in an air quality assessment and, if biomass heating is proposed, the supplementary information should be provided within the application documentation.

This document is due to be reviewed within the programme of the Local Development framework. The Mayor of London - Sustainable Design and Construction SPG will take precedent over the borough's, so the boiler standards in the Mayor's SPG will be the standard that developers will implement in the borough.

7 Local Transport Plans and Strategies

7.1 Introduction

The London Borough of Southwark's Transport Plan[xxxvii] sets out how we will improve travel to, within and from the borough and contribute to the wider economic, social and environmental objectives of the council. The plan sets the borough's vision for transport, the borough's long-term goals and transport objectives for the borough (up to 20 years), targets and outcomes to show how the borough will deliver the Transport Plan. The plan incorporates the requirements of Southwark's Local Implementation Plan 2 in helping to deliver the Mayor's Transport Strategy.

The Transport Plan guides transport priorities and projects and the plan details the borough's three-year programme of investment (2011/12 to 2013/14). The plan identifies how the authority will work towards achieving this through eight transport themes.

Table 7.1 L.B Southwark Transport Themes.

Objective	Description
1	Manage demand for travel and increase sustainable transport capacity
2	Encourage sustainable choice
3	Ensure the transport system helps people to achieve their economic and social potential
4	Improve the health and wellbeing of all, by making the borough a better place
5	Ensure the transport network is safe and secure for all and improve perception of safety
6	Improve travel opportunities and maximise independence
7	Ensure that the quality, efficiency and reliability of the highway network is maintained
8	**Reduce the impact of transport on the environment**

Table 7.1 shows that the objectives within the Transport Plan. Objective1 will assist the air quality action plan by pursuing a traffic reduction in the borough, by providing information to the population and ensuring there is sufficient public transport service levels, by controlling parking in the borough to discourage commuting parking and providing car club bays, by improving the walking and the cycling environment. Objective 2 will promote sustainable choice of travel in the borough. Objective 4 will ensure that any transport interventions will make a positive contribution to the historic and natural environmental of the borough. Objective 7 will maintain and work towards improve the borough's road network to make the best use of the road network to reduce areas of road congestion, by prioritise improvements to areas where buses are delayed, ensure that road works are safe and completed without due delay and managing access to town centres for servicing can be carried out safety and efficiently. Objective 8 covers the environment objective and is expanded in the following paragraphs.

8. Reduce the impact of transport on the environment

To improve the borough's air quality, we will encourage the take up of sustainable travel and reduced reliance on private vehicles. We will consult on introducing emission based parking permits and

continue to support the take up of new technologies including lower emission vehicles and review our own fleet to help meet our carbon dioxide emission targets.

There are several policies connected with air quality within this theme

Policy 8.1 Seek to reduce overall levels of private motor vehicle traffic on our streets.

The Authority has established three screen lines and a set of traffic count locations, where the borough will carry out repeat counts year on year so it is possible to measure changes in traffic flow over time. The annual screen line programme is shown in Figure 7.1 below. The Transport Plan target is to reduce traffic levels in Southwark by 3% by 2013 and this target met. During 2014 the annual screen line count there has been an overall increase in traffic when compared to the 2103 data. For 2013/ 2014 the target has been changed to reduce traffic levels in Southwark by 6% by 2016.

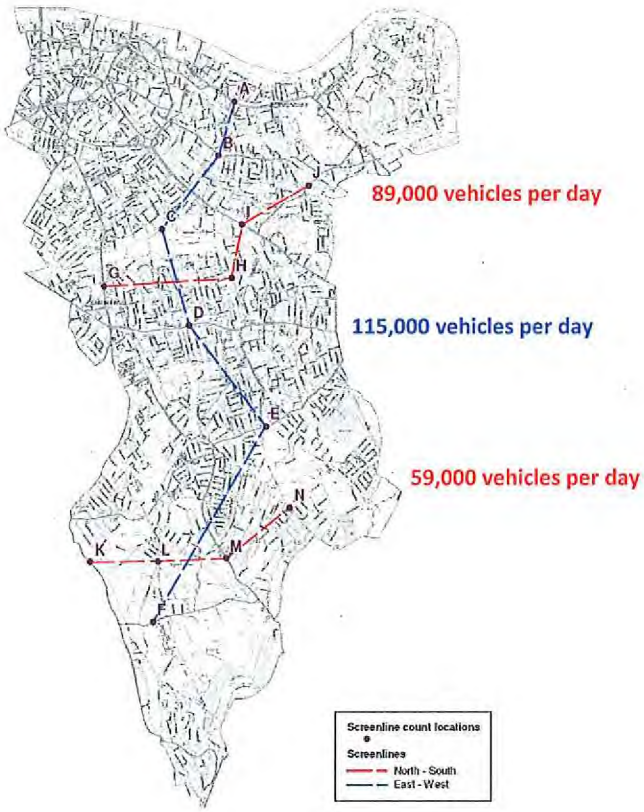
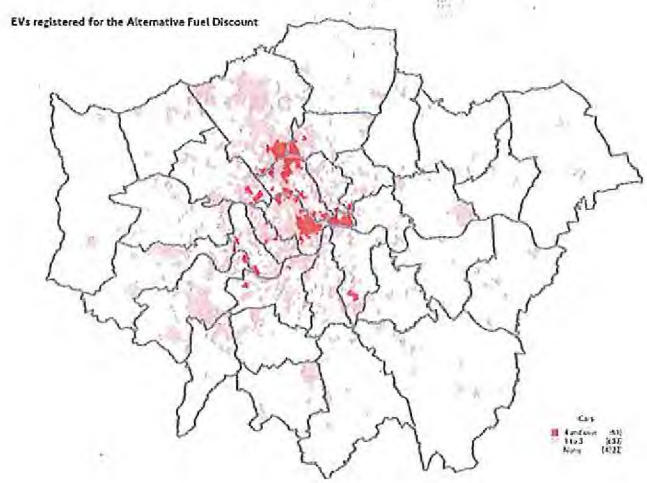


Figure 7.1 The Annual screen line programme for 2014

Policy 8.2 Promote the uptake of low emissions vehicles

This policy is aimed to limit the impact of existing motor vehicular traffic in the borough. Southwark promotes the use of alternative fuel vehicles by providing discounted residents parking permits for low emission vehicles at 75% of the normal permit cost.

There is an ownership cluster of electric vehicles known to be in Dulwich area of Southwark. This can be seen by a map from the London Electric vehicle Infrastructure Strategy.[xxxviii]



Source: London's electric vehicle infrastructure strategy (draft) 2010

Figure 7.2 Spatial distribution of electric Vehicles in the borough..

In the borough there are now 30 fast charge and 14 slow electric charging points.

Policy 8.3 Reduce the impacts of motor vehicles traffic through education and enforcement initiatives.

At present, it is an offence to leave a vehicle engine running unnecessarily whilst parked, but enforcement can be problematic. The penalty charge is fixed at £20 significantly less than the £120 charged for other parking offences and too low to be a deterrent or cost effective to collect. A higher charge would raise the profile of this offence, increasing the likelihood of compliance and making enforcement more practical.

However, in order to help raise awareness around this issue the borough is undertaking a Mayor's Air quality Fund project to inform drivers of vehicles on the approaches to Tower Bridge to switch off the vehicle engines when the Tower Bridge is raised. The project has been delayed because it has been difficult to obtain all the various permissions from the different TfL section to install the necessary infrastructure.

It is recognised that it is important to raise awareness of the impact of idling engines, particularly around schools. Southwark has received grant funding from the Mayor's Air Quality Fund to undertake air quality awareness with school communities and has been successful to deliver the "Clean Air 4 Schools" in six primary schools. There are plans to produce a "Clean Air 4 schools" programme for secondary schools in the next year.

Along side the impact awareness further Eco – driving training will be arranged for the Authority's staff so that the drivers can adopt a more fuel – efficient driving style and reduce emissions.

8 Climate Change Strategies

8.1 National Strategy

The Climate Change Act 2008 set the UK with a legally – binding long – term framework to cut greenhouse gas emissions and a framework for building the UK's ability to adapt to a changing climate. The act requires:

- A UK – wide climate change risk assessment that must take place every five years;
- A national adaption programme which must be put on place and reviewed every five years;
- Adapting Reporting Powers which enable the Secretary of State to direct "reporting authorities" to prepare climate change adaption reports.

The first Climate Change Risk Assessment (CCRA)[xxxix] was produced in 2012. The CCRA has assessed the main risks and opportunities in the UK from climate change. The analysis provided an overview and assessment of risks in and across sectors and gives the ability to compare the different sectors. The CCRA bought together the best available evidence using a consistent framework to identify the risks and opportunities related to climate change. The assessment detailed approximately 700 potential risks down to more than 100 for detailed review.

The CCRA is being used by central Government with evidence to help inform priorities for action and appropriate adaption measures. The report also highlighted where further work is required to understand the scale and nature of risks and whether further action is required to be undertaken.

On the 1st July 2013 the Government responded to the UK CCRA by producing the National Adaption Programme (NAP)[xl] The NAP outlines the role of society in adaptation efforts, the challenges of uncertainty, the cost of benefits of climate change and impacts of climate change on economic activity. It also provides recommendations on where future work should focus attention.

Action in the NAP is divided into the following broad categories:

- Raising awareness of the need for climate change adaption;
- Increasing resilience to current climate extremes;
- Taking timely action for long – lead time measures; and
- Addressing major evidence gaps.

Accompanying the NAP report was an economic analysis.[xli]

8.2 Regional Strategy

In October 2011 the Mayor of London published The Mayor's Climate Change Mitigation and Energy Strategy[xlii]. This document is one of eight environmental strategies setting out the action the Mayor is taking, and encouraging others to take, to green London, retrofit London and provide cleaner air for London. The Climate

Change Mitigation and Energy Strategy concentrates on reducing CO_2 emissions to mitigate climate change, securing a low carbon energy supply for London, and moving London to a thriving low carbon capital. The strategy has four objectives:-

a) To reduce London's CO_2 emissions to mitigate climate change.
b) To maximise economic opportunities from the transition to a low carbon.
c) To ensure a secure and reliable energy supply for London.
d) To meet, and where possible exceed national climate change and energy objectives.

The CO_2 emissions in the strategy are based on 2008 CO_2 figures. In London for 2008 the CO_2 for the region was calculated as 44.71 million tonnes ($MtCO_2$) which was calculated to be 8.5 per cent of the UK's total CO_2 emissions.

The Mayor has set the following CO_2 emissions reduction targets: -

Table 8.1 The Mayor's CO_2 emissions reduction targets in London

Target year	Target CO_2 emissions reduction on 1990 levels
2015 (Interim target)	20 per cent
2020 (Interim target)	40 per cent
2025	60 per cent
2050	At least 80 per cent

In March 2014 the GLA published The Mayor's Climate Change Mitigation and Energy Annual Report[xliii] The report states that the last CO_2 emissions available are from 2011 and it has been calculated that the emission in 2011 were 39.92 $MtCO_2$ per annum. This represents a reduction of eleven percent on the 1990 baseline level, a twenty one percent reduction from the maximum level of London's CO_2 emissions in 2000, and 14 percent reduction on the levels of CO_2 in 2008.

Table 8.2 The London CO_2 emissions in 2011 by sector

Source	CO_2 emissions $MtCO_2$	Percentage of total (%)
Workplaces	17.06	43
Homes	14.28	36
Transport	8.58	21

Gas remains the majority fuel source for London, accounting for 45% of the energy used in London, whilst electricity accounts for 30% used for both lighting and appliances in buildings and for rail transport. The oil – based fuels (petrol, diesel and aviation fuels) account for the remaining 25 percent of London's energy use.

8.3 Local Strategy

In 2006, the London Borough of Southwark set itself a highly ambitious target of an 80% reduction in carbon emissions by 2050 (on 2003 levels). Whilst much work has been undertaken to date, this has had little impact on borough emissions to date. On the 20th September 2011 the Energy and Carbon Reduction Strategy was agreed at Cabinet for interim targets for carbon reduction for the both the Council's emissions and that of the borough as a whole, up until 2020, to help track progress towards the 2050 target of a 80% reduction by 2050 from a borough baseline of 1,690,000 tCO_2.

The adopted Energy and Carbon Reduction Strategy has 20 measures contained in the Carbon Reduction Action Plan. The measures are listed in Appendix D of this report.

Table 8.3 Percentage of Southwark Council's emissions of CO_2

Source	% of Council emissions	% of borough emissions
Council Housing	94	12
Schools and Academies	3	1.5
Leisure Centres	1.5	0.5
Council Offices / Depots	1.5	0.5
Total	**100**	**14.5**

Southwark Council is one of the largest social landlords in the country. As can be seen from Table 8.3 the housing stock accounts for 94% of all of the Council's carbon emissions. In March 2013 the Authority entered into an agreement with British Gas Trading Ltd for carbon reduction works under the energy companies' obligation (ECO) to reduce the Council's housing stock emissions. The project was completed by March 2015, the full carbon benefit of the works have been calculated. The project aimed to provide over 4000 homes with cavity wall insulation, 1000 properties with external wall insulation, a similar number of properties will receive window and roof works to improve insulation. All this is subject to finding suitable properties to treat.

The project has just provided a spreadsheet of the measures taken over the project with the addresses where the measures have been implemented. However due to the format of the data, it has not been possible to present whether the project has met its aims without further analyse and manipulation of the data. However this will documented in the next report. The headline results of the project are that over the 2 years, the project has reported that 6567 measures have been implemented, with the calculated saving of 88,233tCO_2.

Working in partnership with its waste service provider Veolia, the Council is now making full use of the combined heat and power potential of the SELCHP energy from waste facility in neighbouring Lewisham. This innovative scheme has a potential to reduce carbon emissions from the housing stock by 7,700 tonnes CO_2 a year. The following estates are receiving heat and hot water directly from the facility

- New Place Estate (Four Squares)
- Keetons Estate
- Rouel Road Estate
- Slippers Place
- Abbeyfield
- Pedworth Estate
- Silerlock Estate
- Tissington
- Silwood Estate

The operational estate (including Schools) baseline was 41,036 tCO_2 per annum, and there is a target to reduce this total by 26.6% by 2016.

To help to meet this target, the Authority has since 2011 has been working on the Low Carbon Schools Programme (LCSP) which incentivises schools to invest in energy efficiency improvements by using an 'invest to save model'. The programme achieved this incentivisation by providing:

- Free, no obligation energy audits of a school's heating and lighting systems.
- Free, council led tendering and project management
- Matched funding from the Council to halve the upfront cost of installing energy efficiency measures.

The LCSP has delivered to March 2015 a projected carbon savings of 608 tonnes CO_2 per annum across the schools portfolio.

With the next phases of the Clean Air 4 Schools project in primary and secondary schools starting soon, the project will remind schools about the LCSP work.

From the latest data available the authority has reduced the emissions by 25.3%, which is on target to meet the overall reduction target in 2016.

9 Implementation of Action Plans

Table 9.1 Action Plan Progress

No.	Measure	Focus	Lead Authority	Planning Phase	Implementation Phase	Indicator	Progress to Date	Progress in Last 12 Months	Estimated Completion Date	Comments Relating to Emission Reductions
1	Southwark will continue to encourage the use of the car club schemes, monitor and report on uptake and allocate additional spaces should demand warrant.	Reducing the use of private cars in the borough and an incentive to avoid non-essential car journeys	Public Realm	Ongoing	On going when resources are available	No of car – club members in the borough No of car club spaces in the borough	At the end of 2013 there were 7236 car – club members, an in the borough there was an increase of two car club spaces, bringing the total to 119	The number of members at the end of 2014 was 8364 in the borough, with 111 car club spaces utilised	2017	It has been reported that members of car clubs have sold at least one private vehicle since joining or members have also deferred or cancelled purchasing a car since joining the car club
2	Southwark will continue to implement, evaluate and publicise progress of measures to encourage sustainable travel choices, within the borough.	Reducing the use of private cars in the borough and an incentive to avoid non-essential car journeys	Planning Policy Public Realm Transport Planning	Ongoing	On going in accordance with the programme in the Transport Plan	No of projects to improve the walking and cycling environment in the borough	Up to the end of 2013 there were 44 projects to improve the cycling environment in the borough Up to the end of 2013 there were 65 projects to improve pedestrian crossing points in the borough.	Work has been progressed in the borough through the implementation of the Transport Plan to improve the cycling facilities and improve the pedestrian environment, the total numbers not available at present	2017	The increase in active travel either through walking or cycling by drivers of vehicles will lead to less car journeys, which will reduce vehicle based emissions.

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No.	Measure	Focus	Lead Authority	Planning Phase	Implementation Phase	Indicator	Progress to Date	Progress in Last 12 Months	Estimated Completion Date	Comments Relating to Emission Reductions
3	Southwark will investigate funding opportunities to pilot a scheme to identify and implement local air quality improvements near to schools and publicise the results.	Reducing short – term pollution of NO_x and PM_{10}	Education Development Control and Strategic Projects Community Safety	2012 - 2013	2013 - 2017	Funding source identified and granted The number of schemes introduced. Reduction in number of children being driven to school	The Defra Air Quality Grant has been completed and evaluation report has been written. The Authority has been successful in receiving an grant from the Mayor's Air Quality fund to continue with further primary school and start the CA4s programme in secondary schools.	Following the successful completion of the Defra Air Quality Grant project with six primary schools, this has generated interest in other schools who will participate in the MAQF project. Discussions have taken place to produce a secondary school CA4S programme, but during the year a CA4S programme was produced in East Herts DC which will be trialled in several Secondary schools in the borough	2017	The reduction of car journeys for the school run, less idling on the school approach roads and lower fuel use by the school will reduce emissions in the local area. The project includes an element of air quality awareness which may result in to changes to personal transport choices.

No.	Measure	Focus	Lead Authority	Planning Phase	Implementation Phase	Indicator	Progress to Date	Progress in Last 12 Months	Estimated Completion Date	Comments Relating to Emission Reductions
4	Southwark investigate potential to undertake enforcement on idling engines at hotspots within the borough.	Reducing short – term pollution of NO_x and PM_{10}	Community Safety	During the drafting of the revised Air Quality Strategy and Action Plan, it was planned that the Community Wardens would undertake the enforcement of idling vehicles and at the start of the operation a publicity campaign would start.	This measure has been reviewed following the reduction in the resources within the community warden service it has been deferred until the charge has been increased to make collection viable.	The number of idling vehicles owner requests to turn off engines and percentage of FPN issued.	Reviewed during the re-organisation of the Community Safety & Enforcement Business Division	This measure has been deferred until further resources have been identified and it is cost – effective to implement	2013	The implementation of this measure would reduce air pollution in the local areas where vehicles are idling
5	Southwark will undertake air quality assessments on all major highway traffic management schemes and initiatives and road safety schemes and initiatives > £1m in value	To ensure that the scheme will improve the local air quality.	Transportation Planning, Development Control and Strategic Projects Community Safety	2012	2013 - 2017	The number of air quality assessments undertaken	The road schemes in the Camberwell Town Centre and at Elephant & Castle are only the schemes that are valued over £1m. At present there is no preferred scheme for Camberwell Town Centre scheme so no assessment has been carried out. The E& C is a TfL scheme,.	There is no change in the status of the Camberwell Town Centre project. An air quality assessment has been submitted in respect of the E&C by TfL, which predicts that the air quality will be impacted in the Walworth road area and on the west side of the junction.	2017	By smoothing vehicle flows, reduces emissions A good design of the road scheme will lead to a reduction in exposure to adjacent occupiers of buildings and road users

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No.	Measure	Focus	Lead Authority	Planning Phase	Implementation Phase	Indicator	Progress to Date	Progress in Last 12 Months	Estimated Completion Date	Comments Relating to Emission Reductions
6	Southwark will deliver 'in house' smarter driver training to all employees that take the council's internal driving test and investigate how to extend this out to all staff who are required to drive for work purposes.	To provide 'eco-driving' training to all staff	Sustainable Transport	2012	2013 - 2017	The number of training employees in the year	In the Authority before staff members are permitted to drive any borough's fleet vehicles have to pass an internal driving test, part of this examination includes smarter driving.	The borough driving – test continues and there has been events in the atrium of the council offices to promote eco – driving and energy saving tops.	2017	Emissions from vehicles are reduced when being driven in a 'Smart' manner.
7	Southwark will develop an emissions strategy for all new council and council contractors' vehicles and plant.	To promote and encourage the use cleaner greener vehicles and plant.	EHTS Energy Team Sustainable Transport Procurement	2012	2013 - 2017	Production of strategy The number of contracts renewed using the emissions strategy and percentage reduction in NO_x and PM_{10}	The strategy had been delayed due to the proposals of the introduction of the London's Mayor ULEZ until firmer proposals are known to the authority	Now the ULEZ has been confirmed and the introduction of further zero and ULEV vehicles on the market and available for leasing the strategy will be produced during this year	2017	The different technologies and control methods being employed by vehicle manufacturers Is making it difficult to advise which plant and vehicles should be used.
8	Southwark will work with partner boroughs in the Central London Air Quality Cluster Group to establish a Central London Low Emission Zone.	To assess the feasibility and cost – effectiveness of central LEZ with other boroughs and GLA.	EHTS Central London Air Quality Cluster Group GLA Southwark PCT	2012	2013 - 2017	Progress of the proposal on annual basis	The authority is in general support of the principle for the introduction of the ULEZ, but are concerned with the geographical boundary of the zone and it's impact on the air quality on the areas adjacent to the boundary	The borough responded to the consultation see section 4.3 and in March 2015 the London Mayor confirmed the introduction of the ULEZ in September 2020	2017	Now the ULEZ has been confirmed the accompanying reports will need to fully assessed to ascertain the air quality impact in the borough.

No.	Measure	Focus	Lead Authority	Planning Phase	Implementation Phase	Indicator	Progress to Date	Progress in Last 12 Months	Estimated Completion Date	Comments Relating to Emission Reductions
9	Southwark will continue its implementation of energy efficiency measures in council owned buildings.	The reduction of emissions of NO_x and PM_{10} from properties.	Energy Team Housing	2012	2013 - 2017	The number of properties that have received cavity wall insulation The number of properties that have received loft insulation	The Energy and Carbon Reduction Strategy has an interim target of 26% reduction in CO_2 emission by 2026. The Housing Department is spending £30 million on upgrading social housing to Decent Homes is underway. In March 2013 the Authority entered into an agreement with British Gas trading Ltd, for carbon reduction work. Data will be made available in 2015	Work has been implemented in operational estate buildings to improve the energy efficiency, the Low Carbon Schools Programme has produced a carbon savings of 902 tonnes CO_2 per annum	2017	The data from the Housing Department has been received, but at present the data does not provide sufficient information to be enable the air quality emissions to be calculated, but it has been calculated to produce at a carbon saving of 88,233tCO_2.
10	Southwark will ensure that local energy generation plant will be fitted with suitable abatement and dispersal technologies, and encourage non-polluting renewable generation	To ensure that the plant does cause a deterioration to the local air quality.	Development Control Planning Policy Energy Team EHTS	2012	2012 - 2017	The percentage of the number of annual maintenance reports submitted to the Authority.	The energy generation plant in the ownership or contracted by the authority has regular maintenance on an annual basis, but is unclear in respect of the private sector plants	None of been submitted to the authority	2017	There is an challenge to ensure that energy centres are divided into smaller units due to the ownership of the developments the energy is serving, whether it public or private sector.

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No.	Measure	Focus	Lead Authority	Planning Phase	Implementation Phase	Indicator	Progress to Date	Progress in Last 12 Months	Estimated Completion Date	Comments Relating to Emission Reductions
11	Southwark will continue to regulate Part B Processes to ensure that high standards of air pollution control are maintained.	To ensure that Part B processes do not pose no health risk to residents and visitors in the local area to the process.	EHTS	2012	2012 - 2013	Number of new processes Percentage of programmed inspection completed in the year	All the prescribed processes have been reviewed and inspection has been decided based on the risk assessment if the process and the officers confidence in the managements ability to ensure compliance with the conditions of the permit, the inspection rate in 2103 was 83% of the programmed inspection was carried out during the year.	No new processes within the borough. The programme of inspection has been carried out in accordance with the risk assessments and has achieved 86% of the programmed inspections in the borough.	2017	The air emission from the majority of the "Part B processes" in the borough are categorised as low risk due to low solvent use in the dry cleaners and vapour recovery abatement system at the petrol station. Full list of the process can be seen in Appendix E of this report.
12	Southwark will require developers to adopt measures included in the Best Practice Guidance on construction and demolition within their Environmental Construction Management Plans (ECMP).	The reduction of emissions of NO_x and PM_{10} by responsible management of the site.	Development Management EHTS GLA	2012	2013 -2017	The number of ECMP's submitted and the percentage of the number of annual reports.	Environmental Protection Team are consulted and comment on schemes with environmental construction management plans and work with developers to ensure that the amenity is protected by ensuring best practical means is being achieved	The Environmental Protection Team continues working with developers to ensure that the construction phase development is not causing an amenity problem and have reviewed 27 ECMP's planning requirements this year.	2017	The use of best practical means in dust control and minimum standards for site plant emissions will reduce the pollution burden the local areas adjacent to redevelopment sites.

No.	Measure	Focus	Lead Authority	Planning Phase	Implementation Phase	Indicator	Progress to Date	Progress in Last 12 Months	Estimated Completion Date	Comments Relating to Emission Reductions
13	Southwark will monitor all travel plans received as part of the planning process for compliance and take enforcement action where appropriate.	To encourage the use other means of transport other than private vehicles.	Development Management and Strategic Projects	2012	2013 - 2017	Number of development travel plans secured Number of development travel plans monitored at years 1, 3 and 5. Modal shift from development travel plans – Single Occupancy vehicle use percentage reduction	The council assesses and monitors development travel plans, including both compulsory and voluntary travel plans. Compulsory travel plans consist of workplace, residential and mixed use development travel plans, whilst voluntary travel plans are for workplaces. This work also involves providing advice to businesses and holding business engagement events.	Due to staff resources in the transport section, this indicator has not been collated, however the travel plans for schools have been progressed during 2013/ 14 period 122 schools have a travel plan and 66 schools have updated their existing plan.	2017	The increase of active transport and less reliance on the use of motor vehicles will produce a reduction in emissions.
14	Southwark will require developers to submit air quality assessments for all major applications within the Air Quality Management Area and any other development that may have an adverse impact on Air Quality.	To ensure that new developments contribute to the local authority working towards the national air quality objectives	Development Management Community Safety Planning Policy			100% of the number of air quality assessments required.	The number of air quality assessments were recorded on the Authority's Planning Register has increased each year from2008.	During 2014, 132 air quality assessments were recorded on the Authority's Planning Register. All assessed by the Environment Protection Team.	2017	Air quality assessments reduce emissions and protects internal air quality of developments in high air pollution areas

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No.	Measure	Focus	Lead Authority	Planning Phase	Implementation Phase	Indicator	Progress to Date	Progress in Last 12 Months	Estimated Completion Date	Comments Relating to Emission Reductions
15	Southwark will gather an evidence base to determine present and future concentrations within the borough; this information will be made available to developers and their consultants when needed to conduct air quality assessments.	To gather data in order the local authority can inform policy and ensure that decision can be made with all available data.	EHTS	2012	2013 - 2017	Evidence base provided Annual update Number of hits on the website	The Environmental Protection Team have been collecting data in connection with air quality and will making available on the webpage. The technical section of Housing and Community Services has instigated a survey of all "Commercial and Communal Gas Fired Heating Systems", which will be made available to air quality consultants.	The information from the Housing and Community Services does not provide all the technical data required, work is being carried out to obtain the data and when it is available uploaded it to the web pages and pass it to the GLA to be included in the emission inventory.	2017	Air quality data assists in effective strategic environmental planning for air quality
16	Southwark will develop policies within its emerging Local Development documents that will require new development to reduce PM_{10} and NO_x emissions when compared to previous site use.	To use spatial planning process to promote 'air quality neutral' developments in the borough.	Community safety	2012	2013 - 2017	Number of planning policies developed in connection with air quality	No new air quality policies developed	Discussions have been held with Planning Policy Team to improve the environmental planning policies and condition in connection with air quality.	2017	Using the best available control measures to reduce the emission of PM_{10} and NO_x and the new developments are air quality 'neutral' will improve the local air quality.

No.	Measure	Focus	Lead Authority	Planning Phase	Implementation Phase	Indicator	Progress to Date	Progress in Last 12 Months	Estimated Completion Date	Comments Relating to Emission Reductions
17	Southwark will continue to promote the AirTEXT service at events and schools and will support other events relevant to air quality	Reducing the health impacts of air quality on the vulnerable persons in the borough.	Planning Policy Development Management Community Safety	2012	2013 - 2017	The number of participates of the AirText and the number of alerts in a year and cascades.	The AirText service is being promoted on the Authority's Pollution web pages. Working with Public Health colleagues to promote AirText with other medical staff.	There are 258 (May 2015) participates in the borough and there were 30 morning & 28 evening alerts during the year.	2017	Following the advice when moderate or high episodes are forecasted will reduce personal exposure and better management of the impacts for respiratory disease patients.
18	Southwark will provide up to date information on air quality via its website and will respond to and engage with residents to support community efforts to raise awareness and change behaviour	Raising public awareness of air quality	Community Safety Corporate IT	2012	2013- 2017	The number of hits on the website	As part of the London's Mayor Quality Air Quality Fund project - air awareness At present the air quality pages have received 2838 hits since April 2013.	Difficulties have been experienced in resourcing the project have delayed its commencement, but the project is under development with the council's Technical Implementation Board.	2017	The inclusion of borough wide air quality monitoring information will provide evidence to enable the Authority to monitor the effectiveness of air quality projects in the borough

London Borough of Southwark May 2015

No.	Measure	Focus	Lead Authority	Planning Phase	Implementation Phase	Indicator	Progress to Date	Progress in Last 12 Months	Estimated Completion Date	Comments Relating to Emission Reductions
19	Southwark will establish and maintain the operation of two automatic monitoring stations at the Elephant and Castle and Old Kent Road and supplement this with a diffusion tube survey to provide a more comprehensive survey of air quality in the borough.	To provide data to monitor the effectiveness of this strategy and inform policy decisions.	Community Safety	2012	2013-2017	Data capture of the monitoring stations and the number of diffusion tubes	The London borough of Southwark has two air quality monitoring stations in the borough on the Old Kent Road and at Elephant & Castle. The Nitrogen Dioxide Diffusion Tube survey was extended as part the Tower bridge Anti –Idling Project and the Heygate Construction project	The data capture at the continuous air quality monitoring was compromised by the performance and the demise of SupportingU Ltd The number of Diffusion tubes has been maintained the same as last year.	2017	The monitoring in the borough provides evidence that there are locations in the borough that are exceeding the national air quality objectives.
20	Southwark will pursue its Tree Management Strategy and investigate opportunities to work together with the Mayor on the commitment to plant new trees in priority locations in accordance with the 'right tree right place' methodology, taking into suitable account the benefits and costs of street trees on air quality within the borough and Camberwell	To improve the environment of the local public realm.	Public Realm Community Safety	On going	On-going	The number of trees planted.	During 2012 and 2013 financial years 535 street trees were replaced, 133 new street trees. Tree planting is stipulated as part of a planning consent; however no records are kept of the number of trees planted.	On the Heygate development there will be 1200 trees planted during the period of 2014 & 2020 During 2014 financial year 95 street trees were replaced, 104 new street trees,.	2017	The inclusion of trees in developments assists in providing shade to reduce the heat island effect, better visual amenity of roads and there is some biological processing of pollutants.

9.1 Other actions

The Authority has been successful in obtaining funding from the London Mayor's Air Quality Fund for the following projects.

Air Quality Awareness

This on-going project involves improving the access to local, regional and national air quality information; increasing the awareness of air quality issues and the promotion and implementation of measures to improve air quality. This has included;

- Working with Schools on air quality awareness delivering activities and Citizen Science projects
- Working with medical professionals to provide better information to enable patients with compromised lung function to better manage their conditions to reduce emergency hospital admissions.
- Improving the air quality information and advice on Southwark Council's web page.

Greening the Elephant (Partnership with Lendlease)

The primary objective of the project was to reduce ambient concentrations of fugitive particulate matter (PM_{10}) caused by demolition activities through the use of Calcium, Magnesium and Acetate (CMA) dust suppressants. A detailed monitoring strategy was developed allowing the quantification of the impact of various CMA application methods on PM_{10} concentrations across the demolition site. The project is in the final data analysis stages which is been carried out by Kings College London and the results are due in August.

Tower Bridge Road Anti Idling (partnership with London Borough Tower hamlets)

Working in partnership with Tower Hamlets and Transport for London, this project sought to reduce the amount of idling during Tower Bridge lifts through the use of variable message signs (VMS) on the approach roads requesting the drivers to switch off engines and give information advising on the likely duration of the delay to avoid unnecessary vehicle idling. Outside bridge opening times the VMS signs will be used to promote airTEXT, raising awareness of air quality issues. The VMS signs could also include diversion information at junctions on the approach e.g. Bricklayers Arms.

Installation of the signs in the summer. Monitoring will take the form of driver attitude surveys and real time monitoring of air quality along the Tower Bridge Road corridor.

Clean Air Better Business

Working as part of a consortium of central London Authorities, this project focused on working in partnership with existing business groups, such as Business Improvement Districts (BIDs) or the London Universities Purchasing Consortium, to change business behaviour and achieve improvements in air quality. This project tackled air quality while simultaneously supporting sustainable economic growth throughout the Inner London sub-region. This will also assist the business community to prepare for the shift to an Ultra Low Emission Zone in London.

10 Conclusions and Proposed Actions

10.1 Conclusions from New Monitoring Data

The data from continuous monitoring indicates that the objectives are being met, however, the data needs to be treated with caution as the data capture at Old Kent Road Air Quality Monitoring Site is low (32%), due to contract problems.

The results from the extended Nitrogen Dioxide diffusion tube survey indicates that there are widespread exceedences of the Nitrogen Dioxide objective throughout the borough. The Authority has reviewed the Air Quality Management Areas of neighbouring boroughs. Southwark has concluded that it is required to monitor the Nitrogen Dioxide in Crystal Palace Parade. A site has been installed adjacent to the residential properties on the borough in February 2015. There are early indication from the results received that the Authority will be required to review its current Air Quality Management Area.

10.2 Conclusions relating to New Local Developments

The large developments in the Authority have been assessed to minimise the air quality impact from the construction work and the operational use of the development. There are no planning developments that would warrant further detailed consultation within the next Updating and Screening Assessment.

The alteration of the northern roundabout at Elephant & Castle by TfL has completed an air quality assessment[xliv], but the Environment Protection Team are not satisfied that the design of the new road layout will improve the air quality in the area, and the authority considers that the residents will be exposed to higher pollutant concentrations.

10.3 Other Conclusions

One untested theory is that the reduction in the improvement of air quality could be due the increase in property price / renting costs forcing people to leave areas where they work and have to commute in from distant areas which are affordable to them. The commute is usually not by sustainable means due to the high rail fares and unreliability of the services, but use of motor vehicles is increasing.

10.4 Proposed Actions

The review of the neighbouring Local authorities Air quality management Areas and the early results from the new Nitrogen Dioxide diffusion tube monitoring site at Crystal Palace, are indicating that the Authority will need to proceed to a detailed assessment.

The alteration of the northern roundabout at the Elephant & Castle and the announcement from the London Mayor in respect of the introduction of a Central London area Ultra Low Emission Zone have not been included in past borough's air quality review and assessments. In accordance with the LAQM Technical Guidance TG (09)[xlv] the Authority may need to proceed to review the data in the next version of LAEI and the proposed modelling being provided with it..

Accompanying this progress report the Authority is producing the Update and Screening Assessment for the Authority. The Authority is reviewing the current data within the London Atmospheric Emission Inventory (LAEI) and comparing the data which was used in the last air quality modelling assessment. It is examining whether there is new data or if methodologies have changed in the last version of LAEI to check whether there are significant sources not modelled in the last assessment, or the data assumptions are changed to see whether the Authority will need to proceed to a Detailed Assessment.

In accordance with the LAQM Technical Guidance TG (09)[xlv] the Detailed Assessment requires to be initiated within 12 months from this report, however the LAEI is being updated and the early indications from the GLA are that the next version of the LAEI will be made available in the Autumn 2015. It is the intention of the Authority to use the new LAEI as part of the Detailed Assessment, but this may be longer than the 12 months if the LAEI is delayed.

The priority for the next year for the Authority is to improve and strengthen the air quality governance within the Authority and replace the air quality action plan.

Appendices

Appendix A:	**Quality Assurance / Quality Control (QA/QC) Data**
Appendix B:	**Local Plans of the Nitrogen Dioxide Diffusion Tube Sites**
Appendix C	**Nitrogen Dioxide Diffusion Tube Results 2014**
Appendix D	**Measures and Forecasts of Energy and Carbon Reduction Strategy**
Appendix E	**Authorised Industrial Installations in the borough**
Appendix F	**References**

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

Diffusion Tube Bias Adjustment Factors

The Authority incorporates two local co-location diffusion tube studies, by exposing triplicate tubes at the two air quality monitoring sites in the borough at the Elephant & Castle (Urban Background) and on the Old Kent Road (Roadside). The Authority then uses the Local Air Quality Management Helpdesk spreadsheets to calculate the bias factors, which are included in the results being presented in Table 2.10 and Table 2.11 of this report.

QA/QC of Automatic Monitoring

The authority is a member of the London Air Quality Network and all the data is ratified in accordance with Kings College London QA / QC procedures for the network.

QA/QC of Diffusion Tube Monitoring

The Authority has appointed Gradko International Ltd to provide and analysis the Nitrogen Dioxide Diffusion Tube for borough. On the next page are the results for Gradko International from the WASP proficiency testing scheme and the new AIR PT scheme. The Didcot laboratory of Environmental Services Group and Gradko International submit two sets of results, where as the other laboratories in the scheme only submit one set of results.

The AIR PT scheme has up 38 regular different samples and 3 trial different standards for the analytic laboratories to analysed. The LGC has a programme to send out different combinations of the 41 samples in six rounds throughout the year. (The trail samples are only available for one round only.) Sample 11 contains 4x dynamically loaded Palmes type diffusion tubes are only available in 2014 – 2015 financial year for rounds AR 001, 003, 004 and 006. The results for these rounds for Gradko international are included in Table A.2. For the 2015 – 2016 financial year, sample 11 is available for rounds AR 007, 009, 010 and 012.

The summary of the tube precision from the National database for Gradko International is detailed on page 73

Table A.1 Performance of Gradko Laboratory using the Rolling Performance Scheme for WASP Rounds 79 – 109 (Scheme in operation until April 2010).

	Rounds	Performance on basis of RPI, OLD CRITERIA, best 4 out of the 5 rounds	Performance on basis of RPI, NEW CRITERIA, best 4 out of the 5 rounds
April 2007 – April 2008	97 - 101	Good	Good
July 2007 – July 2008	98 - 102	Good	Good
October 2007 – October 2008	99 - 103	Good	Good
January 2008 – January 2009	100 -104	Good	Good
April 2008 – April 2009	101 - 105	Good	Good
July 2008 – July 2009	102 - 106	Good	Good
October 2008 – October 2009	103 - 107	Good	Good
January 2009 – January 2010	104 - 108	Good	Good
April 2009 – April 2010	105 - 109	Good	Good

Table A.2 Performance of Gradko Laboratory using the New Performance Scheme for WASP Rounds 105 – 124 (Scheme in operation from April 2010 with backdated results) and AIR NO_2 PT rounds AR001, 3,4 and 6

WASP Round	WASP R105	WASP R106	WASP R107	WASP R108	WASP R109	WASP R110	WASP R111	WASP R112	WASP R113	WASP R114	WASP R115	WASP R116
Round conducted in the period	Apr. – Jun. 2009	Jul. – Sept. 2009	Oct. – Dec. 2009	Jan. – Mar. 2010	Apr – Jun 2010	Jul – Sept. 2010	Oct. – Dec. 2010	Jan. – Mar. 2011	Apr – Jun 2011	Jul. – Sept. 2011	Oct. – Dec. 2011	Jan. – Mar. 2012
Gradko International	100%	100%	100%	100%	87.5%	100%	100%	100%	100%	100%	37.5%	100%
WASP Round	WASP R117	WASP R118	WASP R119	WASP R120	WASP R121	WASP R122	WASP R123	WASP R124	AIR PT AR001	AIR PT AR003	AIR PT AR004	AIR PT AR006
Round conducted in the period	Apr. – Jun. 2012	Jul. – Sept. 2012	Oct. – Dec. 2012	Jan. – Mar. 2013	Apr. – Jun. 2013	Jul. – Sept. 2013	Oct. – Dec. 2013	Jan. – Mar. 2014	Apr. – May 2014	July – Aug. 2014	Oct. – Nov. 2014	Jan. – Feb. 2015
Gradko International	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Table A.3 Summary of the precision performance of Gradko Laboratory

Summary of Precision Results for the National Nitrogen Dioxide Diffusion Tube Collocation Studies, for Gradko Laboratory (20% TEA in Water)

2008	G	2009	G	2010	G	2011	G	2012	G	2013	G	2014	G
2008	P	2009	G	2010	G	2011	G	2012	G	2013	G	2014	G
2008	G	2009	G	2010	G	2011	G	2012	G	2013	G	2014	G
2008	G	2009	G	2010	G	2011	G	2012	G	2013	G	2014	G
2008	G	2009	G	2010	G	2011	G	2012	G	2013	G	2014	G
2008	G	2009	G	2010	G	2011	G	2012	G	2013	G	2014	G
2008	G	2009	G	2010	G	2011	G	2012	G	2013	G	2014	G
2008	P	2009	G	2010	G	2011	G	2012	G	2013	G	2014	G
2008	G	2009	G	2010	G	2011	G	2012	G	2013	G	2014	G
2008	G	2009	P	2010	G	2011	G	2012	G	2013	G	2014	G
2008	G	2009	G	2010	G	2011	G	2012	G	2013	G	2014	G
2008	G	2009	G	2010	G	2011	G	2012	G	2013	G	2014	G
2008	G	2009	G	2010	G	2011	G	2012	G	2013	G	2014	G
2008	G	2009	G	2010	P	2011	G	2012	G	2013	G	2014	G
2008	P	2009	G	2010	G	2011	G	2012	G	2013	G	2014	G
2008	G	2009	G	2010	G	2011	G	2012	G	2013	G	2014	G
2008	G	2009	P	2010	P	2011	G	2012	G	2013	G		
2008	G	2009	G	2010	G	2011	G	2012	G	2013	G		
2008	G	2009	P	2010	G	2011	G	2012	G	2013	G		
2008	G	2009	P	2010	G	2011	G	2012	G	2013	G		
2008	P	2009	G	2010	G	2011	G	2012	G	2013	G		
		2009	G	2010	G	2011	G	2012	G	2013	G		
		2009	G	2010	G	2011	G	2012	G	2013	G		
		2009	G	2010	G	2011	G	2012	G	2013	G		
		2009	G	2010	G	2011	G	2012	G	2013	G		
		2009	G	2010	P	2011	G	2012	G	2013	G		
		2009	G	2010	G	2011	G	2012	G	2013	G		
		2009	G	2010	G	2011	G	2012	G	2013	G		
		2009	G	2010	G	2011	G	2012	G	2013	G		
		2009	G	2010	G	2011	G	2012	G	2013	G		
				2010	G	2011	G	2012	G	2013	G		
				2010	G	2011	G	2012	P	2013	G		
				2010	G	2011	G	2012	P	2013	G		
				2010	G	2011	G			2013	G		
				2010	G	2011	G			2013	P		
				2010	G	2011	G			2013	P		
				2010	G	2011	P						
				2010	G	2011	P						

P Poor Precision

G Good precision

Appendix B Local Plans of the Nitrogen Dioxide Diffusion Tube Sites

Map 1 Old Kent Road SDT 1,2, & 3)

Map 3 Drummond Road (SDT 4)

Map 2 Rotherhithe New Road (SDT 3)

Map 4 Queens Road (SDT 5)

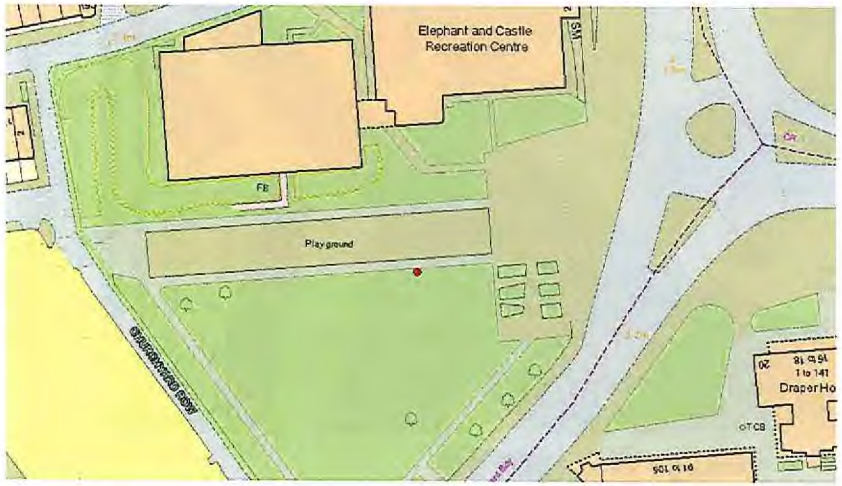
Map 5 Rye Lane (SDT 7)

Map 7 South Circular Road (SDT 9)

Map 6 Dunstans Road (SDT 8)

Map 8 Village Way (SDT 10)

Map 9 Camberwell Church Street (SDT 11)



Map 10 Elephant & Castle (SDT 12, 13 & 14)

Map 11 Blackfriars Road (SDT 15)

Appendix C Nitrogen Dioxide Diffusion Tube Results 2014

Period	Month	Start of Period	End of Period	Duration (weeks)	SDT 1	SDT 2	SDT 3	SDT 4	SDT 5	SDT 6	SDT 7	SDT 8	SDT 9	SDT 10	SDT 11	SDT 12	SDT 13	SDT 14	SDT 15	SDT 16
1	J	08/01/2014	06/02/2014	4	54.13	55.47	50.72	62.33	46.87	83.73	65.96	39.09	62.27	36.18	74.25	49.97	53.38	59.01	76.13	0.04
2	F	06/02/2014	06/03/2014	4	48.1	41.35	43.35	60.21	42.9	71.28	62.58	38.98	59.74	36.69	68.16	56.12	60.32	61.63		
3	M	06/03/2014	02/04/2014	4	67.3	69.69	68.46	81.6	50.64	108.5	83.34	49.29	74.03	50.94	87.49	73.48	80.79	66.83	77.89	0.27
4	A	02/04/2014	30/04/2014	4	64.69	64.72	63.04	75.47	37.53	89.16	83.4	37.3	66.09	39.51	106.08	57.06	58.95	44.55	71.98	0.22
5	M	30/04/2014	28/05/2014	4	51.83	58.56	50.65	79.93	32.82	89.77	70.47	34.25	68.97	40.86	96.27	53.91	54.08	53.76	77.64	0.21
6	J	28/05/2014	02/07/2014	5	65.55	67.92	66.89	84.53	32.41	92.24	81.62	34.6	67.87	45.2	109.48	63.17	61.86	62.42	74.28	0.1
7	J	02/07/2014	30/07/2014	4	70.53	65.74	69.13	81	33.68		76.83	36.11	70.6	43.42	120.6	60.51	60.94	59.44	74.99	0.27
8	A	30/07/2014	27/08/2014	4	44.76	45.09	45.85	65.42	34.42	84.53	60.7	29.23	67.57	34.53	88.27	40.17	48.59	45.96	65.65	0.1
9	S	27/08/2014	01/10/2014	5	73.82	72.26	76.57	91.1	43.28	90.28	87.62	42.99	82.98	56.48	121.04	70.9	69.62	72.38	81.11	0.15
10	O	01/10/2014	29/10/2014	4	49.39	48.29	44.91	66.88	42.35	81.99	68.38	33.84	59.32	36.75	88.93	57.36	58.5	64.36	67.78	0.2
11	N	29/10/2014	03/12/2014	5	66.92	65.81	65.87	74.99	49.93	88.93	81.19	45.22	81.12	55.43	98.86	69.32	76.19	67.24	79.5	0.13
12	D	03/12/2014	07/01/2015	5				62.79	54.69	75.74	57.97	50.28	66.07	42.49	85.61	67.74	58.07	72.78	82.21	0.13
		Average			**59.73**	**59.54**	**58.68**	**73.85**	**41.79**	**86.92**	**73.34**	**39.27**	**68.89**	**43.21**	**95.42**	**59.98**	**61.77**	**60.86**	**75.38**	**0.23**
		Bias Corrected Average (0.71)			**42**	**42**	**42**	**52**	**30**	**62**	**52**	**28**	**49**	**31**	**68**	**48**	**41**	**52**	**54**	
		95% Confidence						**47-50**	**27-34**	**56-70**	**47-59**	**25-32**	**44-56**	**28-35**	**61-77**				**48-61**	

Period	Month	Start of Period	End of Period	Duration (weeks)	SDT 17	SDT 18	SDT 19	SDT 20	SDT 21	SDT 22	SDT 23	SDT 24	SDT 25	SDT 26	SDT 27	SDT 28	SDT 29	SDT 30	SDT 31
1	J	08/01/2014	06/02/2014	4															
2	F	06/02/2014	06/03/2014	4															
3	M	06/03/2014	02/04/2014	4	94.68	95.78	71.99	84.41	83.87	99.27	62.21	96.28	73.46	77.43	92.59	58.38	86.93	97.14	83.4
4	A	02/04/2014	30/04/2014	4	80.46	92.28	69.01	78.61	70.32	88.82	46.53	87.27	60.88	66.96	88.05	44.57	89.59	80.96	74.48
5	M	30/04/2014	28/05/2014	4	93.3	95.29	75.28	81.34		69.18	42.75	103.78	62.9	70.92	92.27	41.75	94.69	85.21	79.83
6	J	28/05/2014	02/07/2014	5	85.58	97.44	68.8	83.41	66.64	94.67	45.66	71.57	57.78	71.88	83.66	33.37	79.43	74.88	66.49
7	J	02/07/2014	30/07/2014	4	94.58	92.63	73.88	89.57	67.85	93.36	43.3	107.43	65.53	67.05	85.31	40.53	102.65	75.73	64.81
8	A	30/07/2014	27/08/2014	4	73.9	89.72	69.84	70.34	54.46	72.16	37	105.64	48.68	62.78	73.73	38.85	95.57	66.03	63.96
9	S	27/08/2014	01/10/2014	5	107	98.55	86.98	80.44	74.86	105	61.05	89.23	65.5	80.85	94.04	43.17	101.65	90.15	79.42
10	O	01/10/2014	29/10/2014	4	84.56	86.98	77	75.74	67.68	76.61	45.99	106.83	60.16	74.13	89.63	47.05	95.73	93	77.02
11	N	29/10/2014	03/12/2014	5	101.07	101.04	73.51	78.43	69.36		59.62	87.54	73.78	70.64	89.95	54.49		85.81	83.66
12	D	03/12/2014	07/01/2015	5	61.22	83.88	66.71	71.4	59.09	74.03	53.97	114.46	78.18	63.07	74.24	59.99	85.54	85.49	68.1
		Average			**87.64**	**93.36**	**73.30**	**79.37**	**68.24**	**85.90**	**49.81**	**97.00**	**64.69**	**70.57**	**86.35**	**46.22**	**92.42**	**83.44**	**74.12**
		Bias Corrected Average			**62**	**66**	**52**	**56**	**48**	**61**	**35**	**69**	**46**	**50**	**61**	**77**	**60**	**59**	**53**
		95% Confidence			**56-71**	**60-76**	**47-59**	**51-64**	**44-55**	**55-70**	**32-40**	**62-79**	**41-52**	**45-57**	**55-70**	**70-88**	**54-69**	**53-68**	**47-60**

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Period	Month	Start of Period	End of Period	Duration (weeks)	SDT 32	SDT 33	SDT 34	SDT 35	SDT 36	SDT 37	SDT 38	SDT 39	SDT 40	SDT 41	SDT 42	SDT 43	SDT 44	SDT 45	SDT 46
1	J	08/01/2014	06/02/2014	4															
2	F	06/02/2014	06/03/2014	4															
3	M	06/03/2014	02/04/2014	4	64.88		60.27	56.58	67.41	52.01		81.22	106.45	103.99	54.89	69.81	70.01	39.77	50.72
4	A	02/04/2014	30/04/2014	4	61.98	58.58	49.53	44.73	58.04	39.61	100.66	77.36	109.1	91.26		59.23	62.25	30	41.9
5	M	30/04/2014	28/05/2014	4	58.86	53.64	27.75	46	50.63	33.86	113.46	79.96	111.55	93.08	92.78	58.62	67.25	27.15	38.83
6	J	28/05/2014	02/07/2014	5	52.19	56.12	45.84	40.19	66.37	34.5	96.56	71.48	100.76	92.77	40.61	58.00	60.75	25.88	39.55
7	J	02/07/2014	30/07/2014	4	61.55	62.04	50.9	39.06	70.45	37.01	120.6		119.52	100.3	38.35		65.59	29.41	39.25
8	A	30/07/2014	27/08/2014	4	55.27	54.23	41.4	37.37	61.77	33.71	110.57	88.47	137.8	93.44	36.72	59.55	59.71	25.72	39.26
9	S	27/08/2014	01/10/2014	5	57.75	60.59	54.22	47.24	84.41	44.98	101.97	76.95	101.55	109.17	52.51	78.45	78.87	33.77	50.14
10	O	01/10/2014	29/10/2014	4	50.9	58.57	50.51	47.62	61.33	40.34	117.15	81.42	136.71	124.23	51.64	55.36	57.91	32.1	50.93
11	N	29/10/2014	03/12/2014	5	59.03	62.87	56.51	51.6	74.01	52.32	93.87	76.14	114.82	115.25	53.78		76.94	42.32	57.14
12	D	03/12/2014	07/01/2015	5	72.12	73.56	58.61	54.73	70.14		123.07	95.58	129.31	115.08	53.82	74.66	73.37	37.51	57.59
		Average			**59.45**	**60.02**	**49.55**	**46.51**	**66.46**	**40.93**	**108.66**	**80.95**	**116.76**	**103.86**	**52.79**	**64.21**	**67.27**	**32.36**	**46.53**
		Bias Corrected Average			**42**	**43**	**35**	**33**	**47**	**29**	**77**	**57**	**83**	**74**	**37**	**46**	**48**	**23**	**33**
		95% Confidence			**38-48**	**38-49**	**32-40**	**30-37**	**43-54**	**26-33**	**70-88**	**52-66**	**75-95**	**66-84**	**34-43**	**41-52**	**43-54**	**21-26**	**30-37**

Appendix D Measures and Forecasts of Energy and Carbon Reduction Strategy

	Measure	Proposal	Lead Department	When	tCO_2	% Reduction
Housing	1	A project to baseline emissions from the Council's housing stock using the data captured from Energy Performance Certificates (EPC's) and to identify cost effective opportunities for reduction along with how these can be built into existing budget and further finance options be carried out.	Housing	October 2011 to March 2012	Unknown	Unknown
	2	The Housing Investment Strategy progresses as all of the planned measures will have a positive impact on thermal efficiency and the Council has undertaken to ensure all of its residential properties have a minimum rating of 'D' by 2020	Housing	On-going	6,300	3.1
	3	Considering that major investment in these district heating schemes is an urgent priority, it is agreed that Combined Heat and Power (CHP) or biomass over standard gas fired options will be considered as the first option on any renewal programme as CHP is exempt from the Climate Change Levy fuel tax and biomass is eligible for part funding from the Renewable Heat Incentive.	Housing	On-going	Unknown	Unknown
	4	There is an early opportunity to install a Combined Heat and Power (CHP) at Acorn Estate as part of the proposed redevelopment of the Acorn site. It is likely that the preferred developer will also opt to provide a CHP plant to help meet the required level of the Code for Sustainable homes	Housing	On-going	1,590	0.8
	5	A major new project to install a pipeline to transport waste heat from the nearby SELCHP waste incinerator to send 'solid recovered fuel' (SRF) to five Council estates is currently being considered. Should this project prove viable, it will save over 8,000 tonnes of CO_2 pa (0.5% borough CO_2).	Environment & Leisure	October 2011	8,000	3.9
	6	The funding opportunities for insulation measures from energy suppliers (CERT, CESP and from 2012 ECo) and the Homes and Communities Agency (HCA) will be explored by Housing Management	Housing	On-going	Unknown	Unknown
	7	Housing investment are currently undertaking work to measure the performance of different types of LED retrofits and in turn assess whether there is a business case to refit LED lighting in communal areas. It is recommended that this work continues	Housing	On-going	Unknown	Unknown
	8	The Council will investigate installing PV/solar thermal systems to reduce bills and reduce carbon emissions in the borough via a roof lease hire agreement. A survey of the available roof space will be conducted. The housing investment team is actively assessing the option of partnering with a third party to deliver a programme of solar PV installations and it is therefore proposed that Housing Management lead this work on behalf of the Council with support from Property to identify other potential sites within the Council's portfolio.	Housing	On-going	1,000	0.5

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	Measure	Proposal	Lead Department	When	tCO_2	% Reduction
Operational Stock	9	The Energy Team in Environment and Leisure will manage CRC compliance.	Environment & Leisure	April 2012	N / A	N / A
	10	Salix funding continues to be used to fund energy efficiency schemes in operational buildings and schools.	Environment & Leisure	On -going	1,502	3.7
	11	A project team, lead by The Strategic Director of Environment and Leisure, will be set up to encourage staff to adopt these simple housekeeping practises and ensure building managers report energy consumption to the team.	All	October 2011	1,850	4.4
	12	Modernise Two and the on-going disposal of sites will therefore continue and contribute to the Council's carbon reduction strategy.	Finance and Resources	On -going	2,423	6
	13	The leisure centre client team in Environment and Leisure will actively encourage Fusion to apply for the funding outlined in Section 64 and strive to remove any barriers that may exist.	Environment & Leisure	October When 2011	375	0.9
	14	Fusion will join the Council's Green Buildings project and progress on energy reduction, recycling and other environmental measures will be reported monthly.	Environment & Leisure	October 2011	Unknown	Unknown
	15	Children's Services will fund a second pilot to the value of £200k (£100K from Children Services and £100K from the schools involved) later in 2011.	Children Services	2011 / 2012	1,310	3.2
Borough	16	Southwark works with other London boroughs, the GLA and London Councils to effectively lobby Government to ensure the future suitability of Green Deal and Eco for inner London housing stock and how the Council can effectively use the Green Deal when it is finalised.	Environment & Leisure	October 2011 to April 2012	Unknown	Unknown
	17	The Council promotes as appropriate the business version of Green Deal to businesses renting Council owned premises.	Chief Executive	2011 /2012	Unknown	Unknown
	18	The 200 Club will continue to be promoted as many of the big emitters in the borough will already be motivated either as a result of "The Carbon Reduction Commitment Energy Efficiency Scheme" (CRCEES) legislation or to improve their bottom line and the club therefore represents a cost effective way for the Council to stimulate additional emission reduction.	Environment & Leisure	December 2011	Unknown	Unknown
	19	The current Green Fund will be moved to a similar model as that in place for affordable housing and the Council will establish an appropriate process and criteria to manage how the fund is spent.	Regeneration and Neighbourhoods	April 2012	Unknown	Unknown
	20	The Council will work with the GLA, which has responsibility and EU funding to identify and then develop as appropriate local heat networks to identify opportunities in the borough.	Environment & Leisure	On - going	Unknown	Unknown

Appendix E Authorised Industrial Installations in the borough

Name	Address	Authorisation/ Permit reference	Authorisation / Permit came into force	Map reference	Process Guidance Note Reference
Herne Hill Service Station	2 - 6 Half Moon Lane, London SE24 9HU	HH/SS/001	31/03/2010	532048 174321	1/1
BP Connect	96-106 Camberwell Rd, London SE5 0EJ	BP/PFS/054	01/09/2000	532399 177513	1/14
BP / M&S St. Andrews Filling Station	197-211 New Kent Rd, London SE1 4AG	BP/PFS/026	30/10/1998	532626 179000	1/14
BP Connect	95 Peckham Rd, London SE15 5LJ	BP/PFS/027	30/10/1998	533675 176816	1/14
Croxted Motors of Dulwich [Shell]	204 Croxted Rd, London SE24 9DG	Crox/PFS/046	05/02/1999	532258 173898	1/14
Grove Vale Filling Station [Texaco]	115 Grove Vale, London SE22 8EN	Grove/PFS/048	30/01/1999	533773 175351	1/14
Morrisons Petrol Filling Station	Aylesham Centre, Rye Lane Peckham, London SE15 1SF	SAFE/PFS/021	30/10/1998	534354 176621	1/14
Dulwich Filling Station	13-19 East Dulwich Rd, London SE22 8BD	FF/PFS/040	30/11/1998	534254 175415	1/14
Hopfields Service Station	747-759 Old Kent Rd, London SE15 1NZ	FF/PFS/042	30/11/1998	534870 177537	1/14
Shell UK Ltd (Petrol Station)	4 Crystal Palace Parade, London SE191UN	Shell/PFS/053	17/04/1999	533887 171319	1/14
Gipsy Hill Service Station (Shell)	112-122 Gipsy Hill, London SE19 1PL	Shell/PFS/034	30/11/1998	533369 171180	1/14
Shell - Southwark Bridge	101-103 Southwark Bridge Rd, London SE1 0AX	Shell/PFS/036	30/11/1998	532282 179988	1/14
Shell -Southwark Park	297-309 Southwark Park Rd, London SE16 2JN	Shell/PFS/035	30/11/1998	534787 178870	1/14
Southwark Service Station [BP]	2-4 New Cross Rd, London SE14 5BE	BP/PFS/047	30/01/1999	535277 177243	1/14
Tesco Petrol Station	107 Dunton Rd, London SE1 5HG	TESC/PFS/022	30/10/1998	533671 178526	1/14
Tesco Petrol Station	Surrey Quays, Redriff Rd, SE16 1LL	TESC/PFS/023	30/10/1998	535428 179257	1/14
Total - Bermondsey	272 St James Rd, London SE1 5JX	Total/PFS/025	30/10/1998	534357 178225	1/14
Total -Peckham	37-41 Peckham Rd, London SE5 8UH	ELF/PFS/049	01/02/1999	533363 176750	1/14
Honor Oak Crematorium	Camberwell New Cemetery, Brenchley Gardens, London SE23 3RD	CM 002	01/12/1992	536023 174598	5/2
Paintworks Ltd	240 Camberwell Road, Camberwell, London SE5 0DP	PPC/PW/01	01/01/2005	532442 177080	6/33
Hamilton & Palmer Coachworks	182-196 Ilderton Road, London SE15 1NT	HPC 021	01/11/1999	535228 177759	6/34b
A.M. Express Dry Cleaners	485 Lordship Lane, London SE22 8JY	AME/DC/055	31/10/2007	534329 173479	6/46
Alpine Dry Cleaning	40 Grove Vale, London SE22 8DY	ALP/DC/048	31/10/2007	533565 175343	6/46
Cardinal Dry Cleaners	8 Crossthwaite Avenue London SE5 8ET	CAR/DC/058	02/02/2008	532790 175197	6/46
Centre Dry Cleaners	71 Denmark Hill, London SE5 8RS	CEN/DC/039	31/10/2007	532564 176411	6/46
Central Express Dry Cleaners	151 Camberwell New Road, London SE5 0SU	CE/DC/025	31/10/2007	531794 177227	6/46
Classic Cleaners	268 Southwark Park Road, London SE16 3RN	ANC/DC/034	31/10/2007	534652 178798	6/46
Classic Dry Cleaners	140 Lower Road, London SE16 2UG	CLS/DC/022	31/10/2007	535690 178906	6/46

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Name	Address	Authorisation/ Permit reference	Authorisation / Permit came into force	Map reference	Process Guidance Note Reference
Crystal Clean Dry Cleaner	89 Tower Bridge Road, London SE1 4TW	CCL/DC/010	31/10/2007	533183 179230	6/46
CSM Dry Cleaners	9 Lordship Lane, London SE22 8EW	CSM/DC/004	31/10/2007	533826 175224	6/46
Dolphin Dry Cleaning	79 East Dulwich Grove, London SE22 8PR	DOL/DC/049	31/10/2007	533483 175043	6/46
Dry Cleaning by EKO	8 Peckham Park Road, London SE15 6TW	EKO/DC/027	31/10/2007	534427 177783	6/46
East Dulwich Dry Cleaners	74 Lordship Lane, London SE22 8HF	EDL/DC/007	31/10/2007	533812 175004	6/46
Easy Clean Dry Cleaners	126 Peckham Hill Street, London SE15 5JT	ECN/DC/026	31/10/2007	534211 176794	6/46
Estate Express	176 Jamaica Road, London SE16 4RT	EST/DC/031	31/10/2007	534583 179477	6/46
Evelina Dry Cleaners	115 Evelina Road, London SE15 3HB	EVE/DC/044	31/10/2007	535103 175929	6/46
Express Dry Cleaners	219 East Street, London SE17 2SS	EXC/DC/015	31/10/2007	532990 178476	6/46
Friends of Fabric	192 Bellenden Road, London SE15 4BW	FOF/DC/008	31/10/2007	533947 175969	6/46
Greenland Dry Cleaners	10 Russell Place, London SE16 7PL	GRN/DC/021	31/10/2007	536207 179249	6/46
Image Magic Cleaners	71 Tower Bridge Road London SE1	IM/DC/060	25/03/2008	533148 179192	6/46
Immaculate Dry Cleaners	162 Great Suffolk Street, London SE1 1PE	IMM/DC/047	11/08/2008	532098 179676	6/46
Imperial Dry Cleaners	6 Market Place, London SE16 3UQ	IMP/DC/042	31/10/2007	534501 178869	6/46
J&B Impress Dry Cleaners	52 East Dulwich Road, London SE22 9AX	J&B/DC/003	31/10/2007	534156 175422	6/46
John Stanton	70-72 Verney Road, London SE16 3DH	JSM/DC/041	31/10/2007	534881 178095	6/46
Karizma Dry Cleaners	210 Rye Lane, London SE15 4NL	KAR/DC/040	31/10/2007	534427 175958	6/46
L'Atenagas UK Dry Cleaning	205 Camberwell Road, London SE5 0DP	LA/DC/001	28/05/2008	532486 177162	6/46
Lazer Dry Cleaners	7 Ilderton Road, London SE16 3JU	LAZ/DC/035	31/10/2007	534976 178378	6/46
Le Chic Dry Cleaners	294 Old Kent Road London SE1 5UE	LECHIC/DC/057	30/01/2008	533567 178360	6/46
M & H Dry Cleaners	16 Camberwell Church Street, London SE5 8QU	M&H/DC/038	31/10/2007	532648 176724	6/46
M & H Dry Cleaners	257 Old Kent Road London SE1 5LU	M&H/DC/059	23/03/2008	533472 178483	6/46
Maddock Cleaners	14 Maddock Way, London SE17	MAD/DC/029	31/10/2007	531812 177665	6/46
Magic Touch Dry Cleaning	169 New Kent Road, London SE1 4AG	MGT/DC/005	31/10/2007	532537 178987	6/46
Meeting House Dry Cleaners	23 Meeting House Lane, London SE15 2UN	MET/DC/043	31/10/2007	534810 177102	6/46
Nunhead Dry Cleaners	64 Gibbon Road, London SE15 3XE	NUN/DC/014	31/10/2007	535417 175957	6/46
Omar Dry Cleaners	208 Walworth Road, London SE17 1JE	OMA/DC/030	31/10/2007	532251 178413	6/46
Paramount Dry Cleaners	177 Southwark Park Road, London SE16 3TX	PAR/DC/032	31/10/2007	534359 178829	6/46
Prestige Dry Cleaning & Laundry Ltd.	175 Walworth Road, London SE17 1RW	PRE/DC/051	31/10/2007	532239 178522	6/46
Principles	85 Long Lane, London SE1 4PH	PRN/DC/054	31/10/2007	532734 179713	6/46

Name	Address	Authorisation/ Permit reference	Authorisation / Permit came into force	Map reference	Process Guidance Note Reference
Principles	85 Long Lane, London SE1 4PH	PRN/DC/054	31/10/2007	532734 179713	6/46
Queens Dry Cleaners	159 Queens Road, London SE15 2ND	QU/DC/061	04/11/2008	535045 176741	6/46
RISH Dry Cleaners	34 Harper Road London SE1 6AD	RISH/DC/056	28/02/2008	532418 179225	6/46
Rotherhithe Dry Cleaners	189 Rotherhithe New Road, London SE16 2BE	ROT/DC/033	31/10/2007	535220 178651	6/46
Rye Park Cleaners	40 Forest Hill Road, London SE22 0RR	RYE/DC/046	31/10/2007	534764 174477	6/46
S&S Dry Cleaners	305 East Street, London SE17 2SX	S&S/DC/016	31/10/2007	533255 178584	6/46
Scobies Valet Service	35 Dulwich Village, London SE21 7BN	SCO/DC/037	31/10/2007	533109 174205	6/46
Seven Star Dry Cleaners	43 Camberwell Church Street, London SE5 8TR	7ST/DC/020	31/10/2007	532779 176728	6/46
Southampton Way Dry Cleaners	181 Southampton Way, London SE5 7EJ	SWY/DC/019	31/10/2007	533261 177190	6/46
Splash Dry Cleaners	139 Half Moon Lane, London SE24 9JY	SPL/DC/036	31/10/2007	532578 174433	6/46
Spot Cleaners	371 Lordship Lane, London SE22 8JJ	SPT/DC/012	31/10/2007	533875 174072	6/46
St Johns Dry Cleaners	173 Camberwell Road, London SE5 0HB	STJ/DC/018	31/10/2007	532448 177350	6/46
Star Dry Cleaning	194 Lower Road, London SE16 2UN	STAR/DC/023	31/10/2007	535801 178811	6/46
State Express Dry Cleaners	95 Snowsfields, London SE1 3SS	SES/DC/011	31/10/2007	532816 179861	6/46
Sunlight Express Dry Cleaners	26 Camberwell Road, London SE5 0EN	SEC/DC/002	31/10/2007	532404 177791	6/46
Superb Dry Cleaners	122 Forest Hill Road, London SE22 0RS	SUP/DC/045	31/10/2007	534944 174275	6/46
The Laundry Box	Unit 2, 276 St James's Road, London SE1 5JX	LAU/DC/052	31/10/2007	534345 178167	6/46
Tower Bridge Dry Cleaners	110 Tower Bridge Road, London SE1 3NG	TOW/DC/009	31/10/2007	533304 179286	6/46
Upland Dry Cleaners	40 Hindmans Road, London SE22 9NG	UPL/DC/013	31/10/2007	534216 174906	6/46
Wm Morrison Supermarkets plc	Aylesham Centre, Rye Lane, London SE15 1SF	WM/DC/053	31/10/2007	534270 176674	6/46
Wyndham Dry Cleaners	32 Wyndham Road, London SE5 0UH	WC/DC/017	31/10/2007	532266 177253	6/46
F.M. Conway Ltd	25 Mandela Way, London SE1 5SS	Conway/PG3/048	01/05/2012	533543 178550	3/1

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Summary of Authorised Installations in the borough

Process	Process Guidance Note Reference	Number of processes
Waste oil and recovered oil burners less than 0.4MW	PG 1 / 1	**1**
Unloading of petrol into storage at petrol stations	PG 1 / 14	**17**
Blending, packing, loading, unloading and use of bulk cement	PG 3 / 1	**1**
Cremation of Humans Remains	PG 5/ 2	**1**
Wood coating	PG 6 / 33	**1**
Respraying of road vehicles	PG 6 / 34b	**1**
Dry cleaning	PG 6 / 46	**57**
Total Number of Process		**79**

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