



2013/4 Air Quality Progress Report for *Merton Council*

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

November 2014

Local Authority Officer	Marc Dubet
Department	Environment and Regeneration
Address	London Borough of Merton Merton Civic Centre London Road Morden SM4 5DX
Telephone	020 8545 3944
e-mail	Marc.Dubet@merton.gov.uk
Report Reference number	Merton_2014_Progress_v1

Executive Summary

The Merton Council is committed to improving air quality in the Borough. As such the Council is demonstrating its political leadership; taking action; leading by example; monitoring air quality; using the planning system; integrating air quality into the public health system; and informing the public. This 2013/4 Air Quality Progress report fulfils one aspect of this ongoing commitment.

The Council's Air Quality Progress report updates recent air quality monitoring (for both 2012 and 2013) in the Borough and considers other local developments that might affect local air quality. If major changes are noted the Council is required to undertake a Detailed Assessment. This is in accordance with Defra LAQM guidance.

The report also considers the actions that the Council and others are undertaking in pursuit of the objectives under Part IV of the Environment Act 1995.

The report identifies that:

From the monitoring and local developments there is no need to undertake a Detailed Assessment.

For nitrogen dioxide and particles (specifically PM₁₀) the Council has previously designated an Air Quality Management Area (AQMA) across the Borough. The emission sources for these pollutants are dominated by road transport in the Borough. The findings from this report indicate that the AQMA should be maintained.

In view of the findings the Council will undertake the following actions:

1. Undertake consultation with the statutory and other consultees as required.
2. Maintain the existing monitoring programme.

3. Continue its Air Quality Action Plans in pursuit of the AQS objectives.
4. Prepare for the submission of its next Air Quality report.

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1 Introduction

1.1 Description of Local Authority Area

The London Borough of Merton is situated in the south of London. It is another London Borough bordered by the Boroughs of Kingston upon Thames to the west, Sutton to the south, Wandsworth and Lambeth to the north and Croydon to the east. It covers an area almost 15 square miles (3,700 hectares). The Borough is mostly residential and the main commercial centres are Mitcham, Morden and Wimbledon, of which Wimbledon is the largest. Other smaller centres include Raynes Park, Colliers Wood, South Wimbledon, Wimbledon Park and Pollards Hill. The estimated population in Merton for 2013 is approximately 203,000 (from the Office of National Statistics (ONS)) and this figure is expected to grow further over the next decade.

The main local sources of atmospheric pollutants are road transport from the busy and congested roads in the Borough and the neighbouring areas of London. The principal roads through the Borough include the A3 trunk road, the A24, the A217, A236, A237 and A296.

There are relatively few industrial installations in the Borough. Other sources within the Borough include boilers within commercial and domestic buildings. Air quality is also influenced by pollutants outside of the Borough boundaries, which contribute to background concentrations.

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, or to require as much effort. 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 microgrammes per cubic metre $\mu\text{g m}^{-3}$ (milligrammes per cubic metre, mg m^{-3} for carbon monoxide) with the number of exceedences in each year that are permitted (where applicable).

Note – of main interest for this report are the air quality objectives for nitrogen dioxide and PM_{10} . For all other pollutants the objectives are met.

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

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

1.4 Summary of Previous Review and Assessments

Merton Council has previously completed all earlier stages of air quality review and assessment as required under the LAQM regime. As part of its earlier duties the Council completed a Detailed Assessment for nitrogen dioxide (NO₂) and particles (PM₁₀). The aim of the Council's Detailed Assessment was to determine with reasonable certainty whether or not there is a likelihood of the AQ objectives being achieved. The assumptions in the Detailed Assessment were therefore in depth and the data used were quality assured to a high standard. This allowed the Council to have confidence in reaching a decision whether to declare an Air Quality Management Area or not. When carrying out its Detailed Assessment in 2003 the Council applied its best estimates to all components used to produce the estimated future concentrations.

Following this, the Merton were satisfied that there was sufficient evidence to show that there were areas in Merton that would not achieve the national air quality objectives in relation to annual mean nitrogen dioxide, annual mean fine particles (as PM₁₀) and daily mean fine particles (as PM₁₀).

The Council declared the whole Borough, by order, as an "Air Quality Management Area", for both nitrogen dioxide and fine particles (as PM₁₀), as modelled predictions confirmed that the annual mean NO₂ and PM₁₀ objectives were exceeded. These predictions highlighted that the objectives were exceeded in areas close to busy roads and junctions throughout the Borough. Relevant public exposure was identified in these areas. A map of the Borough (and AQMA) is shown in Figure 1.1 below.

The Council's subsequent Updating and Screening Assessments were also completed and the findings from these were in accordance with those of the earlier Detailed Assessment.

Figure 1.1 Merton AQMA (Borough boundary in green)



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2 New Monitoring Data

2.1 Summary of Monitoring Undertaken

2.1.1 Automatic Monitoring Sites

The Council has undertaken automatic monitoring at its two long-term sites, as follows:

- Merton Morden (ME1) - a roadside site located at the Civic Centre in Morden; this site started operating during February 2010. The sample inlet is located at 4m from ground level (i.e. at first floor level) and 3m from the road.
- Merton Road (ME2) - a roadside site located in South Wimbledon; the site opened in June 2011, see Figure 2.1 below.

The above sites are also representative of relevant exposure and are part of the London Air Quality Network; hence the standards of QA/QC are similar to those of the government's AURN sites. Regular calibrations are carried out, with subsequent data ratification undertaken by the ERG at King's College London. In all cases the data are fully ratified unless reported otherwise. Further details of the sites can be found at www.londonair.org.uk.

Figure 2.1 Merton 2 roadside monitoring site in South Wimbledon



Table 2.1 Details of Automatic Monitoring Sites in Merton

Site Name	Site Type	Easting	Northing	Pollutants Monitored	In AQMA?	PM ₁₀ Monitoring Technique	Relevant Exposure? (Y/N with distance (m) to relevant exposure)	Distance (m) to kerb of nearest road (N/A if not applicable)	Does this location represent worst-case exposure?
Merton (ME1)	Roadside	525591	168437	NO ₂	Y	N/a	Y	4	N
Merton (ME2)	Roadside	525808	170122	PM ₁₀	Y	BAM	N (3)	1	Y

2.1.2 Non-Automatic Monitoring Sites

The Council also undertook NO₂ monitoring through the use of diffusion tubes and Table 2.2 includes a list of the monitored locations in the Borough.

The diffusion tube survey has varied since 2010 when 11 locations were monitored. The survey was extended in 2011 to another 23 sites; so in total 34 sites were monitored. These sites were also maintained in 2012. In 2013, 19 sites were closed and replaced by 11 new sites. These changes are also shown in Table 2.2.

The original 11 sites were monitored using duplicate tubes along with site FA. Two other sites were monitored using triplicate tubes (sites AA and EA). The other sites monitored in 2012 used single tube exposures only. In 2013, the new sites were all monitored using duplicate tubes. A co-located study with the automatic monitoring station however was not undertaken.

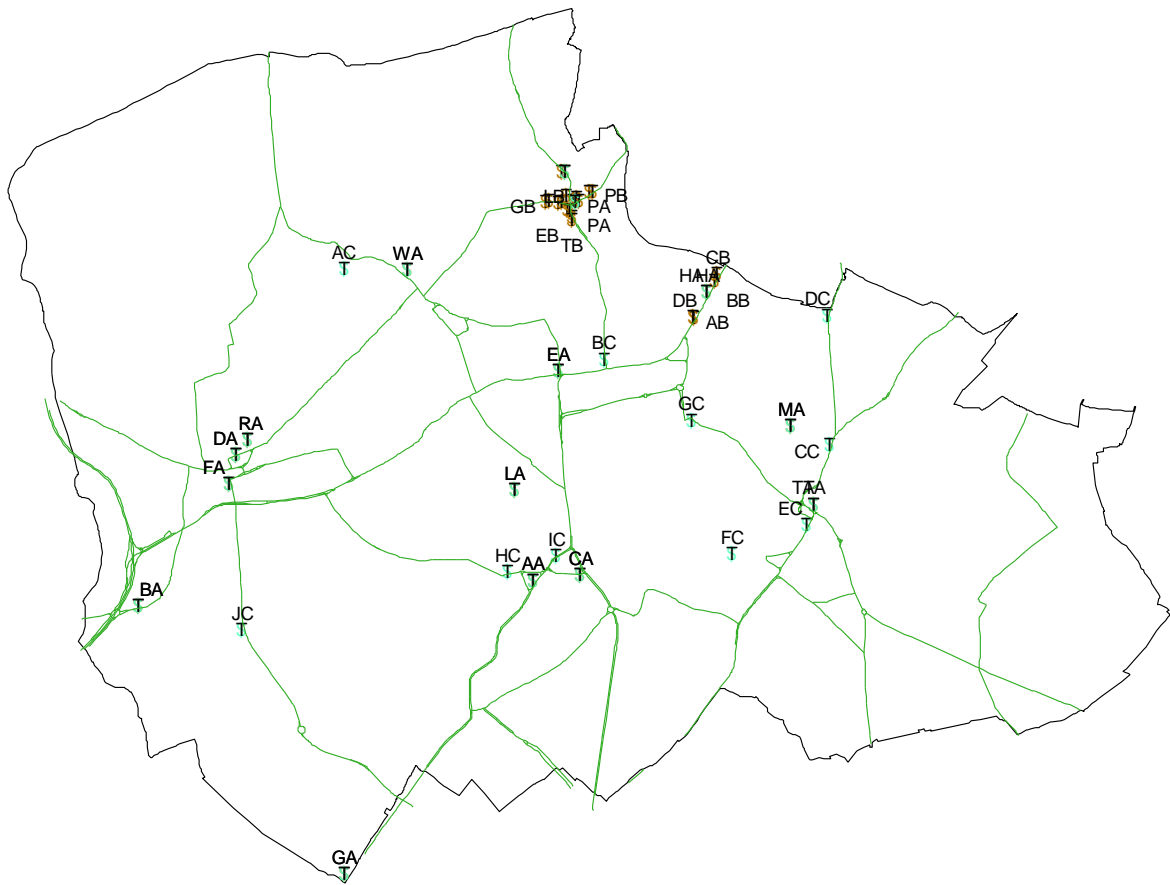
The locations of the diffusion tubes are illustrated in Figure 2.2 below.

This map shows the 2012 sites; i.e. those ending in "A"; for example site BA, plus those ending in "B").

The 2013 sites are those also ending in "A", plus those ending in "C", plus also site LB.

Figure 2.2 shows that the monitoring locations are grouped around main centres, including Wimbledon, Mitcham and Morden.

Figure 2.2 Map of Non-Automatic Monitoring Sites in L.B of Merton



The diffusion tubes were supplied and analysed by Lambeth Scientific Services, with a preparation method using 50% TEA in acetone. Lambeth Scientific Services participates in the Health and Safety Laboratory's (HSL) Workplace Analysis Scheme for Proficiency (WASP) programme for diffusion tubes, which provides a Quality Assurance / Quality Control (QA/QC). Between January 2012 and December 2013, Lambeth Scientific Services achieved a score of 100% for the laboratory performance testing rounds 117, 119 and 120; 75% for 116 and 123; 50% for 122 and 0% for 118 and 121. The precision scores for 2011, 2012 and 2013 were mostly good.

A major disadvantage of undertaking monitoring using diffusion tubes is that the method is less precise and accurate than continuous monitoring. The recommended methods to reduce errors include the use of good QA/QC practices and bias

adjustment factors that are derived from co-location studies between continuous analysers and diffusion tubes.

The bias adjustment factors (shown below) are specific to each year, analysing laboratory, method of analysis and location. The factors are therefore also limited to the data supplied. The Review and Assessment website advises that “in many cases, using an overall correction factor derived from as many co-location studies as possible will provide the ‘best estimate’ of the ‘true’ annual mean concentration, it is important to recognise that there will still be uncertainty associated with this bias adjusted annual mean. One analysis has shown that the uncertainty for tubes bias adjusted in this way is $\pm 20\%$ (at 95% confidence level). This compares with a typical value of $\pm 10\%$ for chemiluminescence monitors subject to appropriate QA/QC procedures.”

Year	Bias Default factor
2009	1.03 (5 studies)
2010	1.02 (4 studies)
2011	1.06 (6 studies)
2012	0.87 (3 studies)
2013	0.83 (1 study)

The above Defra default factors indicate that the diffusion tube results for 2012 and 2013 overestimate continuously monitored concentrations, whereas the factors for 2010 and 2011 underestimate concentrations.

Table 2.2 Details of Non- Automatic Monitoring Sites

Site ID	Site Name	Site Type	Easting	Northing	Years monitored			Relevant	Distance to kerb of nearest road	Does this location represent worst-case exposure?
					2011	2012	2013	Exposure? (Y/N with distance (m) to relevant exposure)	(N/A if not applicable)	
BA	Burlington Road New Malden	Suburban	522501	168235	Y	Y	Y	Y	30m	N
CA	Bardney Road, Morden	Suburban	525969	168481	Y	Y	Y	Y	1m	Y
DA	Worple Road, Raynes Park	Roadside	523263	169423	Y	Y	Y	Y (1m)	1m	Y
GA	Garth Road, Morden	Suburban	524113	166129	Y	Y	Y	Y	1m	Y
HA	High St., Colliers Wood	Roadside	526965	170707	Y	Y	Y	Y (1m)	1m	Y
LA	Alley, near Charminster Ave, Morden	Urban	525449	169152	Y	Y	Y	Y	15m	N
MA	Lavender Avenue, Morden	Suburban	527621	169646	Y	Y	Y	Y (3m)	1m	Y
RA	Pepys Road, Raynes Park	Suburban	523357	169534	Y	Y	Y	Y (5m)	1m	Y
TA	Town centre, Mitcham	Urban	527806	169029	Y	Y	Y	Y	20m	Y
WA	Woodside, Wimbledon	Suburban	524608	170873	Y	Y	Y	Y (4m)	1m	Y
PA	Plough Lane, Wimbledon Park	Roadside	525933	171410	Y	Y	Y	Y (3m)	1m	Y
AA	London Road, Morden	Roadside	525594	168434	Y	Y	Y	Y (1m)	2m	Y
EA	Merton High Street	Roadside	525798	170081	Y	Y	Y	Y (2.5m)	0.5m	Y
FA	Grand Drive, Raynes Park	Roadside	523207	169195	Y	Y	Y	Y (7m)	1m	Y
AB	High Street, Colliers Wood	Roadside	526864	170498	Y	Y	N	Y (2m)	2m	Y
BB	High Street, Colliers Wood	Roadside	527025	170784	Y	Y	N	Y (2m)	2m	Y
CB	High Street, Colliers Wood	Roadside	527040	170836	Y	Y	N	Y (2m)	2m	Y
DB	High Street, Colliers Wood	Roadside	526857	170508	Y	Y	N	Y (2m)	2m	Y
EB	Haydon's Road, South Wimbledon	Roadside	525872	171341	Y	Y	N	Y	2.5m	Y
FB	Gap Road, Wimbledon	Roadside	525793	171404	Y	Y	N	Y (4m)	1m	Y
GB	Gap Road, Wimbledon	Roadside	525700	171410	Y	Y	N	Y (4m)	2m	Y
HB	Gap Road, Wimbledon	Roadside	525724	171422	Y	Y	N	Y (5m)	2m	Y

L.B of Merton

IB	Gap Road, Wimbledon	Roadside	525819	171410	Y	Y	N	Y (3m)	0.5m	Y
JB	Durnsford Road, Wimbledon	Roadside	525861	171453	Y	Y	N	Y (1.5m)	1.5m	Y
KB	Durnsford Road, Wimbledon	Roadside	525825	171646	Y	Y	N	Y (3.5m)	0.5m	Y
LB	Weir Road, Wimbledon	Roadside	525854	171643	Y	Y	Y	Y (2m)	3m	Y
MB	Durnsford Road, Wimbledon	Roadside	525918	171422	Y	Y	N	Y (4m)	0.5m	Y
NB	Plough Lane, Wimbledon	Roadside	525944	171433	Y	Y	N	Y (5m)	0.5m	Y
OB	Plough Lane, Wimbledon	Roadside	526043	171492	Y	Y	N	Y (6m)	0.5m	Y
PB	Plough Lane, Wimbledon	Roadside	526068	171490	Y	Y	N	Y (4m)	0.5m	Y
QB	Plough Lane, Wimbledon	Roadside	525955	171422	Y	Y	N	Y (5m)	0.5m	Y
RB	Haydons Road, South Wimbledon	Roadside	525905	171289	Y	Y	N	Y	3.5m	Y
SB	Haydons Road, South Wimbledon	Roadside	525887	171340	Y	Y	N	Y	4m	Y
TB	Haydons Road, South Wimbledon	Roadside	525900	171263	Y	Y	N	Y	3.5m	Y
AC	The Ridgeway, Wimbledon	Roadside	524111	170883	N	N	Y	Y (1.5m)	0.5m	Y
BC	Haydons Road, South Wimbledon	Roadside	526155	170168	N	N	Y	Y (0.5m)	1.5m	Y
CC	London Road, Tooting	Roadside	527932	169502	N	N	Y	Y (2.5m)	0.5m	Y
DC	London Road, Tooting	Roadside	527913	170518	N	N	Y	Y (2m)	1.5m	Y
EC	London Road, Mitcham	Roadside	527751	168866	N	N	Y	Y	2m	Y
FC	Church Road, Mitcham	Roadside	527158	168646	N	N	Y	Y (2.5m)	0.5m	Y
GC	Western Road, Colliers Wood	Roadside	526840	169694	N	N	Y	Y (2m)	1.5m	Y
HC	Crown Lane, Morden	Roadside	525401	168502	N	N	Y	Y (3m)	0.5m	Y
IC	London Road, Morden	Roadside	525778	168624	N	N	Y	Y (3m)	0.5m	Y
JC	Grand Drive, Raynes Park	Roadside	523311	168045	N	N	Y	Y (5m)	0.5m	Y

2.2 Comparison of Monitoring Results with Air Quality Objectives

The monitoring reported below represents the continuous and non-continuous results for recent years' monitoring up to the end of 2013 (inclusive). The results are reported in accordance with the requirements of TG09. Results from years previous to this can be found in earlier Council reports. See also the London Air Quality Network website (<http://www.londonair.org.uk/london/asp/lahome.asp>) for details of the automatic monitoring sites.

2.2.1 Nitrogen Dioxide (NO₂)

The results for nitrogen dioxide are reported separately for the Council's automatic sites and diffusion tube network. The automatic results are directly compared to the annual mean and hourly mean objectives, whereas the diffusion tube results are compared to the annual mean objective and also to an annual mean of 60 µg m⁻³, which represents an indicative value to represent the hourly mean objective. This is in line with TG09 guidance.

Automatic Monitoring Data

The nitrogen dioxide monitoring results for the Council's automatic site at Merton is compared directly to the annual mean and hourly mean objectives. The following tables (Tables 2.3 and 2.4) provide fully ratified results for the period from 2010 to 2013 inclusive. The site's location is typical of public exposure in much of the Borough, where there are busy roadside areas. It is these areas that have the highest concentrations.

Data capture for 2013 at the site was good (representing almost 90% of the year). For 2012 the data capture was only 39%; hence the result has been annualised in accordance with the TG09 method. There have also been instrument problems at the site in previous years which have affected data capture (see earlier Council reports).

The site easily exceeded the objective in 2010 and 2012 (based on the adjusted result). The 2013 monitoring however indicates that the objective just exceeded $40 \mu\text{g m}^{-3}$. The inlet is located at the facade and thus it represents the nearest receptor.

Table 2.4 provides a comparison with the AQS hourly mean objective, which requires that the number of periods that exceed a one hour mean of $200 \mu\text{g m}^{-3}$ does not arise more than 18 times over a calendar year. These episodic periods arise during meteorological conditions that are conducive e.g. such as settled conditions in the wintertime when there is reduced dispersion from local sources.

The 2012 and 2013 results show that the site did not exceed the hourly mean objective, although 2013 recorded the highest number of periods exceeded at the site, with 10 hours recorded. This is counter intuitive, when compared to the reduced annual mean concentration in 2013 and previous years' results. These episodes arose during the autumn and winter periods of late 2013. Six of the ten hours were recorded on the 11th December when there was a pollution episode (see <http://www.londonair.org.uk/> pollution episodes for further explanation).

To understand changes in NO_2 concentrations it is necessary to also consider concentrations of NO_x , which is the primary precursor pollutant of NO_2 . NO_x concentrations have fallen across London generally and more specifically fallen fastest at roadside sites, though the rate of decline has decreased in recent years. This overall decrease in NO_x concentrations reflects the abatement of vehicle emissions; however, the recent trend showing the stability of concentration levels across London gives rise to concern regarding control of NO_2 . These measurements have confirmed that NO_x and NO_2 concentrations were not responding as expected to the projected decreases in vehicle emissions (KCL, 2012).

Table 2.3 Results of Automatic Monitoring for NO₂: Comparison with Annual Mean Objective

Site ID	Site Type	Within AQMA?	Valid Data Capture for Monitoring Period %	Valid Data Capture 2013%	Annual Mean Concentration ($\mu\text{g m}^{-3}$)			
					2010	2011	2012 ^{b,c}	2013
Merton (ME1)	Roadside	Y	-	85	52^a	-	48 (48.1)	40.1

In bold, exceedence of the NO₂ annual mean AQS objective of $40\mu\text{g m}^{-3}$

^a Data capture for 2010 was 77%

^b Data capture for 2012 was 39%

^c Mean “annualised” (in brackets) as in Box 3.2 of TG(09) (<http://laqm.defra.gov.uk/technical-guidance/index.html?d=page=38>), as valid data capture was less than 75%

Table 2.4 Results of Automatic Monitoring for NO₂: Comparison with 1-hour Mean Objective

Site ID	Site Type	Within AQMA?	Valid Data Capture for Monitoring Period % ^a	Valid Data Capture 2013 % ^b	Number of Hourly Means > 200µg m ⁻³			
					2010	2011	2012 ^{bc}	2013
Merton (ME1)	Roadside	Y	-	85	4 ^a	-	0 (164)	10

In bold, exceedence of the NO₂ hourly mean AQS objective (200µg m⁻³ – not to be exceeded more than 18 times per year)

^a Data capture for 2010 was 77%

^b Data capture for 2012 was 39%

^c Data capture for full calendar year was less than 90%, the 99.8th percentile of hourly means is in brackets

2.2.2 Diffusion Tube Monitoring Data of NO₂

Table 2.5 provides the results for 2012 and Table 2.6 for 2013. The results shown are the bias adjusted and annualised values for each of the diffusion tube sites. The results are compared to the 40 µg m⁻³ annual mean NO₂ objective and the annual mean concentrations that exceeded the objective are highlighted in bold. The results that exceeded 60 µg m⁻³ are also underlined to indicate that the hourly objective is potentially exceeded. Those sites that exceeded the 40 µg m⁻³ annual mean NO₂ objective are further corrected for distance to establish an estimated concentration at the nearest façade in accordance with the relevant exposure criteria as described in the TG09 guidance.

The measurement sites include areas described as roadside/ kerbside locations; these are close to both some of the busy major roads, as well as quieter roads across the Borough. The sites in the quietest residential areas measured the lowest concentrations and hence these sites are considered representative of background concentrations.

Data capture for 2012 at the sites was very good, representing over 90% of the year on average. One of the thirty four sites achieved only 83% data capture, whilst the rest achieved over 90%.

Data capture for 2013 at the sites was less good, representing almost 80% of the year on average. Ten sites achieved only 58% data capture, with one other 25% only. These sites started midway through the year; hence the reduced data capture.

In view of the slightly reduced data capture for 2013 only, the results for all of the sites were annualised using factors derived from nearby LAQN background sites. For 2013 the factors ranged from 1.034 to 1.122, with the majority at 1.091. For all sites other than site BC, this indicated a small adjustment only.

In 2012, twenty three sites met the 40 µg m⁻³ annual mean objective. As these sites met the objective there was no adjustment to the nearest façade. The lowest concentration monitored was located in an alley in Morden (site LA). The

concentration measured was $24 \mu\text{g m}^{-3}$ and this represented a background with no close influence from roads. All other measurements that the met objective exceeded $30 \mu\text{g m}^{-3}$ and eight of these sites exceeded $37 \mu\text{g m}^{-3}$ and thus approached the objective.

Fifteen sites exceeded the objective in 2012 and all of these were distance adjusted to the nearest facade. The distance adjustment was in accordance with TG09 methods. Four of these sites met the objective following adjustment to the nearest facade. The remaining eleven sites all exceeded the objective.

The average measurement for the sites that exceeded was $47 \mu\text{g m}^{-3}$. The highest measurements, of slightly more than $52 \mu\text{g m}^{-3}$, were on the High Streets of Merton and Colliers Wood (sites EA and DB). Both of these roads have residences over shops. Other areas that exceeded the objective were in Raynes Park, Morden, South Wimbledon and Wimbledon Park (sites DA, HA, PA, AA, AB, BB, CB, EB and TB).

In 2013, ten new sites were included in the survey (sites AC to JC). These included sites in Tooting and Mitcham that had not previously been examined, plus further sites in Colliers Wood, Morden and Raynes Park. As indicated earlier monitoring at these new sites only started mid-way through the year; hence they were adjusted using annualising factors as described earlier.

Nine of the sites monitored in previous years met the objective. Eight of these sites were not adjusted to the nearest façade as the measurement was below the objective. The measurement at site FA however exceeded the objective, but when adjusted to the nearest façade it met the objective, although it was one of five of the sites that exceeded $37 \mu\text{g m}^{-3}$ and thus approached the objective. The sites meeting the objective also included the alley in Morden (site LA) where the measured and bias adjusted concentration was $26 \mu\text{g m}^{-3}$.

Sixteen sites exceeded the objective in 2013 after adjustment. These sites were all adjusted to the nearest facade (other than site JC which only had 25% data capture). This included sites BA, DA, HA, PA, AA and EA from previous years' surveys. Of these all other than site BA exceed in 2012.

All of the new sites opened in 2013 exceeded the objective at the nearest facade. One site at Mitcham just exceeded the objective (site EC), whilst all of the other sites exceeded $45 \mu\text{g m}^{-3}$. The average for all of these sites was $54 \mu\text{g m}^{-3}$. Two of the sites, in Tooting (site CC) and Morden (site IC), exceeded $60 \mu\text{g m}^{-3}$ and therefore potentially exceeded the hourly objective.

Averaged concentrations for those sites (in Table 2.1) which operated over the period (2008 to 2013 inclusive) are shown for each of the site types (i.e. roadside and background) in Table 2.7 below and Figure 2.3. The results are bias corrected only.

These averaged results can only provide indicative results, due to the less accurate nature of diffusion tube monitoring and the short period shown. The results show that in general concentrations over this short period of time have reduced slightly, albeit with slight increases during this period too. The averaged background sites have reduced below the objective, whereas the roadside sites, whilst reduced, were above the objective. Some of these changes arise as the result of inter annual variations, which most typically are related to meteorology between years. Other variations, for example, due to traffic emissions, etc. may also have arisen but these require further investigations to more determine the extent of any reduction.

Table 2.5 Results of NO₂ Diffusion Tubes 2012

Site ID	Location	Site Type	Data Capture 2012 (%)	Data has been annualised (Y/N)	Confirm if data has been distance corrected (Y/N)	Annual mean concentration (Bias Adjustment factor = 0.87)
						2012 ($\mu\text{g m}^{-3}$)
BA	Burlington Road New Malden	Suburban	91.7	N	N	37.2
CA	Bardney Road, Morden	Suburban	91.7	N	N	31.6
DA	Worple Road, Raynes Park	Roadside	100.0	N	Y	44.6
GA	Garth Road, Morden	Suburban	100.0	N	N	37.5
HA	High St., Colliers Wood	Roadside	100.0	N	Y	50.7
LA	Alley, near Charminster Ave, Morden	Urban	100.0	N	N	24.0
MA	Lavender Avenue, Morden	Suburban	100.0	N	N	31.4
RA	Pepys Road, Raynes Park	Suburban	100.0	N	N	32.0
TA	Town centre, Mitcham	Urban	100.0	N	N	34.4
WA	Woodside, Wimbledon	Suburban	100.0	N	N	33.3
PA	Plough Lane, Wimbledon Park	Roadside	100.0	N	Y	47.0
AA	London Road, Morden	Roadside	100.0	N	Y	45.1
EA	Merton High Street	Roadside	100.0	N	Y	52.7
FA	Grand Drive, Raynes Park	Roadside	100.0	N	Y	34.7
AB	High Street, Colliers Wood	Roadside	100.0	N	Y	44.6
BB	High Street, Colliers Wood	Roadside	100.0	N	Y	44.2
CB	High Street, Colliers Wood	Roadside	100.0	N	Y	50.8
DB	High Street, Colliers Wood	Roadside	100.0	N	Y	52.2
EB	Haydon's Road, South Wimbledon	Roadside	100.0	N	Y	47.0
FB	Gap Road, Wimbledon	Roadside	100.0	N	N	39.2
GB	Gap Road, Wimbledon	Roadside	100.0	N	N	37.4
HB	Gap Road, Wimbledon	Roadside	91.7	N	N	37.8

L.B of Merton

Site ID	Location	Site Type	Data Capture 2012 (%)	Data has been annualised (Y/N)	Confirm if data has been distance corrected (Y/N)	Annual mean concentration (Bias Adjustment factor = 0.87)
						2012 ($\mu\text{g m}^{-3}$)
IB	Gap Road, Wimbledon	Roadside	91.7	N	N	34.5
JB	Durnsford Road, Wimbledon	Roadside	91.7	N	N	33.4
KB	Durnsford Road, Wimbledon	Roadside	100.0	N	N	37.4
LB	Weir Road, Wimbledon	Roadside	83.3	N	N	38.1
MB	Durnsford Road, Wimbledon	Roadside	100.0	N	N	37.4
NB	Plough Lane, Wimbledon	Roadside	100.0	N	Y	34.8
OB	Plough Lane, Wimbledon	Roadside	100.0	N	Y	33.9
PB	Plough Lane, Wimbledon	Roadside	100.0	N	N	32.2
QB	Plough Lane, Wimbledon	Roadside	100.0	N	Y	35.3
RB	Haydons Road, South Wimbledon	Roadside	100.0	N	N	38.3
SB	Haydons Road, South Wimbledon	Roadside	100.0	N	N	34.8
TB	Haydons Road, South Wimbledon	Roadside	91.7	N	Y	46.0

In bold, exceedence of the NO₂ annual mean AQS objective of 40 $\mu\text{g m}^{-3}$

Underlined, annual mean > 60 $\mu\text{g m}^{-3}$, indicating a potential exceedence of the NO₂ hourly mean AQS objective

Table 2.6 Results of NO₂ Diffusion Tubes 2013

Site ID	Location	Site Type	Data Capture 2013 (%)	Data has been annualised (Y/N)	Confirm if data has been distance corrected (Y/N)	Annual mean concentration (Bias Adjustment factor = 0.87)
						2013 ($\mu\text{g m}^{-3}$)
BA	Burlington Road New Malden	Suburban	100	N	Y	42.0
CA	Bardney Road, Morden	Suburban	58.3	Y	N	39.1
DA	Worple Road, Raynes Park	Roadside	100	N	Y	46.7
GA	Garth Road, Morden	Suburban	100	N	N	39.6
HA	High St., Colliers Wood	Roadside	100	N	Y	52.2
LA	Alley, near Charminster Ave, Morden	Urban	100	N	N	26.1
MA	Lavender Avenue, Morden	Suburban	100	N	N	35.2
RA	Pepys Road, Raynes Park	Suburban	100	N	N	35.9
TA	Town centre, Mitcham	Urban	91.7	N	N	39.3
WA	Woodside, Wimbledon	Suburban	100	N	N	33.7
PA	Plough Lane, Wimbledon Park	Roadside	100	N	Y	48.4
AA	London Road, Morden	Roadside	100	N	Y	48.2
EA	Merton High Street	Roadside	100	N	Y	57.5
FA	Grand Drive, Raynes Park	Roadside	100	N	Y	37.7
LB	Weir Road, Wimbledon	Roadside	100	N	N	37.5
AC	The Ridgeway, Wimbledon	Roadside	58.3	Y	Y	47.6
BC	Haydons Road, South Wimbledon	Roadside	50	Y	Y	48.3
CC	London Road, Tooting	Roadside	58.3	Y	Y	<u>72.6</u>
DC	London Road, Tooting	Roadside	58.3	Y	Y	59.3
EC	London Road, Mitcham	Roadside	58.3	Y	Y	40.4
FC	Church Road, Mitcham	Roadside	58.3	Y	Y	45.2
GC	Western Road, Colliers Wood	Roadside	58.3	Y	Y	52.0
HC	Crown Lane, Morden	Roadside	58.3	Y	Y	50.9

L.B of Merton

Site ID	Location	Site Type	Data Capture 2013 (%)	Data has been annualised (Y/N)	Confirm if data has been distance corrected (Y/N)	Annual mean concentration (Bias Adjustment factor = 0.87)
						2013 ($\mu\text{g m}^{-3}$)
IC	London Road, Morden	Roadside	58.3	Y	Y	<u>70.4</u>
JC	Grand Drive, Raynes Park	Roadside	25	N	N	42.1

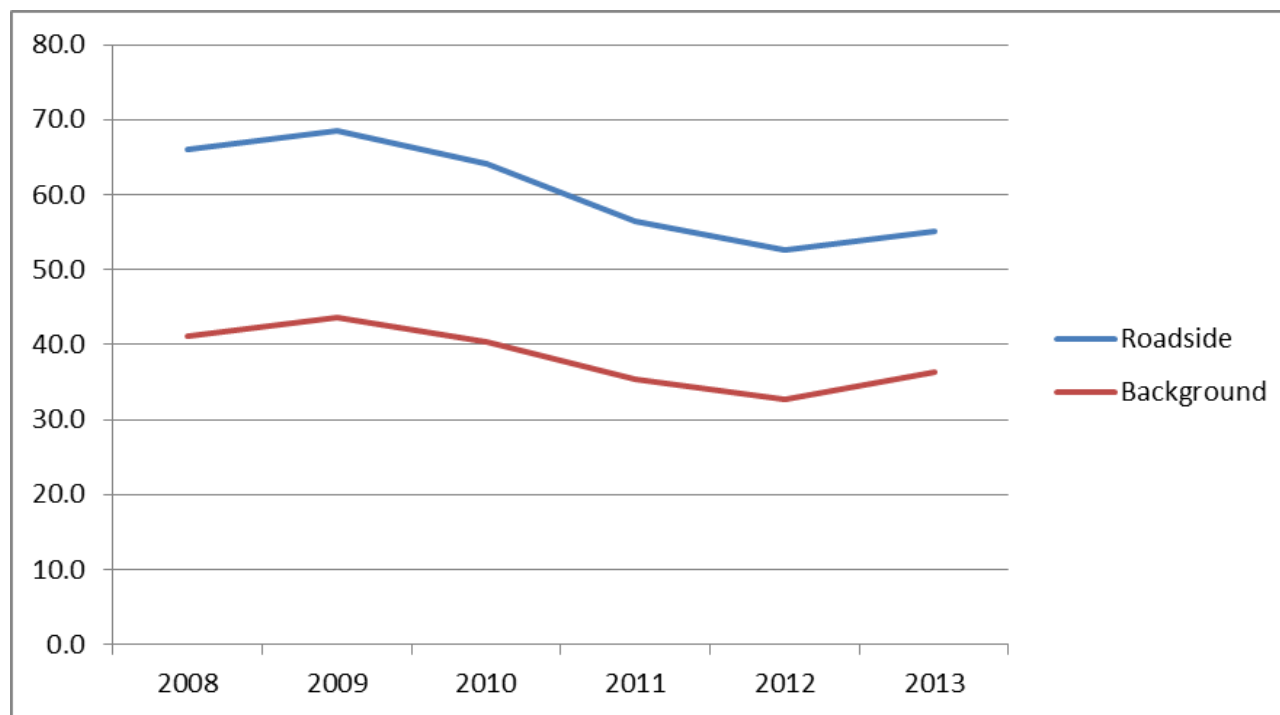
In bold, exceedence of the NO₂ annual mean AQS objective of 40 $\mu\text{g m}^{-3}$

Underlined, annual mean > 60 $\mu\text{g m}^{-3}$, indicating a potential exceedence of the NO₂ hourly mean AQS objective

Table 2.7 Results of NO₂ Diffusion Tubes (2008 to 2013) for the Merton diffusion tube survey

	2008	2009	2010	2011	2012	2013
Roadside	66.1	68.5	64.1	56.5	52.6	55.1
Background	41.1	43.6	40.5	35.4	32.7	36.4

Figure 2.3 Trends in Annual Mean Nitrogen Dioxide Concentrations Measured at Selected Diffusion Tube Monitoring Sites



2.2.3 Particulate Matter (PM₁₀)

The TG09 guidance highlights that BAM instruments (as used at the Merton ME2 site) were shown to be equivalent to the PM₁₀ reference method, provided that the results are corrected for slope. The results presented below have the correction factor of 1.2 applied. Thus the results for the **Merton** site as reported below are **reference equivalent**.

The data capture for the ME2 roadside site was good, exceeding 90% for 2013. The monitoring results for 2013 at the site met the annual mean objective, as the results also did for 2012 (shown in Table 2.8). For both years annual mean concentrations were around 30 µg m⁻³, slightly higher on 2013 than 2012. The briefing note prepared for the GLA (KCL, 2012) also confirmed that monthly PM₁₀ levels across London appear to be relatively stable for the period since 2004.

The daily mean objective, which has been exceeded more widely across the UK than the annual mean objective, is reported in Table 2.9. The monitoring results for the ME 2 roadside site in Merton also met this objective in 2012 and 2013. The number of days that exceeded the daily mean standard of 50 µg m⁻³ was 26 and 31 respectively for 2012 and 2013. This indicates that the objective was approached in 2013. It is not clear whether this increase in 2013 is due to inter annual meteorological conditions, which is most likely, or changes in local emissions from road transport. Further investigation, which is beyond the scope of this report, is needed to ascertain the reason.

Table 2.8 Results of Automatic Monitoring for PM₁₀: Comparison with Annual Mean Objective

Site ID	Site Type	Within AQMA?	Valid Data Capture for Monitoring Period %	Valid Data Capture 2013 %	Confirm Gravimetric Equivalent (Y or N/A)	Annual Mean Concentration ($\mu\text{g m}^{-3}$)		
						2011 ^a	2012	2013
Merton (ME2)	Roadside	Y	-	94	Y	26	29	31

^a Data capture for 2011 was 16%

Table 2.9 Results of Automatic Monitoring for PM₁₀: Comparison with 24-hour Mean Objective

Site ID	Site Type	Within AQMA?	Valid Data Capture for Monitoring Period %	Valid Data Capture 2013 %	Confirm Gravimetric Equivalent (Y or N/A)	Number of Daily Means > 50µg m ⁻³		
						2011 ^a	2012	2013
Merton (ME2)	Roadside	Y	-	94	Y	0	26	31

^a Data capture for 2011 was 16%

2.2.4 Air quality predictions for Merton

The latest air quality predictions for Merton, based on the LAEI 2010 (produced for the GLA), are shown below. Figure 2.4 shows that concentrations are predicted to widely exceed the air quality standard for this objective in 2015. Those areas with the highest predicted concentrations are close to major roads across the Borough. The highest background concentrations are also found towards closest to central London.

It is mainly those areas closest to busy and congested roads that exceed the objective; this is typical for other Boroughs outside of central London. Those roads predicted to exceed include the main trunk and other main roads across the Borough, including the A3, plus the A24, A216, A217, A218, A219, A236, A237, A238, A298, B235, B272, B279 and B285.

Similar to NO₂, the predictions of days exceeding the daily mean air quality standard for PM₁₀ are also related closely to roads across the Borough. Figure 2.5 shows the number of days that exceed the 50 µg m⁻³ standard. The small areas coloured yellow exceed the objective of more than 35 days exceeding the standard. The area exceeding the objective is closely located on the centres of Merton and Colliers Wood plus the B285, which leads to Beddington Road industrial area in Sutton.

This objective is more easily met than the annual mean NO₂ objective and hence those areas exceeding it are much smaller in size. It should be noted however that PM is considered very important from a public health perspective and the evidence published by the Department of Health's advisory group COMEAP in 2010 has confirmed this. This evidence highlights that health effects may arise at levels lower than the above objective.

Figure 2.4 Annual mean NO₂ concentrations ($\mu\text{g m}^{-3}$) for 2015

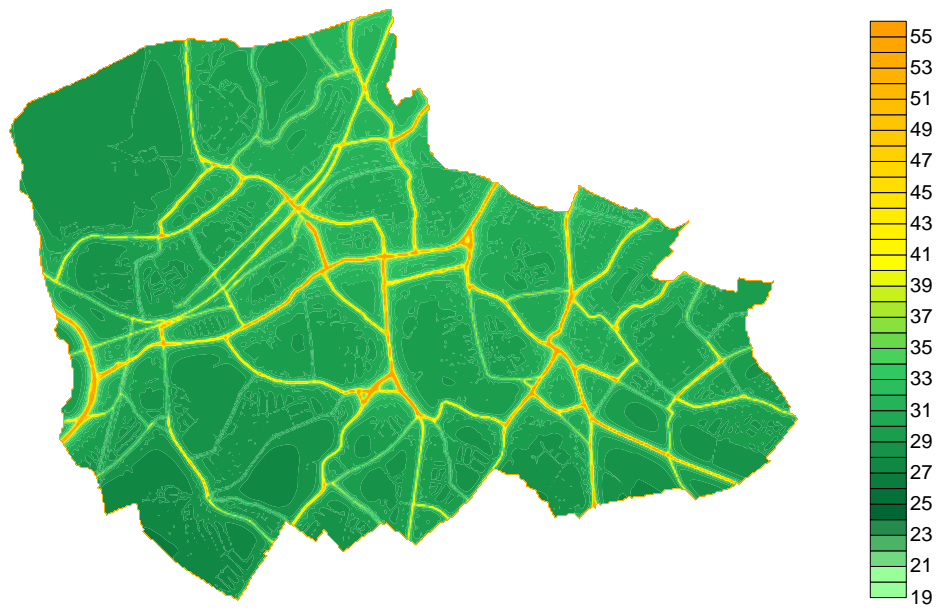
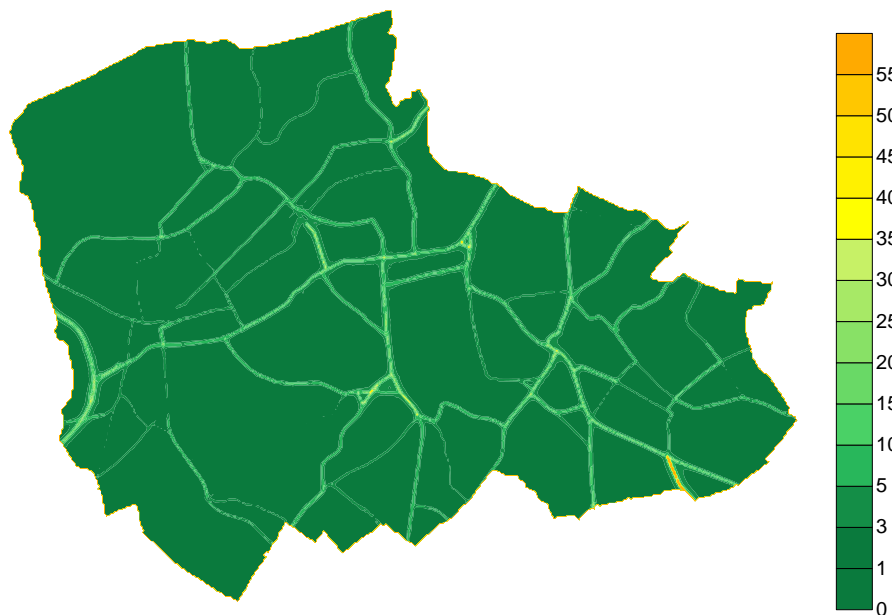


Figure 2.5 Daily mean PM₁₀ (number of days exceeding 50 $\mu\text{g m}^{-3}$) for 2015



Summary of Compliance with AQS Objectives

The Merton Council has examined the results from monitoring and recent modelled predictions across the Borough. Concentrations are above the objectives for annual mean nitrogen dioxide, plus daily mean PM₁₀ within the designated Borough wide AQMA. As a result of these findings there is no need to proceed to a Detailed Assessment based on monitoring.

3 New Local Developments

The Merton Council confirms that there are no new or newly identified local developments which may have an impact on air quality within the Borough.

The Merton Council confirms that all the following have been considered:

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

4 Planning Applications

Development in Merton is currently guided by planning policies in:

- The Mayor's London Plan 2011
- Merton's Core Planning Strategy 2011
- The South London Waste Plan 2012
- Sites and Policies Plan (2014)
- Polices Map (2014)

These five documents - Merton's Local Plan and the Mayor's London Plan - make up the statutory development plan, containing the planning policies that guide development in Merton.

The National Planning Policy Framework 2012 (NPPF) sets out the government's policy on planning matters in England and Wales. All local plans should be in conformity with national policy, although the NPPF is not usually used to help assess detailed local planning applications. It can however be used to inform planning decisions when the Local Plan is silent, out-of-date or there is any conflict between local or national policy.

The Mayor's London Plan 2011 contains planning policies that guide all London Boroughs on issues for the benefit of the whole of London such as the number of new homes to be built in London, the size of town centres, and transport issues. All other planning documents have to be in general conformity with the Mayor's London Plan. In January 2014 the Mayor published the Further Alterations to the London Plan for consultation, which is expected to be adopted in 2015.

Merton's Core Planning Strategy (July 2011) sets the overall framework for regeneration and development in Merton. Specific areas it looks at include:

- Colliers Wood / South Wimbledon: creating a new town centre at the heart of the Wandle Valley;

Mitcham: promoting well designed new homes and local businesses;

Morden: creating a more distinctive town centre with new apartments that complements the surrounding neighbourhoods;

Raynes Park: supporting development in the local centre that provides for the needs of the local community and improves the local environment and street scene.

Wandle Valley Regional Park: promotes thriving town centres and businesses at the heart of the Wandle Valley, addressing flood risk and linking green spaces.

Wimbledon: making the most of the Wimbledon “brand” to promote Wimbledon as a world famous, well-connected business location with excellent cultural and leisure facilities.

The South London Waste Plan is a joint Development Plan Document between Merton and three neighbouring Boroughs, Kingston, Croydon and Sutton. It contains detailed planning policies to guide planning applications for waste facilities, and allocates specific areas as being suitable for new waste facilities.

5 Air Quality Planning Policies

The Greater London Authority (GLA) published its Sustainable Design and Construction Supplementary Planning guidance (SPG) in April 2014. This SPG provides guidance on the implementation of London Plan and includes detailed guidance on the implementation of the “air quality neutral” provisions of the London Plan and minimum emission standards for combined heat and power (CHP) and biomass plant.

Supplementary planning guidance (SPG) on The Control of Dust and Emissions during Construction and Demolition was also produced in July 2014. This SPG provides guidance on the implementation of London Plan policy 7.14 - Improving Air Quality, as well as a range of policies that deal with environmental sustainability, health and quality of life.

To support the policies in the London Plan this SPG includes guidance on:

- The preparation of an Air Quality Statement for construction and demolition activities, including air quality (dust) risk assessments;
- The stages of development the Air Quality Statement is to cover, that is for demolition, earthwork, construction stages and trackout (vehicles leaving the site) stages of the works;
- The identification of the potential scale (large, medium, small) of dust emissions for each stage of work;
- The identification of the level of risk due to the scale of dust emissions on health, soiling (dirt) and the natural environment, depending on activities, their intensity and the sensitivity of receptors
- Best practice methods for controlling dust on-site and to prevent trackout

- Recommendations for monitoring
- Early notification of new 2015 and 2020 standards for non-road mobile machinery

The Council will use this guidance with relevant development proposals in the Borough.

6 Local Transport Plans and Strategies

At a London wide level, the Mayor for London continues to implement an ambitious package of London wide measures including LEZ standards, retiring the oldest, most polluting taxis and cleaning up the bus fleet. Together these have reduced PM₁₀ emissions by an estimated 15%, and NOx emissions by 20%.

In February 2013 the Mayor also announced his intention to establish a new Ultra Low Emissions Zone, in central London only, from 2020 to further improve air quality in and close to central London.

The Mayor has also published changes to the Local Implementation Plan (LIP) guidance, which now highlights air quality as a key consideration in the assessment criteria (section 5.7.2 of TfL guidance (2013)).

This guidance encourages Boroughs to explore opportunities to work together to tackle sub-regional challenges and issues, thereby exploiting economies of scale, sharing of scarce resources and ensuring a joined-up approach to dealing with common issues such as air quality, encouraging cycling and tackling congestion.

In 2011 the Council produced its second Sustainable Transport Strategy and Local Implementation Plan (LIP2) 2011 – 2031. It set out how the Council intended to deliver the Mayor of London Transport Strategy (MTS) as well as the Council's key objectives and policies.

As well as implementing the Mayor's Transport Strategy, LIP2 is also required to be consistent with the South London Sub-regional Transport Plan, and to reflect local priorities and objectives.

Achieving the vision and aspirations of LIP2 will be a challenge, but it is a challenge that the Council is eager to embrace. The Council will deliver LIP2 by working with partners to create a safe Borough that is easily accessible by all transport modes; in particular the Council will work with partners to:

- Enhance the network of safe attractive walking and cycling routes
- Maintain and enhance public transport services
- Manage and where possible reduce congestion on the Borough's roads
- Improve the accessibility of the public realm and transport network for disabled users
- Ensure the Borough continues to be one of the safest in London both in terms of accidents on the highway network and criminal offences
- Ensure residents, schools, workplaces, and other large organisations are well informed of sustainable travel options, and will have a strong understanding of the importance of using sustainable modes of transport
- Improve air quality in the Borough (particularly along busy roads), and reduce CO₂ emissions from transport.

For further information see <http://www.merton.gov.uk/merton-lip2-only-web.pdf>.

7 Energy, Climate Change and Sustainability

The Council's adopted Climate Change Strategy and action plan (2014-2017) sets out how the Council and others can take action on climate change. The strategy builds on the successful Climate Change Strategy (2009-2012) by outlining further aspirations for meeting the principles of the Council's strategic objectives and providing a framework for an ongoing programme of action to tackle climate change in Merton.

The purpose of the Climate Change Strategy is therefore to identify key improvement areas to reduce environmental impact and to help in monitoring and recording progress. In addition the strategy will help to raise awareness of key environmental issues across Merton and inspire others to take action.

The associated Climate Change Action Plan focuses on a series of actions that outline aspirations for addressing climate change in Merton across five themes.

Energy (both in the Council and across the Borough)

Planning and development

Sustainable resources

Natural environment and greenspace

Greening Business

For further information see

http://www.merton.gov.uk/merton_climate_change_strategy_2014-2017_-_final.pdf

8 Implementation of Action Plans

The Council was required to implement an Air Quality Action Plan following its original designation of its AQMA under Part IV of the Environment Act 1995. The original Action Plan produced in 2003 encompassed many Council and other measures to improve air quality in the Borough; the Action Plan was set out in pursuit of the government's air quality objectives. The Council has thus met and continues to meet its obligations.

Most of the original action plan measures have been completed, or are ongoing as statutory functions undertaken by the Council, or have become redundant due to changes implemented by others. As a result the Council has developed new projects and these are reported below. Table 8.1 provides details on the original action plan measures; this is provided for information purposes.

Love Clean Air website

The Council worked with other London Boroughs; Bromley, Croydon, Lewisham, Sutton, and Wandsworth to create the "Love Clean Air" website to promote air quality in the region. Love Clean Air is all about letting people know how clean the air is in South London, and what can be done to make it even cleaner. (See <http://lovecleanair.org/>). The website was originally funded by the GLA.

Mayor's Air Quality Fund

In June 2013 it was confirmed that the Council had been successful in seeking funding for three projects, see below. In total an award of £230,000 was made. The list below includes projects shared with neighbouring local authorities.

1. Air Quality Improvement and Awareness Raising on a Large Trading Estate

This project is focused on the Willow Lane Trading Estate in Mitcham. An award was made to Merton of £120,000 over three years to fund the project.

Linked to this is Smarter Travel Awareness project. This project was funded by Defra; it aims to raise awareness of air quality on the industrial estate. The estate has 150 businesses with around 2,500 people employed. By raising awareness the Council seeks to change the behaviours of businesses and individuals and reduce pollutant levels. The project represents an opportunity to target business vehicles with high mileage and high emissions. Air quality improvement can also be sought from journeys to work at the Estate.

Smarter Travel Awareness Days will include voluntary emission testing, cycling promotion and police involvement to promote sustainable transport methods on the estate and education on issues such as dust control/ burning of waste from Environmental Health and Environment Agency. (These link with actions 20, 24, 25 and 30 of the original Merton Air Quality Action Plan).

This is a project for which the effects and impacts will be measured, through quantitative data collection. This will include: numbers completing smarter driving training and signing up to FORS to show reductions in fuel consumption and emissions; air quality monitoring of nitrogen dioxide and particulate matter: and cycle and walk counts to show uptake of sustainable transport. Qualitative data will also be collected through a post training survey that will be circulated to those completing smarter driving training to review whether methods taught are continuing to be used and feedback on the training.

2. Schools Air Quality Information Campaign across South London Boroughs

This is a joint project with Croydon, Sutton, Lewisham, Wandsworth, Richmond upon Thames and Kingston upon Thames for three years. The total funding to the Council is £40,000.

The aims of this project are to raise awareness of air quality amongst children, to reduce the exposure of children to poor air quality and to attempt to improve air quality through positive actions being taken such as a reduction in vehicle idling and a modal shift from cars to less polluting travel choices. This project will build on the previous work that Wandsworth and other South London Boroughs have already carried out and enables the benefits of this work to be disseminated across South London; including the delivery of air quality lesson plans, the delivery of sustainable travel environmental theatre productions, smarter driving tips leaflets and signage to tackle vehicle idling. We will also attempt to evaluate the impact of the various elements of the project. An external consultant will be engaged to deliver the schools air quality lesson plans as well as the appointment of an environmental theatre company to deliver a sustainable travel theatre production at selected schools to gain pupil engagement. The external consultant will work directly with borough officers including transport planners working within the existing school travel plan frameworks and in conjunction with TfL's schools' team.

3. Dissemination of Construction Logistics Plans

This project provides information to the South London Air Quality Cluster Group of Merton, Croydon, Sutton, Lewisham, Wandsworth plus Richmond upon Thames and Kingston upon Thames. The total funding to the Council is £70,000 over three years.

Table 8.1 Action Plan Progress (based on AQ Progress report 2010) (note - greyed areas are completed)

No.	Action	Focus	Lead Authority	Main Partners	Target date	Progress in Last 12 Months
1	The Council will support the introduction of a Low Emission Zone for London which encompasses the Borough subject to public consultation and agreement on the source of funding for the scheme.	Removal of Euro 1 and 2 vehicles allowed to move through the borough unless adequately abated		Greater London Authority	2008-2012	Completed. Ongoing LEZ first implemented by GLA in 2008.
2	The Council will lobby the government to create a legalities and policy framework that encourages greater take up of cleaner vehicles and greater use of cleaner fuels and better vehicle maintenance	Provide consultation to all relevant guidance and policy	LB Merton		2009-2010	Consultation on guidance completed
3	The Council will work with Transport Energy appropriate sites for alternative refuelling infrastructure in the Borough.	The Council raises this issue in pre-application planning discussion for appropriate sites.	LB Merton		2010 ongoing	The Council continues to promote and raise this issue in pre-application planning discussion for appropriate sites.
4	The Council will when adding to its fleet will purchase the most cost effective efficient vehicle that will achieve the lowest practicable emissions	Council fleet to be upgraded or adapted to comply with LEZ requirement	LB Merton		2004 onwards	We have at any time 230 vehicles on the fleet. All of the fleet is LEZ compliant with fitted CRT, etc. or has RPC's as appropriate
5	The Council will consider if it is appropriate to use its powers as a 'Statutory Objector' in the granting of vehicle operator licences.	Intention to encourage operators to reduce emissions through the use of cleaner fuels/ retrofit technologies where appropriate	LB Merton		ongoing	No cases have arisen where it has been considered appropriate to use these powers.

No.	Action	Focus	Lead Authority	Main Partners	Target date	Progress in Last 12 Months
6	The Council will lobby the GLA and Government to implement traffic reduction measures throughout London.	Consultation on relevant guidance regarding Road Traffic Reduction Act	LB Merton	Greater London Authority	2004	Completed.
7	The Council will monitor the effect of the Congestion Charging Scheme and consider the introduction of complementary measures if necessary in Merton so as to prevent any detrimental effect on air quality.	Charging of vehicles to use central London areas	LB Merton	Greater London Authority	2004 onwards	Impact on Borough monitored, no action found to be necessary
8	The Council will, with its' partners progress the City Car Clubs Scheme and assess the viability of introducing pilot scheme in the vicinity of Wimbledon town centre.	Provision of car clubs for the public to use	LB Merton		2004 onwards	Two car clubs In operation City Car Club and Street Car
9	The Council will consider the introduction of CPZ's for all town centres.	Introduction of CPZ to new areas	LB Merton		Ongoing	In operation see http://www.merton.gov.uk/transport-streets/parking/cpz.htm
10	The Council will consider the introduction of CPZ's for key station locations where parking demand exceeds supply, giving priority to locations most vulnerable to the effect of the Central London Congestion Charging Scheme.	As above	LB Merton		As above	As above
11	The Council will seek opportunities for the introduction of Home Zones in consultation with local residents.	Introduction of Home Zones	LB Merton		2008-2009	Home zone is still operational. Also thirteen 20mph zones and thirteen areas subject to a 20mph zone

No.	Action	Focus	Lead Authority	Main Partners	Target date	Progress in Last 12 Months
12	The Council will seek the provision, where appropriate, of car free residential housing developments.	Number of s.106 agreements for car free developments	LB Merton		Ongoing	Section 106 agreements for six Car Free Developments agreed
13	The Council will produce updated supplementary planning guidance (SPG) on air quality.		LB Merton		2010	New SPG produced by GLA
14	The Council seek to minimize air pollution from new developments through the application of appropriate planning conditions but where the Council is satisfied that a development would be seriously detrimental to local air quality permission will be refused.	Utilise s.106 agreements to develop low emission strategies	LB Merton		2010 ongoing	Use of pre application meetings to develop ideas to proposed developments at an early stage in the application process.
15	The Council will produce a Walking Strategy for the Borough	Promotion of Walkit.com	LB Merton		2010	Merton signed up to Walkit.com. for residents who walk to choose a less polluted route.
16	The Council will continue to promote and implement the Walking Bus and Safe Routes to School Scheme	Promotion of scheme to schools	LB Merton		2010 onwards	The travel plan coordinator ensured that schools have a school travel plan. Cycle safety and child pedestrian training provided.
17	The Council will implement the London Cycle Network Plus in Merton by 2005	Implementation of London Cycle Network	LB Merton		2012 ongoing	Implementation of the London Cycle Network undertaken.
18	The Council will require developers to provide cycle facilities within new developments.	Development of cycle facilities	LB Merton		Ongoing	Ongoing Wimbledon town centre Plan under consultation has regards to increased cycle parking.
19	The Council will work towards increasing the area of the Borough with good accessibility to public transport	Promotion with relevant public transport operators	LB Merton		Ongoing	Ongoing promotion with relevant public transport operators.

No.	Action	Focus	Lead Authority	Main Partners	Target date	Progress in Last 12 Months
20	The Council will raise awareness of the consequences on health and the environment of current transport trends in Merton and of the alternatives to car based travel through participation in national and local campaigns.	Promotion of campaigns	LB Merton		2010	The Council has promoted and participated in campaigns.
21	The Council will produce a Green Travel Plan; thereafter the plan will be promoted to employees		LB Merton		2015 ongoing	Ongoing five year Plan until 2015 with target for 10% reduction in motorised vehicles for journeys to work and work related trips
22	The Council will provide guidance and support to enable School Travel Plans to be put in place, and will provide guidance and advice to businesses on developing Green Transport Plans.	Development of travel plans for schools and businesses	LB Merton		2010	Schools currently have adopted a travel plan.
23	The Council will seek to develop a Freight Quality Partnership through working with the local business community.	Roll out of proposals and projects advised by FQP	LB Merton		Ongoing	Projects in Wimbledon business centre and Wimbledon Town centre are ongoing.
24	The Council will carry out regular inspections of authorised processes to ensure that authorization conditions are being complied with and will take enforcement action	Undertake inspections as required by PPC legislation	LB Merton		Ongoing	Completed. Inspections as statutory required.
25	The Council will take action to discourage residents from having bonfires and promote alternative means of disposal of waste	Education of residents	LB Merton		Ongoing	Promotion of composting undertaken. Green waste collection rolled out across the borough

No.	Action	Focus	Lead Authority	Main Partners	Target date	Progress in Last 12 Months
26	The Council will require by planning condition a method statement from developers outlining how they propose to minimise emissions of dust from the demolition and construction phase of developments	Direction will be found in SPG	LB Merton		Ongoing	GLA SPG produced and used.
27	The Council will provide an immediate response to complaints of bonfires on construction sites and if substantiated will serve Statutory Notice prohibiting further bonfires.	Rapid response to complaints	LB Merton		Ongoing	The Council operates a rapid response aiming to deal with complaints within a 1 hour
28	The Council will introduce a multilateral kerbside collection for recycling.		LB Merton		Ongoing	Ongoing. Extended multi material Kerbside collection.
29	The Council will encourage developments that are sustainable in terms of their design, construction and services	Promotion of low emission strategies	LB Merton		Ongoing	Discussions undertaken with developers to ensure that climate change measures do not have a negative impact on air quality
30	Promote awareness that Merton is in a Smoke Control Area under the Clean Air Act legislation	Promotion of information for the public	LB Merton		Ongoing	Information provided on internet and also a write to address
31	The Council has signed up to 10% reduction in CO₂ emissions from Council premises by 2010	Reduction of CO ₂ by 10% by 2010	LB Merton		2010	Completed.
32	Real time Monitoring of NO_x and PM₁₀ levels in the Borough and continue to monitor NO₂ using passive diffusion tubes in the Borough.	Provide information to the public and for comparison to national objectives	LB Merton		Ongoing	NO _x analysers maintained. Results displayed on the London Air Quality network website for the public. Others results on Council website.

9 Conclusions and Proposed Actions

9.1 Conclusions from New Monitoring Data

The monitoring results within the Borough confirmed that the annual mean nitrogen dioxide objective continues to be exceeded at roadside and nearby locations. The sites monitored are considered to represent relevant exposure. The modelled predictions for the Borough also confirmed that the annual mean nitrogen dioxide objective continues to be exceeded at roadside and background locations. The results further indicate that the hourly objective is potentially exceeded however at some sites, most notably along London Road, in Tooting and Morden.

The modelled predictions for the Borough for PM₁₀ monitoring indicated that the daily mean objective has been exceeded recently within the Borough at roadside locations. Other sites within the Borough have met the objectives. A separate analysis of trends in London (KCL, 2012) confirmed that concentrations do not appear to be reducing.

Based on these findings, the Council does not need to undertake a Detailed Assessment, as no new potential or actual exceedences at relevant locations were established. The Council previously designated the whole Borough as an Air Quality Management Area for NO₂ and PM₁₀.

9.2 Conclusions relating to New Local Developments

The Council has assessed local developments of road transport, other transport, industrial processes, commercial/domestic, fugitive emissions, plus residential and commercial sources. The findings for these have indicated that there are no new changes that require the Council to undertake a Detailed Assessment.

9.3 Other Conclusions

The measures outlined in the Council's Action Plan are either completed or continuing as ongoing commitments. The Council is also seeking to work with partners across London on air quality improvement projects and has been successful in seeking funding to optimise and focus further air quality actions.

9.4 Proposed Actions

This report follows the technical guidance (TG09) and fulfils this part of the continuing LAQM process.

The findings from following this methodology are that the Council has not identified a need to amend air quality boundaries and thus need not proceed to a Detailed Assessment. The findings also indicate that the AQMA should be maintained.

The Council will therefore undertake the following actions:

1. Undertake consultation on the findings arising from this report with the statutory and other consultees as required.
2. Maintain the existing monitoring programme.
3. Continue with its Air Quality Action Plans in pursuit of the AQS objectives.
4. Prepare for the submission of its next Air Quality report.

10 References

Defra, 2007. Air Quality Strategy for England, Scotland, Wales and Northern Ireland (Volume 1). Defra, London. Cm 7169.

Defra, 2009a. Local Air Quality Management, Technical guidance LAQM.TG09. Defra, London.

KCL, 2012. Air Quality in London GLA Health and Environment briefing note. KCL July 2012.

Merton (2010). Local Air Quality Management 2010 Air Quality Progress Report for the London Borough of Merton. Merton, April 2010.

Merton (2012). Local Air Quality Management – Air Quality Updating and Screening Assessment 2012. Merton, July 2012.

Transport for London (2013) Local Implementation Plan (LIP) 2014/15 to 2016/17 Guidance, TfL 2013

Appendices

Appendix 1: Part A installations in Merton

Type of process	Company Name	Site Address
Reichhold UK LTD	Manufacture and use of organic chemicals	Willow Lane, Mitcham, Surrey

Appendix 2: Part B installations in Merton

Table of permitted petrol stations in the Council's area

Ref no.	Company/ Site Address
023	Tesco, 300 Beverley Way, New Malden, Surrey, KT3 4PJ
025	Savacentre Ltd, 1 Merton High Street, SW19 1DD
027	Total Convenience Store Western Road, 231 Western Road, SW19 2QE
030	Colliers Wood Service Station, 164-168 High Street, Colliers Wood, SW19 2BN
033	Shell Pepys Corner, Worple Road, SW20 8RE
034	Kingston Autoway Centre, Shannon Corner, New Malden, Surrey, KT3 6HM
038	Shell Plough Lane, 53 Plough Lane, Wimbledon, SW17 8HA
042	Martin Way Service Station, Martin Way, Morden, Surrey, SM4 4AW
044	Wimbledon Chase Service Station, 314 Kingston Road, SW20 8LR
045	Haydons Road Service Station, 298 Haydons Road, SW19 1ED
048	Total Convenience Store, Rowan Road, SW16 5JM
050	Wandle Service Station, Bishopsford Road, Morden, Surrey, SM4 6AP
054	Tesco, 195 – 210 Merton Road, SW19 1EG

Table of Part B installations in the Council's area

PG Note	Company Name	Site Address/ Home Address of Mobile Plant
PG5/02(04) Crematoria	South London Crematorium	Rowan Road, Streatham, SW16 5JG
PG5/02(04) Crematoria	North East Surrey Crematorium	Lower Morden Lane, Morden, Surrey SM4 4EU
PG3/1(04) Bulk Cement	Rapid Ready Mix	Alpha Place, Garth Road, Morden, SM4 4LG
PG3/1(04) Bulk Cement	Allen Concrete Ltd	38 Willow Lane, Mitcham, Surrey, CR4 4NA
PG3/1(04) Bulk Cement	Hanson Premix	Archway Close, Endeavour Way, London, SW19 8UH
PG6/34(11) Respraying of Road Vehicles	DWS Bodyworks	Mitcham, 11/11A Bunting Close, Mitcham, CR4 4ND
PG3/1(04) Bulk Cement	Maguire Skips Limited	Land adj 24 Wandle Way, Willow Lane, Mitcham, CR4 4NB
PG3/16(04) Mobile Crushing and Screening	Maguire Skips Limited	Land adj 24 Wandle Way, Willow Lane, Mitcham, CR4 4NB

Table of permitted dry cleaners in the Council's area

Process Name	Ref Number	Post Code
Bourjois Cleaners	DC/002	KT3 6NB
Kingsmere Cleaners	DC/004	SW19 7PA
Prestige Dry Cleaning	DC/005	CR4 4BE
Dudley Dry Cleaners	DC/007	SW19 8JZ
Elegance Dry Cleaners	DC/009	SW20 0BA
Galaxy Dry Cleaners	DC/010	SW19 7BD
Grand Dry Cleaners	DC/011	SW20 9NQ
High Quality	DC/012	SW19 1EE
Master John (Dry cleaners)	DC/016	SW19 3NT
Morden Dry Cleaners	DC/017	SM4 5BL
Parrisianne Cleaners	DC/018	SM4 5SQ
Soft Touch Dry Cleaning	DC/019	CR4 4BE
Rendezvous	DC/020	SW20 8LX
Surrey Linen Services	DC/021	KT3 6JF
Serena Dry Cleaners	DC/022	CR4 3NB
Smarty Dry Cleaning Services	DC/023	SW19 1QN
Swan Cleaners	DC/024	SW20 9NQ
London Quality Cleaners	DC/025	CR4 2JB
Unit 4 London Dry Cleaners Ltd	DC/027	SW20 0RH
Get Smart Dry Cleaners	DC/030	SM4 4AH
Elite Ironing Ltd	DC/037	SW19 8JA
Elegance	DC/038	SM4 6HY