2010 Air Quality Progress Report for *The London Borough of Merton*

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

Date April 2010

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Executive Summary

Monitoring data through 2009 has been undertaken predominately through the operation of passive diffusion tubes. The diffusion tube network demonstrates that there are exceedences of the annual objective at majority of the sites. Two separate locations, (Colliers Wood High Street (HA) and Plough Lane (PA)) demonstrate that there that the diffusion tube data read over 60$\mu g/m^3$ indicating that there could be an exceedences of the hourly objective. Both of these locations have possible exposure as defined by LAQN,TG09.

Particulate matter monitoring is currently not being carried out within the borough although neighbouring authorities demonstrate broad compliance with the objectives

Data analysis since the 2008 Merton USA again outlines that there is no requirement for a detailed assessment.

Merton has a borough wide AQMA with regards to particulate matter and NO2 emissions. Looking at the recent data there is no reason for this to be changed currently.

Since the previous review and assessment there have been several new developments that have the potential to lead to exceedences of the air quality objectives. The affects of these developments will be address within the next stage of review and assessment.

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1 Introduction

1.1 Description of Local Authority Area

The London Borough of Merton is situated in inner London and is a densely populated area with a population of approximately 197,600 (mid 2006). The Borough is mostly residential with areas of employment around the main commercial centres of Wimbledon, Morden, Mitcham, Colliers Wood and Raynes Park. The Borough has a broad socio-economic range between generally affluent Wimbledon and less affluent Mitcham. The main roads that run through the Borough include A3, A24 and A217 and A297. The main sources of air pollutants are the busy and congested roads. There are about 75 minor industrial processes that are regulated by the Council, plus other processes regulated by the Environment Agency (including waste water treatment works).

1.2 Purpose of Progress Report

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 Local Air Quality Management 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 Local Air Quality Management (LAQM) **in England** are set out in the Air Quality (England) Regulations 2000 (SI 928), and the Air Quality (England) (Amendment) Regulations 2002 (SI 3043). They are shown in Table 1.1. This table shows the objectives in units of microgrammes per cubic metre $\mu g/m^3$ (for carbon monoxide the units used are milligrammes per cubic metre, mg/m^3). Table 1.1. Includes the number of permitted exceedences in any given year (where applicable).

Table 1.1 Air Quality Objectives included in Regulations for the purpose of Local Air Quality Management in England.

Pollutant	Concentration	Measured as	Date to be achieved by
Benzene	16.25 $\mu g/m^3$	Running annual mean	31.12.2003
	5.00 $\mu g/m^3$	Running annual mean	31.12.2010
1,3-Butadiene	2.25 $\mu g/m^3$	Running annual mean	31.12.2003
Carbon monoxide	10.0 mg/m^3	Running 8-hour mean	31.12.2003
Lead	0.5 $\mu g/m^3$	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
Particles (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

Summary of previous R&A in London Borough of Merton

The Council undertook previous rounds of review and assessment of air quality. The main issue with respect to local air quality was found to be emissions (relating to NO_2 and PM_{10}) emanating from road vehicles. Based on the monitoring and assessments undertaken it was found that some of the air quality objectives would be exceeded in areas where there was relevant exposure. As a consequence the Council designated the whole of its area an Air Quality Management Area (AQMA) for annual mean objective and 24 hour mean PM_{10} objective.

The Council has since undertaken the 4th round of Review and Assessment. The 2009 USA (Merton, 2009) included updated monitoring and this showed that the air quality objectives were still exceeded. Thus there was no change in the findings from the USA and the Council therefore maintained its AQMA.

The 4th round of Review and Assessment did not require the completion of a detailed assessment.

Figure 1.1 Map of AQMA Boundaries (depicted by green line)

2 New Monitoring Data

2.1 Summary of Monitoring Undertaken

2.1.1 Automatic Monitoring Sites

The council currently maintains one NO_2 automatic monitoring station, which was opened in 14th of February 2010. The stations location can be seen in Figure 2.1. The reason for this opening of the stations was to achieve real time NO_2 concentration found within the borough.

The site is located on the first floor of the Merton Civic Centre and falls into the category of a roadside location. Sampling in taken 4m from ground level, at a distance of 3m away from the kerb side. Relevant exposure is found along the road in the flats above the commercial businesses.

The local authority calibrates the equipment fortnightly and the national physical laboratory undertakes audits biannually.

The data validation and ratification procedures are completed by The Environmental Research Group Kings College London using their LAQN standard technique. All data is published on London Air Network website where the data can be viewed on at the following link:
http://www.londonair.org.uk/london/asp/publicbulletin.asp?region=0&bulletin=hourly&site=ST6&bulletindate=13/04/2010%2011:00:00&postcode=&level=All.

As the site has only been operational since the 14th of February 2010 it has not been possible to achieve a full calendar year although monitoring is proposed to continue for a calendar year.

The council does not currently undertake particulate monitoring

Figure 2.1 Map of Automatic Monitoring Sites (Site depicted by red dots)

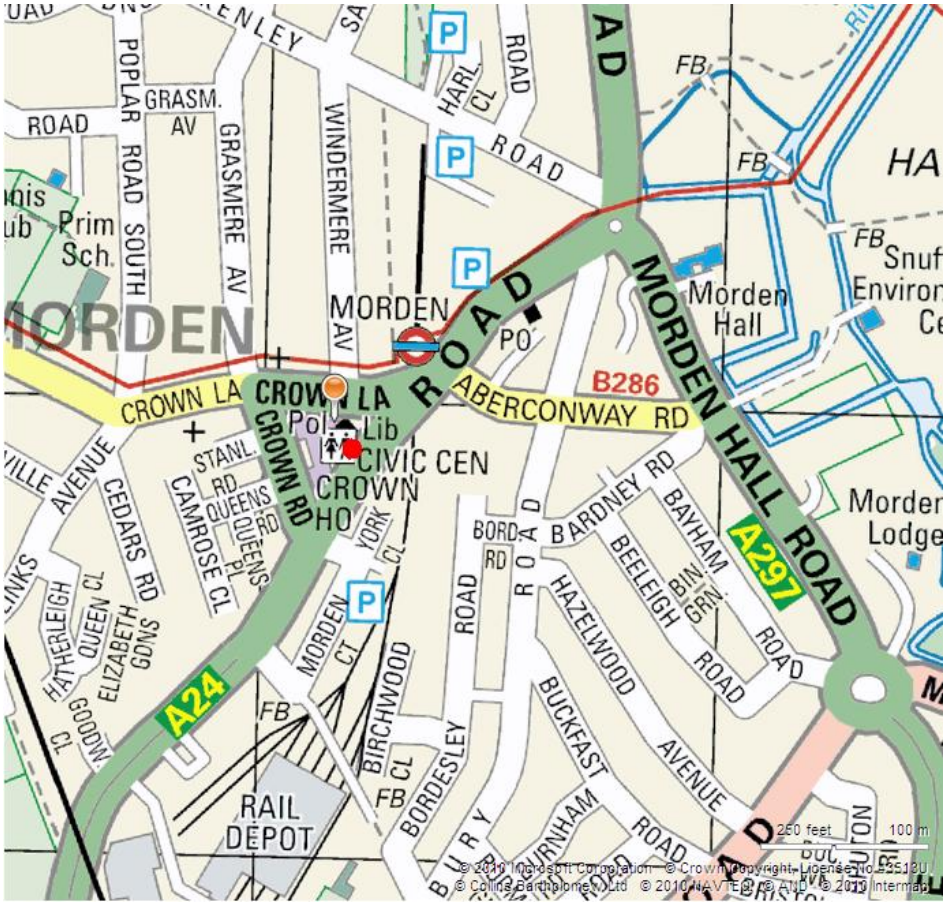


Table 2.1 Details of Automatic Monitoring Sites

Site Name	Site Type	OS Grid Ref		Pollutants Monitored	Monitoring Technique	In AQMA?	Relevant Exposure? (Y/N with distance (m) to relevant exposure)	Distance to kerb of nearest road (N/A if not applicable)	Does this location represent worst-case exposure?
Merton Civic Centre	Roadside	525586	168433	NO_2	Chemloumenessance	Y	Y (4m)	3m	Y

2.1.2 Non-Automatic Monitoring

The Council currently undertakes monitoring of air quality using non-continuous methods of measurement and has not currently undertaken a co-location study. The details of the location of the diffusion tubes can be seen in figure 2.2 The diffusion tubes used were supplied and analysed by Lambeth Scientific Services using a preparation method of 50% TEA in acetone. In the most recent round of Annual Performance Criteria for NO_2 Diffusion Tubes used in LAQM (Defra, 2009b), the laboratory demonstrated satisfactory performance in a recent QA/QC scheme for analysis of NO_2 diffusion tubes. Lambeth Scientific Services participate in the Workplace Analysis Scheme for Proficiency (WASP), which is an independent analytical performance testing scheme. The scheme is an important QA/QC exercise for laboratories supplying diffusion tubes to Local Authorities for use in the context of Local Air Quality Management (LAQM). The Health and Safety Laboratory (HSL) operate the WASP scheme independently and the cost of operation is borne by the laboratories, which pay an annual fee to HSL.

Monitoring using diffusion tubes has advantages over continuous monitoring in that it is far cheaper and therefore more sites can be established and assessed. The main disadvantage is that the method is less precise and accurate than continuous monitoring. The recommended methods to reduce these 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 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 ± 20% (at 95% confidence level). This compares with a typical value of ± 10% for chemiluminescence monitors subject to appropriate QA/QC procedures.”

The bias adjustment factor for each year reported has been obtained from the default bias adjustment factors (based on the March 2009 spreadsheet derived from the government’s Review and Assessment website). The default factors are based on statistical analyses of reported data provided by other local authorities. The factors used for all years, other than 2008, indicate that the monitored results under estimate concentrations. For 2008 the correction indicates that the monitoring over estimates concentrations, although this is only marginal.

It is worth noting that the 2008 factor has been based on 7 studies only at this stage and that the number of studies is likely to increase later in the year. This may well lead to a change in the factor. From the default spreadsheet, the precision for the seven studies includes 3 with good performance and 4 with poor performance. The precision indicates how well the diffusion tubes produce similar results from the duplicate and triplicate studies undertaken. The criterion is somewhat arbitrary and it

reflects both the laboratory's performance in preparing and analysing the tubes, plus the handling of the tubes in the field.

Table 2.2 Bias adjustment factors used for non-automatic monitoring sites. Data taken form Nations R&A Website

Year	Bias adjustment factor
2003	1.05
2004	1.19
2005	1.24
2006	1.28
2007	1.07
2008	0.98
2009	1.03

The results of a nation-wide survey of nitrogen dioxide diffusion tube co-location studies were further used to improve current understanding of diffusion tube bias (AQC, 2006). The data suggested that tubes close to a road were more likely to underestimate concentrations, once they have been adjusted for laboratory bias, and conversely tubes further away from roads were more likely to overestimate concentrations.

Further analysis of the results suggested that it was not the distance from roads that mattered, rather it was the different concentrations of nitric oxide, nitrogen dioxide and ozone in the atmosphere. The different concentrations influenced the chemistry taking place within the diffusion tube, in particular the formation of additional nitrogen dioxide from a reaction of ozone with nitric oxide.

A relationship was identified between diffusion tube bias and the measured annual mean nitrogen dioxide concentration that can be used to further adjust the diffusion tube result. The effect of this 'tube-chemistry' adjustment depends on the measured concentration: thus a laboratory bias adjusted result of 20.0µg m^{-3} would become 18.1µg m^{-3} after adjustment for bias due to tube chemistry. A value of 40.0µg m^{-3} would remain at 40.0µg m^{-3} and 60.0µg m^{-3} would become 65.1µg m^{-3}. As shown the effect of this adjustment is minimal at concentrations close to the objective of 40.0µgm^{-3} and so it will not have a material effect on exceedences of the objective identified using diffusion tubes.

Figure 2.1 Map of Non-Automatic Monitoring Sites (Sites depicted by blue dots)

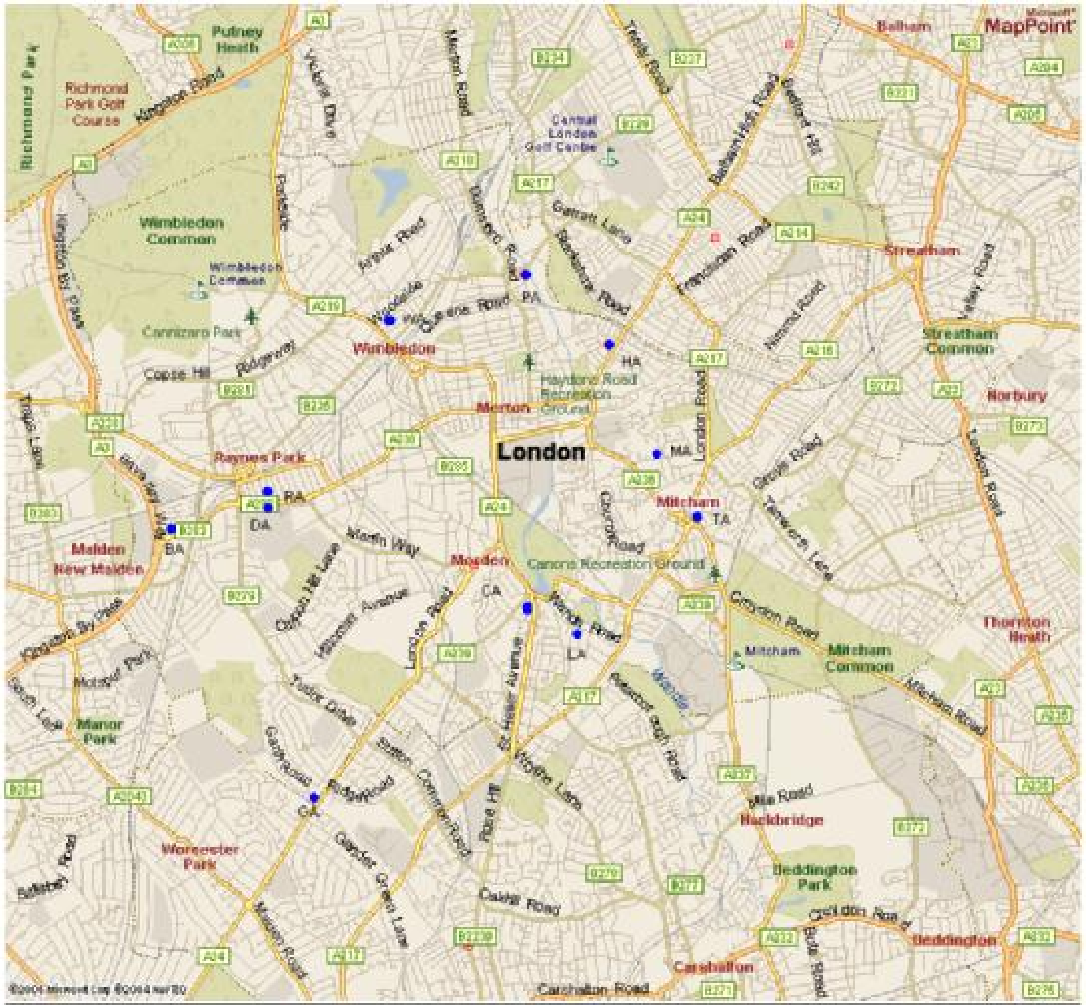


Table 2.2 Details of Non- Automatic Monitoring Sites

Site Name	Site Type	OS Grid Ref		Pollutants Monitored	In AQMA?	Relevant Exposure? (Y/N with distance (m) to relevant exposure)	Distance to kerb of nearest road (N/A if not applicable)	Worst-case Location?
(GA) Garth Road	Suburban	0166129	0524113	NO_2	Yes	Yes (4m)	1m	Yes
(BA) Sacred Heart School	Suburban	0168321	0522479	NO_2	Yes	Yes (1m)	30m	Yes
(DA) Worple Road	Kerbside	0169428	0523272	NO_2	Yes	Yes (1M)	1m	Yes
RA Pepys Road	Suburban	0169534	0523357	NO_2	Yes	Yes (5m)	1m	Yes
WA Wood Side	Suburban	0170873	0524608	NO_2	Yes	Yes (5m)	1m	Yes
HA High street Colliers wood	Roadside	0170707	0526965	NO_2	Yes	Yes (1m)	1m	Yes
MA Lavender Avenue	Suburban	0169646	0527621	NO_2	Yes	Yes (3m)	1m	Yes
TA Mitcham Town Centre	Urban centre	0169029	0527806	NO_2	Yes	Yes (1m)	20m	Yes
LA Lavender Avenue	Urban background	0169158	0525447	NO_2	Yes	N	15m	Yes
CA Bardney Road	Suburban	0168481	0525969	NO_2	Yes	Yes (5m)	1m	Yes
PA Plough Lane	Kerbside	0171403	0525932	NO_2	Yes	Y (3m)	1m	Yes

The council have recently commissions an automatic monitoring site. The site has been recording concentrations of NO2 in the borough since the 14th of February 2010 data capture currently for the year is currently for the year is 19% for a calendar as a result care needs to be taken when comparing the result with the air quality objectives. Broadly the results do demonstrates compliance with the hourly objective detailing 4 Exceedences through the monitoring period, although currently the borough is exceeding the annual concentration, although the averages are decreasing which will be monitored and reported in the next round of assessment.

since before 2000, although the results shown only represent the years 2003 to 2009 inclusive.

The results for the Borough of Merton are shown in Table , data capture exceeded 80% for all sites other than Lavender Avenue in Morden (MA), which was less 50% due to vandalism for year 2008, although for year 2009 data capture exceeded 80%.

The bias adjusted results for the five-year period from 2003 to 2008 inclusive are also shown in Table .

Table 2.2.1 Bias adjusted annual mean NO_2 concentrations (µg m^{-3}) for Merton (2003 2008)

Site	Type	2003	2004	2005	2006	2007	2008	2009
BA	B	38.6	**43.1**	**46.3**	**41.4**	**42.9**	38.2	**40.1**
CA	B	**46.9**	**48.9**	**43.7**	**46.5**	**51.0**	**47.3**	**50.6**
DA	R	**57.5**	**50.5**	**53.5**	**58.0**	**51.3**	**58.4**	**60.3**
GA	B	38.4	**40.8**	**41.0**	**43.7**	**50.8**	**42.5**	**43.7**
HA	R	**54.5**	**46.4**	**47.8**	**55.7**	**60.9**	**70.6**	**75.5**
LA	B	31.3	36.7	**41.6**	32.6	28.0	29.9	33.0
MA	B	**41.2**	**41.7**	**44.0**	39.3	**41.1**	**41.7**	**44.6**
RA	B	**41.7**	**42.5**	**43.3**	**43.1**	**45.0**	**43.0**	**45.7**
TA	B	**48.4**	**47.2**	**45.3**	**45.7**	**50.2**	**45.1**	**45.1**
WA	B	**43.4**	**47.0**	**44.0**	**42.7**	**38.8**	**41.0**	**45.6**
PA	R	**60.2**	**64.1**	**56.9**	**69.6**	**64.0**	**69.4**	**69.6**

(Notes: R is roadside; B is background; bold indicates > AQS objective; italics represent less than 9 months monitoring)

The bias adjusted annual concentrations for 2009 indicate that the government's air quality objective of 40 µg m^{-3} was exceeded at a majority of all monitoring locations in the Borough, apart from the two background sites located at Leonard Avenue in Morden (LA).

The sites with the highest concentrations are the roadside sites at the High Street in Colliers Wood (HA), Plough Lane in Wimbledon Park (PA) and at Raynes Park (DA). These consistently easily exceeded the 40 µg m^{-3} objective over the period reported.

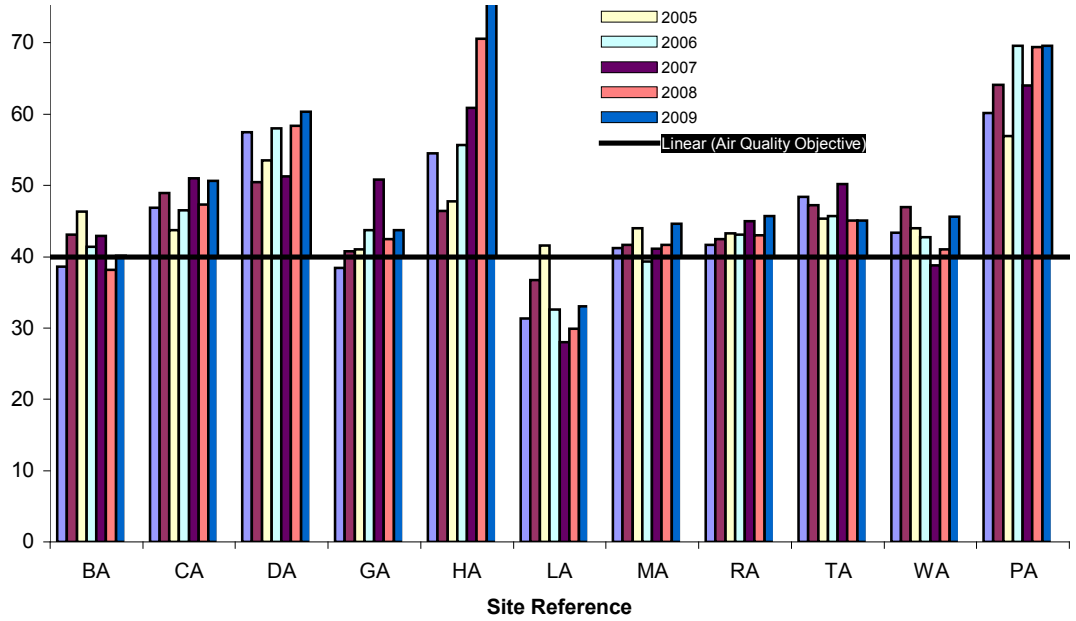


Fig 2.3 Graphical representation of result for diffusion tubes 2003 to 2009. Black horizontal line demonstrates

2.2.2 Automatic Monitoring Data

The monitoring station at Morden Civic Centre was commissioned on the 10th of February 2010. Baring in mind with the commissioning date the data capture for the year is currently 19% so therefore results may not be representative of the full year and should only be used for guidance only. It must be added though for the monitoring period data capture is over 95%.

Currently for the monitoring station there is an exceedences of the annual mean objective of 40μg/m^3 current readings are at 55μg/m^3.

Results will be discussed in greater detail within the next round of the review and assessment.

Site ID	Location	Within AQMA?	Data Capture for monitoring period [a] %	Capture for full calendar year 2009 [b] %	(μg/m³)		
					2008 [c, d]	2009 [c,d]	2010 [c]
Merton Civic Centre	Merton Civic Centre	Y	95.9	19.5	Site Not Operational	Site not Operational	55

[a] i.e. data capture for the monitoring period, in cases where monitoring was only carried out for part of the year.
[b] i.e. data capture for the full calendar year (e.g. if monitoring was carried out for six months the maximum data capture for the full calendar year would be 50%.)
[c] Means should be "annualised" as in Box 3.2 of TG(09), if monitoring was not carried out for the full year.
[d] Annual mean concentrations for previous years are optional.

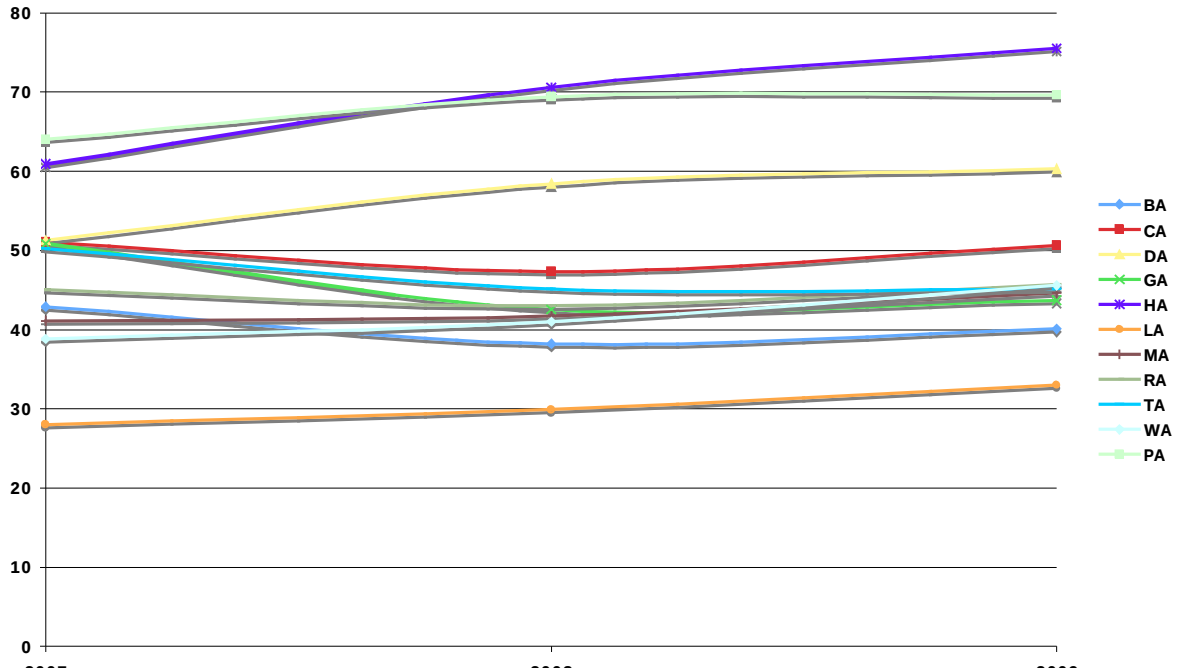
2.2.3 Trends in Annual Mean Nitrogen Dioxide Concentration Measured at Diffusion Tube Monitoring Sites

Considering that the site has just been commissioned there are no trend compassions that can be made until the monitoring period has increased. Trend data will be assessed within the next round of screening and assessment.

Site ID	Location	Within AQMA?	Data Capture for monitoring period [a] %	Data capture for full calendar year 2009 [b] %	1-hour mean (200 µg/m³) If the period of valid data is less than 90% of a full year, include the 99.8th percentile of hourly means in brackets.		
					2008 [c]	2009 [c]	2010*
Merton Civic Centre	Merton Civic Centre	Y	95.9	19.5	Site Not Operational	Site not operational	4

[a] i.e. data capture for the monitoring period, in cases where monitoring was only carried out for part of the year.
[b] i.e. data capture for the full calendar year (e.g. if monitoring was carried out for six months the maximum data capture for the full calendar year would be 50%.)
[c] Numbers of exceedences for previous years are optional.
* incomplete year Site Commissioned on the 10th of February 2010

Figure 2.4 Trends in Annual Mean Nitrogen Dioxide Concentration Measured at Diffusion Tube Monitoring Sites.



predicted reduction in emissions as outlined in the LAQM guidance and AQS.

Table 2.4 Results of Nitrogen Dioxide Diffusion Tubes

Site ID	Location	Within AQMA?	Data Capture for monitoring period[a] %	Data Capture for full calendar year 2009[b] %	Annual mean concentrations (μg/m^3)		
					2007 [c, d]	2008 [c,d]	2009 [c]
BA	Sacred Heart School	Y	100	100	42.9	38.2	40.1
CA	Bardney Road	Y	100	100	51.0	47.3	50.6
DA	Worple Road	Y	100	100	51.3	58.4	60.3
GA	Garth Road	Y	100	100	50.8	42.5	43.7
HA	High street Colliers wood	Y	100	100	60.9	70.6	75.5
LA	Lavender Avenue	Y	84	84	28.0	29.9	33.0
MA	Lavender Avenue	Y	95	95	41.1	41.7	44.6
RA	Pepys Road	Y	100	100	45.0	43.0	45.7
TA	Mitcham Town Centre	Y	100	100	50.2	45.1	45.1
WA	Wood Side	Y	100	100	38.8	41.0	45.6
PA	Plough Lane	Y	87	87	64.0	69.4	69.6

[a] i.e. data capture for the monitoring period, in cases where monitoring was only carried out for part of the year.
[b] i.e. data capture for the full calendar year (e.g. if monitoring was carried out for six months the maximum data capture for the full calendar year would be 50%.)
[c] Means should be “annualised” as in Box 3.2 of TG(09), if monitoring was not carried out for the full year.
[d] Annual mean concentrations for previous years are optional.

2.2.2 PM_{10}

The Local Authority Currently does not undertake monitoring of Particulates currently Athough looking trough data from surrounding boroughs I cn advise of the following findings:

The Council previously operated two continuous PM_{10} analysers in the area. One was located at a kerbside site on Grand Drive in Raynes Park, whilst the other was located at a background location in Liberty School on Western Road, Mitcham. Both sites opened in 2003 and closed in Spring 2006 and both also used Osiris instruments to monitor PM_{10}. The TG09 guidance indicates that such light scattering instruments may only be used for screening purposes.

The results for the sites are given in the Table below. The instruments are all calibrated using a local factor in accordance with the TG09 guidance. A factor to equate to a gravimetric equivalent is not applicable to this type of instrument.

Table 2.5 Monitoring at the Merton PM_{10} monitoring sites (2003 to Spring 2006)

Site		*2003*	*2004*	*2005*	*2005-6*
Grand Drive, Raynes Park	Annual mean (µg m^{-3})	24.2	23.2	29.5	25.7
	Days > 50 µg m^{-3}	23	7	16	18
	Data capture %	100	88.5	83.3	83.4
Liberty School, Mitcham	Annual mean (µg m^{-3})	26.4	15.3	18.3	23
	Days > 50 µg m^{-3}	16	1	1	17
	Data capture %	80.5	83.8	84.2	92.6

(Note – bold indicates objective exceeded; italics < 90% data capture)

The results also include the12 month period (April 2005 to March 2006). The results indicate that the 2004 daily mean standard of more than 50 µg m^{-3} was exceeded at both sites during the years reported. The annual mean objective however was not exceeded. For both sites there was also an increase in concentrations in 2006. During this time there were a number of periods of calm settled weather conditions during February and March leading to the recording of “moderate” episodes at other sites in London,
(see Http://www.londonair.org.uk/london/asp/publicepisodes.asp?region=0).

The neighbouring London Borough of Sutton operates a TEOM continuous analyser at a kerbside site (Sutton 4) in Wallington. This site that opened in 2003. The site is part of the London Air Quality Network and therefore the standards of QA/QC are similar to those of the government’s AURN sites, with subsequent data ratification undertaken by the ERG at King’s College London. In all cases the data are fully ratified, apart from the 2008, for which some data are still provisional. The site uses a TEOM instrument and therefore the results have been factored to a gravimetric equivalent (x 1.3).

Table 2.6 Monitoring at the Sutton 4 site (2003 to 2008)

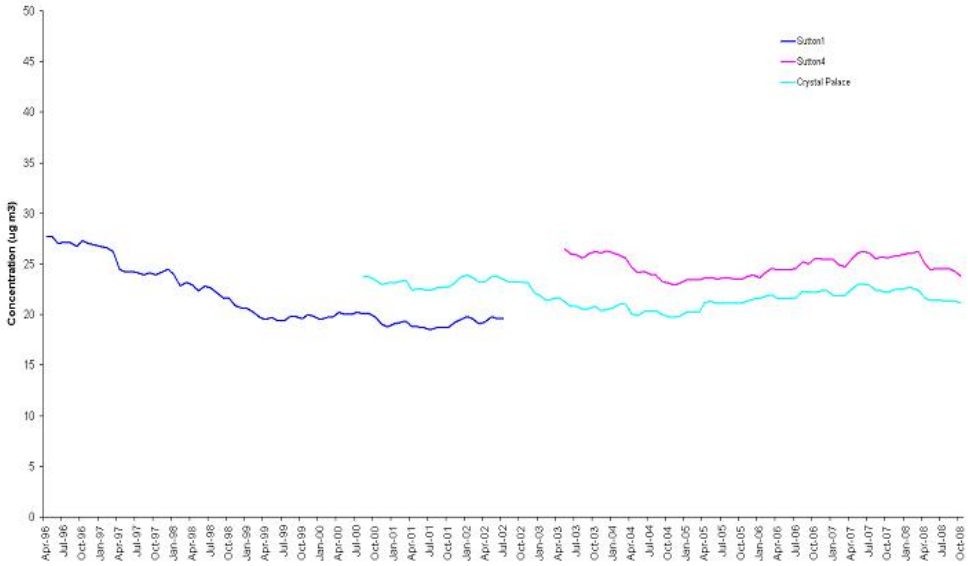
Site		2003	2004	2005	2006	2007	2008
Sutton 4	Annual mean	34	30	31	33	34	30
	No of days > 50 µg m^{-3}	37	9	14	21	40	8
	Data capture	99	99	95	98	99	98

(Note – bold indicates objective exceeded; italics < 90% data capture)

The results for the site indicate that the 2004 daily mean objective of more than 50µg /m was exceeded in 2003 and 2007. The annual mean objective however was not exceeded, although the highest annual mean concentration also arose during both 2003 and 2007. It should be noted that 2003 was a year with high pollutant concentrations in many areas of the UK, due to the long periods of high pressure that arose during the hot summer months. Such periods are conducive to secondary particle formation over wide areas. In 2007 there were episodes with high concentrations in both March and December.

An analysis of rolling annual mean PM_{10} concentrations and daily mean PM_{10} exceedences is provided for the Sutton monitoring sites to indicate any trend over time that is likely to occur in Merton. (The analysis also includes the closed Sutton 1, a roadside site close to Sutton town centre). The analysis is for the period from 2000 through to 2008. Table 2.6 illustrates changing concentrations over time; based on changing rolling annual mean PM_{10} concentrations and the rolling daily mean PM_{10} exceedences. The use of rolling data in this way largely removes seasonal influences and thus provides a guide to changing trends over time. The Crystal Palace roadside site is also included for comparison purposes. (Note – these results are not factored).

Figure 2.6 Rolling annual mean PM_{10} trends for Sutton monitoring sites (1996 to 2008)

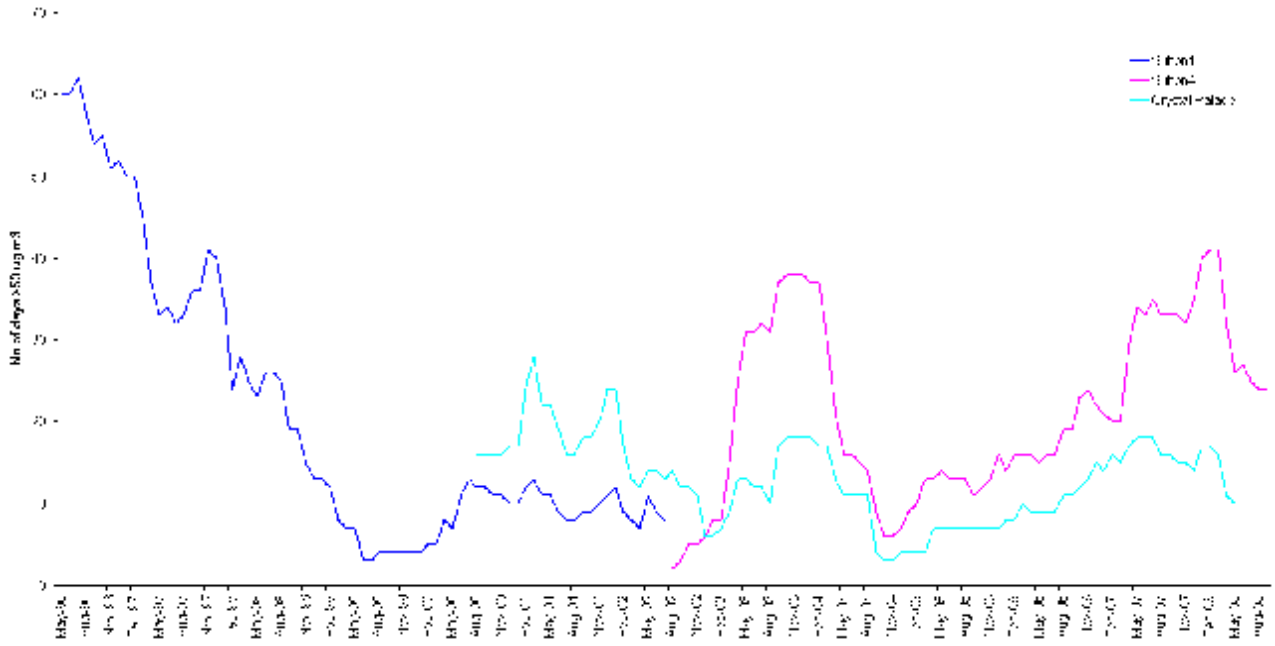


The rolling annual mean trend for the Crystal Palace site provides the longest dataset. The site shows a similar trend to that of the Sutton 4 site for the period that overlaps, albeit the concentrations at the suburban background at Sutton 4 are higher than for the Crystal Palace site shown. The data for the Sutton 4 site represent a shorter time period and reflect the start of operations in 2002. The Sutton 1 site shows a steady reduction in concentrations from the start of operations at the site in 1995, however from1999 to its closure in 2002 concentrations were mainly constant.

The use of trends in this way highlights that although concentrations dropped in 2004, this was mainly as a result of the pollution incidents in 2003 not being repeated in 2004. Overall levels have dropped to pre 2003 levels and do not appear to be further reducing; indeed for some sites there may be a slight increase, possibly as a result of increasing primary PM_{10} emissions (ERG, 2006) rather than the predicted decrease in emissions.

The rolling trend of PM_{10} exceedences similarly shows the effect of the pollution episodes in 2003, 2006 and 2007. As a result the levels, although fluctuating, appear to have remained similar over the period of time since 2001 for these sites. Averages based on London sites for the period from 1995 to 2000 show a downward trend from around 50 days above 50µg/m to 10 days in 2002. By the end of 2004 the number of days exceeding the standard at background sites was comparable to that measured at the start of 2001, whereas inner London roadside sites had a higher number of days exceeding in 2004 than 2001 (ERG, 2006).

Fig 2.7 Rolling number of days PM_{10} > 50 µg m^{-3} for Sutton monitoring sites (2000 to 2008)



2.2.3 Sulphur Dioxide

The first round of the review and assessment, concentrations of SO_2 were found to be below Air Quality objectives and there fore were not declared within our Air Quality Management area

2.2.4 Benzene

The first round of the review and assessment, concentrations of Benzene were found to be below Air Quality objectives and there fore were not declared within our Air Quality Management area.

2.2.5 Summary of Compliance with AQS Objectives

The London Borough of Merton has examined the results from monitoring in the borough. Concentrations are all below the objectives; therefore there is no need to proceed to a Detailed Assessment.

3 New Local Developments

The Council's AQMA is Borough wide and it is confirmed that there are no new or new local developments that have not been adequately considered in previous rounds of Review and Assessment.

3.1 Road Traffic Sources

The focus of attention for road traffic sources is on those relevant locations close to busy roads, especially in congested areas and near to junctions, where traffic emissions are higher, and in built up areas where the road is canyon like and buildings restrict the dispersion and dilution of pollutants. Only those locations, which have not been assessed during the earlier rounds or where there has been a change or new development, are assessed.

3.1.1Narrow congested streets with residential properties close to the kerb

Concentrations are often higher where traffic is slow moving, with stop/start driving, and where buildings on either side reduce dispersion. Screening models so far have not proved helpful at identifying potential exceedences, which have only been identified by monitoring. This assessment is for NO_2 only.

Previous Review and Assessments undertaken by the Council (Merton, 2004,) investigated the presence of narrow roads with residential properties close to the kerb. The revised TG09 guidance requires the identification of residential properties within 2 m of the kerb. The roads previously identified are within the Council's AQMA and this situation has not changed across the Borough.

The Council's AQMA is Borough wide and it is confirmed that there are no new or newly identified congested streets with a flow above 5,000 vehicles per day with residential properties close to the kerb that have not been adequately considered in previous rounds of Review and Assessment.

3.1.2 Busy streets where people may spend 1 hour or more close to traffic

These include some street locations where individuals may regularly spend 1-hour or more, for example, streets with many shops and streets with outdoor cafes and bars, close to road traffic where there may be high concentrations of NO_2. (Note – that those people that are occupationally exposed in such locations are not included, as they are not covered by the regulations). This assessment is for NO_2 only and no new busy streets have been identified in the Borough.

The Council confirms that there are no new or newly identified busy streets where people may spend 1 hour or more close to traffic in the Borough.

3.1.3 Roads with high flow of buses and/or HGVs

These include street locations in the Borough where traffic flows are not necessarily high (i.e. fewer than 20,000 vehicles per day) but where there are an unusually high proportion of buses and/or HGVs. The assessment is for both NO_2 and PM_{10} and is dependent on the proximity of relevant exposure within 10m of the kerbside. The Council in earlier Review and Assessments previously identified those roads within the Borough with high flows of heavy-duty vehicles. No new roads relevant to this section have been built in the Borough.

The Council confirms that there are no new or newly identified roads with high flows of buses or HGVs in the Borough that have not been adequately considered in previous rounds of Review and Assessment.

3.1.4 Junctions

Concentrations are usually higher close to junctions, due to the combined impact of traffic emissions on roads forming the junction, and to the higher emissions due to stop start driving. The assessment is for both NO_2 and PM_{10} and is dependent on the proximity of relevant exposure within 10m of the kerbside. No change to the previously reported situation concerning junctions was identified.

The Council confirms that there are no new or newly identified busy junctions in the Borough that have not been adequately considered in previous rounds of Review and Assessment.

3.1.5 New roads constructed or proposed since the last round of review and assessment

The approach to considering new roads depends on whether or not an assessment was carried out in advance of building the new road. The assessment is for both NO_2 and PM_{10} and is dependent on the proximity of relevant exposure within 10m of the kerbside. There have been no new or proposed roads in the Borough where an air quality assessment was required.

The Council confirms that there are no relevant new or proposed roads in the Borough.

3.1.6 All roads with significantly changed traffic flows

Only roads with significantly changed traffic flows that have not already been considered above were investigated. The assessment is for both NO_2 and PM_{10}.

The Council confirms that there are no new or newly identified roads not considered previously with significantly changed traffic flows in the Borough.

3.1.7 Bus and coach stations

This section only applies to bus stations or sections of bus stations that are not enclosed, and where there is relevant exposure, including at nearby residential properties. The assessment is for both the annual mean and the 1-hour NO_2 objectives. (Note - the term “bus” in this instance is used to signify both buses and coaches).

The Council confirms that the bus station in Merton was assessed in previous rounds of review and assessment. These found that there are no relevant bus stations in the Borough.

3.2 Other Transport Sources

3.2.1 Airports.

The Council confirms that there are no Airports located within the borough

3.2.2 Railway (diesel Steam Trains)

The Council confirms that there are no relevant locations where relevant exposure to emissions of steam or diesel trains within the borough.

3.2.3 Moving trains

The Council confirms that there are no locations where there are large amounts of diesel locomotives and potential long-term relevant exposure within 30m

3.2.4 Ports

The council can confirm that there are no ports or any shipping that meet the specific criteria within the Borough

3.3 Industrial Sources

The Council and Environment Agency (EA) control industrial sources within the Borough under the Pollution Prevention and Control Act 1999. The Council also has control over smaller industrial and commercial sources, largely through the Clean Air Act, with its associated control of the stack heights. As a result of these controls, there are relatively few sources that may be relevant under the Local Air Quality Management (LAQM) regime. Many of these sources were also addressed during previous rounds of Review and Assessment. The focus is thus on new installations and those with significantly changed emissions.

An application, (referenced 08/P2724) for the formation of an "ecopark" comprising: an extension to existing materials recycling facility with the provisions of a new building providing a new anaerobic digestion and integrated in vessel composting facility; a new bulking/waste building at Benedict Road Mitcham CR4 3BQ. An air quality assessment was submitted with the application which details that 36m chimney would be required in order to mitigate against emissions of NO_x and PM_{10}. Currently an application for the chimney is going through the planning process.

3.4 Commercial and Domestic Sources

The Council have recently approved 2 separate applications for the use of biomass as a sorce of heating the first being the development of a new school on previous playing fields. The new school was granted permission under the planning permission reference 08/P1509 (dated the 11th of May 2009) relating to the construction of part single part double storey building for a new special needs centre, providing secondary education. The new development is located at the former playing fields Middleton Road, Morden Surrey SM4 6SD. An air quality assessment was completed (ref 927/1/F1). The assessment showed that this proposed development would have insignificant increases in either NO_2 or PM_{10}

The Second application referenced (09/P0918) is for the Erection of a part single part 2 story extensions involving partial demolition of existing building and the formation of anew soft and hard play area. Within the application there is proposal to install a biomass at Holy Trinity Church of England Primary School Effra Road, South Wimbledon, London. We are still awaiting an air quality assessment with regards to is project.

3.4.1 New Developments with Fugitive or Uncontrolled Sources

The Council can confirm that there are no new or newly identified, landfill sites, Quarries unmade haulage roads on industrial sites although there has been development of new waste transfer site. The site is located at Riverside House 43a Willow Lane Mitcham CR4 4NA, which is located in the East of the Borough in an existing industrial zone. The site achieved change of use under the reference number 08/P0713, from a Bus Depot, Maintenance, storage facility to a Materials

Recycling Facility in the form of an industrial treatment process (liquid phase in-vessel accelerated composting) using food and other organic waste as the input material. There was no air quality assessment carried out as part of this development.

The London Borough of Merton has identified the following new or previously unidentified local developments, which may impact on air quality in the Local Authority area.

Former Playing Fields, Middleton Road, Morden, Surrey SM4 6SD Construction of a School with provision of biomass to provide heating.

Holy Trinity Church of England Primary School, Effra Road, South Wimbledon, London.

Vertal Limited, Riverside House 43a Willow Lane, Mitcham, Surrey CR4 4NA
A Materials Recycling Facility in the form of an industrial treatment process (Liquid phase in-vessel accelerated compositing.

Sita Recycling Benedict Road Mitcham Surrey, CR4 3BQ

These will be taken into consideration in the next Updating and Screening Assessment, scheduled for 2012.
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4 Planning Applications

There are several notable planning applications received by the council, that have the prtential to affect air quality in the borough:

4.1 Former Sleepeasy Site (Big Yellow Self Storage), Lombard Road South Wimbledon:
An application has been received for a biomass boiler to provide heating to the building. An air quality assessment was submitted with the application which details that initial dispersion modelling indicates that under the EA guidance the installation of the boiler would have insignificant impact on NO_2 and PM_{10} concentrations ion the borough.

4.2 The Arnawalt Willow Lane Mitcham, Surrey CR4 4NA (ref 09/P1963):
An application has been received for: (a) changes of use from Aggregate recycling facility to waste management facility with buildings to house waste sorting and picking (b) the installation of a 5 module "waste to energy" plant to convert waste via pyrolysis to electricity with erection of extensions to existing buildings to house plants. Currently before the application can be progressed an air quality assessment is required.

4.3 South London Waste Plan:
As landfill space is running out, new ways of dealing with waste are needed. Croydon, Kingston, Merton and Sutton are working together to meet this challenge by developing the South London Waste Plan. Within Merton 6 sites were put forward to the consultation as possible locations where the proposed waste processing plant could be located. Two phases of consultation the second has recently been completed on the 22nd of March 2010.

5 Air Quality Planning Policies

The council are developing the use of a Special Policy Guidance (SPG) in terms of air quality and planning policies. It is due to be completed by the end of 2010. This information will be taken into account in the next round of the review and assessment.

5.1 Town Centre Regeneration

"Destination Wimbledon"

A document has recently been issued regarding consultation on the following proposals for town centre improvements.
This project involves the regeneration of 4 separate junctions, which are currently congested streets.

Area 1 is Wimbledon Station Forecourt
Over half the people that use the station travel by foot, the remainder cycle or take the bus, but still walk part of the journey. Currently waking is difficult and as the pavements are narrow and congested. Cyclists are forced to secure bike to guard rails re there is inadequate cycle parking. Notable Proposal From an Air quality Perspective would be to:

- Proposal 1: Removal vehicle access to the station but the inclusion of drop off bays on Wimbledon bridge.
- Proposal 2: Create a new straight ahead pedestrian crossing
- Proposal 3: removing a lane of the carriageway to extend the pavement for pedestrians to prevent congestion and provide the provisions of new street trees.
- Provision of further cycle storage in existing forecourt area.

Area 2: Wimbledon Station Hartfield Road Junction
Again an area that has high traffic flows and is heavily congested by both vehicles and pedestrians:

- Proposals 1: to improve the layout by increasing the size of pavements to reduce pedestrian congestion.
- Proposal 2:The movement of the pedestrian crossing in order to reduce crossing distance

Area 3: Junction At Alexandra Road and Station Service road

This junction is one of the busiest in the borough; combined with the junction being one of the widest it makes the area very difficult to cross. Again the pavements are narrow and become congested at busy times. As a result pedestrian that need to cross the are cross diagonally across the road.

- Proposal 1: Create a diagonal pedestrian Crossing linking all corners of the junction
- Proposal 2: Widen the pavement to reduce congestion

Area 4: Wimbledon Hill road and Junction of Alexandra Road Woodside Road

This is a very busy pedestrian route with poor paving with limited cycle storage.

- proposal 1: the Installation of New cycle storage along various points of the road to encourage the movement of people by bicycle.

7. Local Transport Plans and Strategies

7.1 Cycle Super Highways

The development of the Cycle Super Highways project will see a set of 12 radial routes that will provide a safe, fast, continuous and comfortable way of getting from Outer London into Central London. Route 7 will link Colliers Wood to central London (A24) and should be operational by May 2010. When fully operational the route will be 14.2 km long. The development and promotion of the route will seek to include local businesses and potentially at least two local schools. Merton Council has negotiated an extension to the route to the western end of Merantun Way, which should be completed by 2012.

The borough has had a successful STP (previously Safer Routes to School) engineering programme in place since 2003/04. Over the years the programme has utilised funding from the Government Office for London and then TfL, and has covered work at and around 23 schools.

Since 2004 this work has been linked to school travel plans whereby the plan and consultation outcomes guide engineering measures around schools following meetings between the school travel advisor and traffic engineers.

Typical measures include traffic speed reduction features (speed tables and cushions), improved crossings, and parking restrictions and enforcement. Some schemes are implemented in conjunction with 20mph schemes/ Local Safety Schemes.

7.2 20mph Zones

We are gradually introducing new 20mph limits and zones across certain parts of the borough as part of the *20's Plenty* scheme. Our 20's plenty message is just one way we are trying to persuade motorists to keep to 20mph in areas where there are likely to be vulnerable road users such as school children and the elderly.

Currently there are thirteen 20mph Zones in the Borough and eleven 20mph speed limit areas at the following places:

20 mph zones
Newminster Road Area
Wimbledon Town Centre
Bodnant Gardens Area
Pelham Road and Cecil Road area
North Mitcham area
Hillcross area
Ridgeway place area
Parkway area
Eastfields Area
High Path area
Lake Road area
Pollards Hill Area
Lavender Avenue Area

20 mph speed limit areas
Quicks Road area
Ashbourne Road area
Green Lane area
Trinity Road
Merton Hall Road area
Ernle Road area
Merton Park Road area
Wandle Road area
Cecil Road area
Melrose Avenue area
Farm Road area* Cambridge Road Area
West Barnes area,
Pollards Hill area
Claremont Avenue area
Edgehill area

20mph Zones

We are gradually introducing new 20mph limits and zones across certain parts of the borough as part of the 20's Plenty scheme. Our 20's plenty message is just one way we are trying to persuade motorists to keep to 20mph in areas where there are likely to be vulnerable road users such as school children and the elderly.

Currently there are thirteen 20mph Zones in the Borough and eleven 20mph speed limit areas at the following places:

20mph Schemes to be introduced
We are aiming to introduce more '20's plenty' schemes in the following year which could include:
· Monkleigh Road Area (limit)
· Canon Hill Lane Area (limit)

7.3 Car Clubs

There are two car club operators in the Borough - City Car Club and Street Car. Streetcar alone accounts for 1445 members (a 27% increase since new 15 on-street bays were launched in April 2009), 34 vehicles in 28 bays.

Merton has secured further funding from TfL for the next two financial years to continue promoting car clubs in the borough. Some of the funding will be allocated to fit cycle racks to car club bays and promote the integration of cycling and car clubs

8. Climate Change Strategies

The Council is currently developing a Climate Change Strategy. This will set targets for many areas of the Council's activities including, reducing CO_2 emissions, generating energy from renewable resources, recycling, sustainable management of biodegradable waste and sustainable transport. The Council will seek to ensure that measures that will result in benefits for both air quality and climate change will be promoted.

Merton Council - home of the pioneering Merton Rule - has commited to the 10:10 CO2 saving initiative - a high profile national campaign to reduce carbon emissions by 10% during 2010. By signing up to 10:10, the council officially takes up the challenge of continuing to reduce its own CO_2 emissions by 10% through a number of different actions. These include upgrading its fleet of vehicles with more efficient engines that are able to run on biodiesel and continuing to identify ways to make the borough's street lighting and council buildings more energy efficient. Each tonne of CO_2 released into the atmosphere due to the council's energy consumption costs the council about £150 per year. These proposed climate saving measures will result in annual savings of £150,000 in fuel bills.

One major CO_2 busting project the council is currently investigating is the installation of a Combined Heat and Power (CHP) system in the civic centre. This highly efficient system, fuelled by used vegetable oil rather than oil or gas, would supply the building with electricity and heat, saving over 600 tonnes of CO_2 every year. The system would pay for itself within five years.

The council is investing £150,000 in its energy saving programme. It is also preparing a report to submit to the London Development Agency to secure £350,000 for the project. Interest free loans are also available from specialist funding organisation SALIX.

Independent of any national initiative, the council has already been working hard on cutting its CO_2 emissions for the past four years. Its work has focused on the civic centre in Morden, resulting in a 22% reduction in emissions from this building (over 450 tonnes of CO_2), along with an extra 50 tonnes from the council's other main office buildings. Energy saving projects to date include improved insulation, more efficient lights, time controls for heating and electrical items and special equipment to reduce the voltage of electricity supplied to buildings. These projects have saved over 1,900 tonnes of CO_2 and more than £285,000 since 2005.

Mitcham has been designated as one of the four pilot London Energy Action Areas. These areas will showcase how low carbon strategies can be applied and replicated more widely. The core of our EAA will be a District Heat and Power Network with energy being generated using Combined Heat and Power (CHP) units. A unique aspect of the Merton Scheme is the proposal that the fuel source for the CHP will be biogas (methane) generated from domestic waste by pyrolysis.

9. Implementation of Action Plans

Following Table

Table 9.1 Action Plan Progress

No	Measure	Focus	Lead Authority	Planning Phase	Implementation Phase	Indicator	Target Annual emission reduction in the AQMA	Progress to Date	Progress in Last 12 Months	Estimated completion Date	Comments relating to target emission reductions
1	The council will Support the introduction of the LEZ that 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	2006-2008	2008-2012	Adoption of the LEZ	1%	LEZ commenced 2008	Ongoing Extension of Low emission Zone effecting larger vans deferred to 3rd Of January 2012	Ongoing	Elimination of Euro I and II vehicles leads to a 2% reduction of AQMA
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 of All relevant guidance and policy	Local Council	2008	2009-2010	Consultation on guidance completed	N/A	N/A	Full consultation of The Mayors Air Quality Strategy	Ongoing See Action 8	N/A
3	The Council will work with Transport Energy to identify	The Council raises this	Local Council	2008	2010	Attend Relevant Focus	NA	Promotion of air quality	The council continues to promote and	Ongoing	N/A

	appropriate sites for alternative refuelling infrastructure in the Borough	issue in pre-application planning discussion for appropriate sites.				Groups		issues at pre-application meetings	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 vehicle stock upgraded or adapted to comply with LEZ requirements	Local Council	2004	Ongoing	Changing of Vehicles to comply with LEZ	1%	We have at any time 230 vehicles on the fleet, All the fleet is LEZ compliant has fitted CRT etc or has RPC's as appropriate	The council has a complete fleet history and planned replacement programme that is implemented to meet statutory requirements (LEZ) etc or will extend if appropriate depending on the type of vehicle	Ongoing	
5.	The Council will consider if it is appropriate to use its powers as a 'Statutory Objector' in the granting of vehicle operator licences.		Local Council	NA	NA	Enforcement when required	N/A	No cases have arises where it has thought to be appropriate	No cases have arisen where it has been considered appropriate to use these powers.	Ongoing	NA
6	The Council will lobby the GLA and Government to		Local Council	Ongoing	Ongoing	Consultation on relevant	NA	On going	Full consultation of The	Ongoing	

	implement traffic reduction measures throughout London.					guidance			Mayors Air Quality Strategy		
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 the central London areas	Local Council	Ongoing	Ongoing	Monitor of congestion charging	NA	On going	Impact on Borough monitored, no action found to be necessary Action retained in view of proposals to amend the Congestion Charging Area	Ongoing	N/A
8	The Council will, with its' partners progress the City Car Clubs Scheme and assess the viability of introducing a pilot scheme in the vicinity of Wimbledon town centre.	Provision of car clubs for the public to use	Local Council	2003 ongoing	2003-2004	Number of people using the schemes	1%	Two Car clubs In operation City Car Club and Street Car Streetcar accounts for 1445 members (27% increases since 2003 15 on street bays launched in April 2009 34 vehicles in 28 bays	Funding secured for 2 financial years for promotion purposes funding will be allocated to cycle racks to promote the integration on cycling and car clubs	Ongoing	N/A
9	The Council will	Introductio	Local	N/A	N/A	Designati	1%	CPZ are	Ongoing	Ongoing	N/A

	consider the introduction of CPZ's for all town centres.	n of New CPZ to new Areas	Council			on of new CPZ		now in place in Wimbledon Morden, there is No CPZ in Mitcham, just the provision of (free) Regulated bays	Although council has approved cheaper parking across the borough		
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.	Introductio n of New CPZ to new areas	Local Council	2008	N/A	Designati on of new CPZ	N/A	Ongoing proposals around Raynes Park Station and Motspar Park Station have been rejected	No further developments for proposals discussed	Ongoing	N/A
11	The Council will seek opportunities for the introduction of Home Zones in consultation with local residents.	Introductio n of Home Zones	Local Council	2004	2008-2009	Develop ment of Home Zone	N/A	There is one Home Zone Ten 20mph Zones and thirteen area subject to a 20mph outside a zone	Home zone is still operational 13 20mph Zones 13 areas subject to a 20mph zone	Ongoing	N/A
12	The Council will seek the provision,	Number of Section 106	Local Council	N/A	N/A	Signed Section 106	N/A	Section 106 agreements for Six Car Free	No Further car free development	Ongoing	

	where appropriate, of car free residential housing developments.	agreements for Car Free Developments				developments		Developments	s since previous reports		
13	**The Council will pr updated supplemer planning guidance on air quality.**	Produce planning guidance for developers Development of section 106 agreements for developments	Local Council	2008-2009	2010	Production of guidance	N/A	Revision of SPG being considered in connection with LDF process	Writing of Draft SPG for Air Quality due to go for consultation	Late 2010	
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 Section 106 agreements Develop low emission strategies	Local Council	2006	2006 ongoing	Attendance of Pre Application inquiries	N/A	Use of pre application meetings to develop ideas to proposed developments at n early stage in the application process. Prevent the validation of planning applications without the relevant reports.	Through the writing of SPG enable the council to utilise Section 106 agreements.	Late 2010	
15	The Council will	Promotion	Local	2007	2009/2010	Launch of	1%	Merton Has	Walkit.com	Mid to late	

	produce a Walking Strategy for the Borough	of Walkit.com	Council			New Walkit.com site		signed up to Walkit.com an urban route planner for residents who walk to choose a less polluted walk	site currently being tested in-house. External launch due to completed by middle to ate 2010	2010	
16	The Council will continue to promote and implement the Walking Bus and Safe Routes to School Scheme	Promotion of Schemes to schools	Local Council	2006	Ongoing	Number of people taking part in the schemes	1%	In Partnership with the Council travel plan co-ordinator 93% of schools have a school travel plan We also trained 920 children to cycle more safely. For 2009/10 we also expect to deliver Child pedestrian training for more than 1100 children.	Ongoing	2010	

17	The Council will implement the London Cycle Network Plus in Merton by 2005	Implement ation of the London Cycle Network	Local Council	2006	Ongoing	Develop ment of New and increased developm ent of schemes	1%	Ongoing improveme nts to cycle networks. Merton has 42.6m of proposed cycle networks and has delivered 4.4km in the past year in the Wimbledon Park, Morden Park, and Joseph Hood Recreation ground, Bishopsfor d Road/Bridg e. 16.5km linking Rains Park to Wimbledon Roadway Under Constructio n	The development of the Cycle Super Highways project will see a set of 12 radial routes that will provide a safe, fast, continuous and comfortable way of getting from Outer London into Central London. Route 7 will link Colliers Wood to central London (A24) and should be operational by May 2010. When fully operational the route will be 14.2 km long. The development and promotion of the route will	Ongoing 2012	

									seek to include local businesses and potentially at least two local schools. Merton Council has negotiated an extension to the route to the western end of Merantun Way, which should be completed by 2012		
18	The Council will require developers to provide cycle facilities within new developments.	Developme nt of Cycle Facilities	Local Council	Ongoin g	Ongoing	Improved cycle facilities	1%	New developme nts are required by policy to include provisions for cycle storage.	Ongoing Wimbledon town centre Plan under consultation has regards to increased cycle parking.	Ongoing	
19	**The Council will work towards increasing the area of the Borough with good accessibility to public transport**	Promotion with relevant public transport operators	Local Council	Ongoin g	Ongoing	N/A	N/A	Ongoing	Ongoing	Ongoing	
20	The Council will	Promotion	Local	Ongoin	Ongoing	Promotio	N/A	In 2008/9	Continuation	Ongoing	

	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.	with other section within the council within the	Council	g		n on events		the council has promoted and participated in campaigns such as TryCycling Walk to School Week, Walk on Wednesday, Bike week, and Bike2Work Week, Walk on Wednesday and Debra the Zebra.	of the schemes through 2010.		
21	The Council will produce a Green Travel Plan; thereafter the plan will be promoted to employees.	Acceptance for Travel Plan for the Council	Local Council	2007	2010	Draft Strategy produce ready to go for consultation	1%	Draft strategy is currently with the council management team should be adopted early next year	Five year Plan running from 2010 until 2015 will have an overreaching target for 10% reduction in motorised vehicles for journeys to work and work related trips. Plan	2015 Ongoing	

									currently under consultation		
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 local businesses	Local Council	Ongoing	2010 ongoing	100% of schools to take up travel plans	1%	63 schools now have travel plans Council aiming to have 68 out of 68 schools completed by December 2009 in order to meet the mayor's deadline	93% of school currently have adopted a travel plan aiming for 100% by the end of 2010	Ongoing	
23	The Council will seek to develop a Freight Quality Partnership through working with the local business community.	Role out proposals and projects advised by FQP	Local Council	Ongoing	Ongoing	Projects completed within the borough		Projects in Wimbledon business centre and Wimbledon Tone Centre	Changes in Wimbledon Town Centre under consultation Ongoing	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 PPC Legalisation	Local Council	Ongoing	Ongoing	Competed PPC inspections	N/A	Complete inspections as statutory required.	Process inspected as statutory guidance, New Stage II vapour recovery completed to all petrol dispensing	Ongoing	

	where necessary.								required amounts of petroleum		
25	The Council will take action to discourage residents from having bonfires and promote alternative means of disposal of waste	Education of Residents	Local Council	Ongoing	Ongoing	Education of Residents	N/A	Promotion of composting within the borough production Green waste collection rolled out across the borough	Article Placed in Local Places and advice given by officers on alternative means of disposal	Ongoing	
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 and referral to all latest guidance	Local Council	Ongoing	Ongoing	Development of SPG and referral to guidance	N/A	In addition air quality assessment required for all medium to large-scale developments as appropriate Code of practice produced and given to any new development in the borough. Promotion of the "Control of Dust and emissions	Development of SPG late 2010 to require AQ assessments as part of the validation of planning applications.	Ongoing	

								from Construction and Demolition sites" Produced by The GLA and London councils 2006. Dust emissions from sites			
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	Local Council	Ongoing	Ongoing	Rapid Response to complaints of burning by construction sites	N/A	The council operates a rapid response aiming to deal with complaints within a 1 hour	Ongoing	Ongoing	
28	The Council will introduce a multilateral kerbside collection for recycling.	Introduction of A Multilateral Kerbside collection for recycling	Local Council	Ongoing	Ongoing	Collection of Multilateral Kerbside collection	N/A	Ongoing and extended Multi material kerbside Collection	Ongoing	Ongoing	
29	The Council will encourage developments that are sustainable in terms of their design, construction and	Promotion of Low Emission strategies	Local Council	Ongoing	Ongoing	Development of sustainable design and strategies	N/A	A council priority Environmental health team is party to discussions	Ongoing	Ongoing	

	services.							with developers to ensure that measures to address climate change 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	Local Council	Ongoing	Ongoing	Provide information on internet and also write to address if there is a complaint regarding the burning	N/A	Information on website	Ongoing	Ongoing	
32	The Council has signed up to 10% reduction in CO_2 emissions from Council premises by 2010	Reduction of CO_2 by 10% by 2010	Local Council	Ongoing	Ongoing	Reduction in CO2 by 10%	N/A	In progress	Ongoing	Ongoing	
33	Real time Monitoring of NO_x Levels in the Borough. Will continue to monitor NO_x and PM10 using passive diffusion	Provide information regarding the levels and comparisons to be made to	Local Council	Ongoing	Ongoing	Reporting and supporting information to the review and	N/A	Obtained Grant money through DEFRA For a NOx Analyser	NO_x Analyser located in the civic centre commissions on the 14th of February	Ongoing	

	tubes at 11 locations in the Borough	the national objectives				assessment procedures			2010 Results displayed on the London air website for the public to view. Information can be access through the Council website.		

10 Conclusions and Proposed Actions

10.1 Conclusions from New Monitoring Data

The London Borough of Merton operates one real time monitoring station recently commissioned on the 14th of February 2010. The site is located within the Merton Civic Centre London road and is situated at a roadside location. Looking at the initial data gathered from the unit it has details that the council is exceeding in the annual mean concentration of 40µg/m^3. Considering the short time period of monitoring care need to be used when interoperating this data, when looking. Data does not suggest that the council will exceed the hourly mean concentration. Full observation and interoperation of data will need to be developed within the next round of review and assessment.

Diffusion tube data indicates that the council is above the Mean concentration limit. Two separate locations Colliers Wood High Street and Plough Lane Wimbledon demonstrate exceedences consistently. Both Areas exceed 60µg/m^3 so there fore it is appropriate to conclude that there is a likely exceedences of the 1 hour mean NO_2 objective (as set out in LAQM.TG(09))

Results do not indicate that the AQMA need to be amended although consideration regards the possible exceedences of the hourly mean will need to be address in the next round of review and assessment.

The council currently does not undertake any particulate monitoring. This again is hoped on successful funding to be addressed in the next round of the review and assessment. Presently there is no requirement to undertake a detailed assessment

10.2 Conclusion Relating to New Local Developments

There have been numerous recent developments as laid out in section 3 of the report, although they are not expected that these developments will cause exceedences of the Air quality standards they will be addressed within the next Updated Screening Assessment. Following completion of this it will demonstrate the need for a detailed assessment

10.3 Proposed Actions

New Monitoring data collected since the last stage of review and assessment shows that there is no need for the council to undertake a detailed assessment. Maintenance of the diffusing tube database has highlighted at two separate locations, (Plough Lane PA and High Street Colliers Wood HA) where data from the diffusion tubes regularly exceeds 60µg/m^3. Looking at the guidance offered by LAQN,TG09 this may reflect an exceedences of the Hourly objective. The Council are currently trying to obtain funding for a real time monitoring stations at both locations.

Following submission of this 2010 progress report the Authority will submit the 2011 Progress report.

11. 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.

London Borough of Merton (2004). Local Air Quality Management – Updating and Screening Assessment 2003

London Borough of Merton (2006). Local Air Quality Management – Updating and Screening Assessment 2006

London Borough of Merton (2004). Local Air Quality Management – Detailed Assessment 2004

London Borough of Merton (2006) Local Air Quality Management – Progress Report. 2006

Defra, 2009b. WASP – Annual Performance Criteria for NO_2 Diffusion Tubes used in Local Air Quality Management (LAQM), 2008 onwards and Summary of Laboratory Performance in Rounds 98-102. AEA February 2009.

12. Appendices

Appendix A: QA/QC Data

Appendix A: QA:QC Data

Diffusion Tube Bias Adjustment Factors
Diffusion tubes were supplied and analysed by Lambeth Scientific Services using a preparation method of 50% TEA in acetone. Considering that the council does not take a co location study bias adjustment factor is taken from R&A Helpdesk Database

12.1 Factor from Local Co-location Studies (if available)

The Council does not carry out a co-location Study

21.2 Discussion of Choice of Factor to Use

Considering that the authority does not undertake a co-location study the national bias adjustment factor can only be used

Table 12.1: Bias Adjustment figures Taken From R&A for years 2003 to 2009

Year	*Bias adjustment factor*
2003	1.05
2004	1.19
2005	1.24
2006	1.28
2007	1.07
2008	0.98
2009	1.03

21.3 PM Monitoring Adjustment

The Authority does not undertake Particulate monitoring currently

21.4 QA/QC of automatic monitoring

The data validation and ratification procedures are completed by The Environmental Research Group Kings College London using their LAQN standard technique. All data is published on London Air Network website. The equipment is calibrated fortnightly by the local Authority.

Appendix b Diffusion Tube Data 2009

No.	DATE	DATE	SITE											
	FROM	TO	(BA)	(CA)	(DA)	(GA)	(HA)	(LA)	(MA)	(RA)	(TA)	(WA)	(PA)	AVE
1	24/12/2008	20/01/2009	40	53	69	45	64	38	47	48	2	29	50	44
2	20/01/2009	05/02/2009	41	53	65	53	66	37	53	58	53	54	63	54
3	05/02/2009	18/02/2009	71	68	60	63	117	N/A	69	87	75	75	85	78
4	18/02/2009	04/03/2009	34	62	80	47	89	35	75	46	55	70	99	63
5	04/03/2009	26/03/2009	39	53	45	37	70	N/A	55	40	43	39	N/A	47
6	26/03/2009	08/04/2009	25	40	50	33	62	42	32	41	31	28	N/A	38
7	08/04/2009	21/04/2009	59	48	74	37	71	26	37	37	39	33	68	48
8	21/04/2009	05/05/2009	23	33	44	27	43	22	N/A	52	36	30	71	38
9	05/05/2009	14/05/2009	35	46	58	39	51	N/A	38	30	33	40	47	42
10	14/05/2009	26/05/2009	27	37	49	39	41	18	31	36	42	33	54	37
11	26/05/2009	11/06/2009	29	49	52	47	57	N/A	33	28	41	10	75	42
12	11/06/2009	25/06/2009	35	47	53	37	67	18	35	32	33	30	79	42
13	25/06/2009	07/07/2009	34	45	56	43	60	26	42	43	38	44	86	47
14	07/07/2009	21/07/2009	27	26	41	26	51	21	25	25	34	31	N/A	31
15	21/07/2009	04/08/2009	21	24	49	23	55	16	25	36	36	23	37	31
16	04/08/2009	20/08/2009	27	40	50	33	76	18	31	35	44	33	68	41
17	20/08/2009	16/09/2009	31	39	53	33	61	16	33	28	41	27	42	37
18	16/09/2009	28/09/2009	42	55	75	39	68	30	45	43	46	38	65	50
19	28/09/2009	21/10/2009	21	28	31	31	28	17	27	24	27	24	41	27
20	21/10/2009	28/10/2009	69	154	108	90	88	118	82	59	94	196	91	104
21	28/10/2009	12/11/2009	38	46	44	50	76	36	46	64	50	43	25	47
22	12/11/2009	26/11/2009	24	26	60	28	221	21	23	41	34	34	49	51
23	26/11/2009	09/12/2009	81	42	62	43	81	33	57	68	55	45	97	60
24	09/12/2009	22/12/2009	62	65	76	75	96	53	56	65	70	53	128	73
25														
26														
Average µg/m^3			39	49	59	42	73	32	43	44	44	44	68	49
Average as a 98%ile			94	118	140	102	176	77	104	107	105	106	117	
Ajusted data µg/m3			40.1	50.6	60.3	43.7	75.5	33.0	44.6	45.7	45.1	45.6	69.6	38

Appendix c List of Processes:

London Borough of Merton - Part B Process Details 2010 **Current permits April 2010**

Process Name	Industry Type	Ref No.	Process Address	Post Code	Risk Rating
South London	Crematorium	1	Rowan Road		Medium
Crematorium.			Streatham	SW16 5JG	
North East Surrey	Crematorium	2	Lower Morden Lane		Medium
Crematorium			Morden Surrey	SM4 4EU	
A W Champion Ltd	Timber &	3	Champion House		Medium
	Combustion		Burlington Road.		
			New Malden	KT3 4NB	
Tarmac Ltd.	Concrete	5	77 Weir Road		Low
	Batching		Durnsford Ind.Estate		
			London	SW19 8UG	
Allen Concrete Ltd	Concrete	7	38 Willow Lane		Low
	Batching		Mitcham Surrey	CR4 4NA	
Hanson Premix	Concrete	8	Archway Close		Low
	Batching		Endeavour Way		
			London	SW19 8UH	
Tesco	Unloading petrol	23	300 Beverley Way		Low
	into storage at a		New Malden Surrey	KT3 4PJ	
	service station				
Savacentre Ltd	Unloading petrol	25	1 Merton High Street		Low
	into storage at a		London	SW19 1DD	
	service station				

Morden Repair	Vehicle	26	141 Garth Road		Low
Centre Limited	Refinishing		Morden Surrey	SM4 4LF	
Total Convenience	Unloading petrol	27	Western Road		Low
Store	into storage at a		231 Western Road		
	service station		London	SW19 2QE	
Colliers Wood	Unloading petrol	30	164/168 High Street		Low
Service Station	into storage at a		Colliers Wood	SW19 2BNR	
	service station				
Shell Pepys Corner	Unloading petrol	33	Worple Road		Low
	into storage at a		London	SW20 8RE	
	service station				
Kingston Autoway	Unloading petrol	34	Shannon Corner		Low
Centre	into storage at a		New Malden Surrey	KT3 6HM	
	service station				
Shell Plough Lane	Unloading petrol	38	59 Plough Lane		Low
	into storage at a		London	SW17 8HA	
	service station				
Martin Way	Unloading petrol	42	262 Martin Way		Low
Service Station	into storage at a		Morden Surrey	SM4 4AW	
	service station				
Wimbledon Chase	Unloading petrol	44	314 Kingston Road		Low
Service Station	into storage at a		London	SW20 8LR	
	service station				

Haydons Road	Unloading petrol	45	298 Haydons Road		Low
Service Station	into storage at a		London	SW19 1ED	
	service station				
Total Convenience	Unloading petrol	48	7 Rowan Road		Low
Store	into storage at a		London	SW16 5JM	
	service station				
Link Vehicle	Vehicle	49	Unit 2 Greenlea Ind.Park		Low
Solutions Ltd	Refinishing		Prince Georges Road		
			Colliers Wood	SW19 2RB	
Wandle Service	Unloading petrol	50	Bishopsford Road		Low
Station	into storage at a		Morden		
	service station		Surrey	SM4 6AP	
Autodex Ltd	Vehicle	52	2 Prince Georges Road		Low
	Refinishing		Merton Abbey		
			London	SW19 2PX	
Tesco	Unloading petrol	54	194/210 Merton Road		Low
	into storage at a		London	SW19 1EG	
	service station				
DWS Bodyworks	Vehicle	62	11/11A Bunting Close		Low
Mitcham	Refinishing		Mitcham Surrey	CR4 4ND	
F M Conway Ltd	Concrete	64	Wandle Way,		
	Batching		Mitcham	CR4 4NB	Low
DRY	**CLEANERS**				
Bourjois Cleaners	Dry Cleaners	DC/002	330 West Barnes Lane	KT3 6NB	Low
			New Malden		

Kingsmere Cleaners	Dry Cleaners	DC/004	36a Wimbledon Hill Road	SW19 7PA	Low
			Wimbledon		
Dry Cleaning By	Dry Cleaners	DC/005	343 London Road	CR4 4BE	Low
Mona			Mitcham Surrey		
Du Cane	Dry Cleaners	DC/006	30 Christchurch Road	SW19 2NX	Medium
			Colliers Wood		
Dudley Dry Cleaners	Dry Cleaners	DC/007	316 Haydons Road	SW19 8JZ	Low
			Wimbledon		
Elegance Dry Cleaners	Dry Cleaners	DC/009	67 Approach Road	SW20 0BA	Low
			Raynes Park		
Galaxy Dry Cleaners	Dry Cleaners	DC/010	22 Leopold Road	SW19 7BD	low
			Wimbledon Park		
Grand Dry Cleaners	Dry Cleaners	DC/011	310 Grand Drive	SW20 9NQ	Low
			Raynes Park		
High Quality	Dry Cleaners	DC/012	185 Merton Road	SW19 1EE	Medium
			Wimbledon		
Johnson Cleaners UK Limited	Dry Cleaners	DC/013	1 -3 Church Road	SW19 5DW	Low
			Wimbledon		
First Impressions	Dry Cleaners	DC/014	17 Morden Court Parade	SM4 5HJ	Low
			Morden Surrey		
Master John (Dry cleaners)	Dry cleaners	DC/016	5 Merton Park Parade	SW19 3NT	Low
			Kingston Road, Wimbledon		

Morden Dry Cleaners	Dry Cleaners	DC/017	14 Crown Lane	SM4 5BL	Low
			Morden, Surrey		
Parrisianne Cleaners	Dry Cleaners	DC/018	107 Central Road	SM4 5SQ	low
			Morden		
Pisces Dry Cleaning	Dry Cleaners	DC/019	219 Streatham Road	CR4 4BE	Low
			Mitcham, Surrey		
Rendezvous	Dry cleaners	DC/020	310 Kingston Road,	SW20 8LX	Low
			Wimbledon		
Rosestock	Dry Cleaners	DC/021	363 Westbarnes Lane	KT3 6JF	Low
			New Malden		
Serena Dry Cleaners	Dry Cleaners	DC/022	276 London Road	CR4 3NB	Low
			Mitcham		
Smarty Dry Cleaning	Dry Cleaners	DC/023	1b Russell Road	SW19 1QN	Low
Services			London		
Swan Cleaners	Dry Cleaners	DC/024	64 Coombe Lane	SW20 9NQ	Low
			Raynes Park		
London Quality	Dry Cleaners	DC/025	163 London Road	CR4 2JB	Low
Cleaners			Mitcham		
Top Clean	Dry Cleaners	DC/026	172 Chestnut Grove	CR4 1RB	Low
			Mitcham,		
Unit 4 London Dry Cleaners Ltd	Dry Cleaners	DC/027	Unit 4, 271 Coombe Lane	SW20 0RH	Low
			London		
Nelson and Freelander		DC/036	26 Durham Road	SW20 OTW	Low

			West Wimbledon		
Whistle And Flute	Dry Cleaners	DC/029	370 Grove Road	CR4 1AB	Medium
			Mitcham		
Get Smart Dry Cleaners	Dry Cleaners	DC/030	47 Martin Way, Morden	SM4 4AH	Low
Perry de Montaignac	Dry Cleaners	DC/032	25C Lombard Road	SW19 3TZ	Low
			Wimbledon		
Regi's Dry Cleaners	Dry Cleaners	DC/033	25 Tudor Drive	SM4 4PD	Medium
			Morden		
Claremar Cleaners	Dry Cleaners	DC/034	262 Grand Drive	SW20 9NE	Medium
			Raynes Park		
M & M Dry Cleaners	Dry Cleaners	DC/035	23 London Road	SM4 5HT	Low
			Morden		
Bond	Dry cleaners	DC/001	102 kingston Road	Sw19 1LX	Low
Elite Ironing Ltd	Dry Cleaners	DC/037	Gap Bridge House	SW19 8JA	
			Gap Road		
New Generation Cars	Waste Oil Burner	WOB/001	Elm Grove Industrial Estate	SW19 4HE	Low
			Elm Grove Wimbledon		