



THE LONDON BOROUGH
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**RENEWAL AND RECREATION
POLICY DEVELOPMENT AND SCRUTINY COMMITTEE**

BECKENHAM TOWN CENTRE WORKING GROUP

Meeting to be held at **7.30 pm** on **Thursday 22 June 2017** at
Beckenham Library, Beckenham, BR3 4PE



***PLEASE NOTE THE MEETING WILL BE PRECEDED BY A WALK-ABOUT TOUR OF
BECKENHAM HIGH STREET COMMENCING AT 7.00 pm FROM THE PURPLE FLAG AT
BECKENHAM JUNCTION.**

AGENDA

- 1 APOLOGIES FOR ABSENCE**
- 2 MINUTES OF THE PREVIOUS MEETING HELD ON 20TH APRIL 2017 (Pages 1 - 10)**
- 3 MATTERS ARISING (Pages 11 - 14)**
 - a AIR QUALITY ANNUAL STATUS REPORT (Pages 15 - 48)**
- 4 MAJOR SCHEME UPDATE**
- 5 BUS ROUTE DIVERSIONS - UPDATE FROM TFL**

An update will be provided by Stephen Hosking from London buses.
- 6 UPDATE ON PUBLIC NOTICE BOARDS**
- 7 UPDATE ON CHRISTMAS TREE LIGHTS**
- 8 TOWN TEAM UPDATE**
- 9 UPDATE ON BECKENHAM GREEN CANOPY**
- 10 RAISING OF THE PURPLE FLAG CEREMONY**

11 RECTORY ROAD-PEDESTRIAN REFUGE AND NEW MINI ROUNDABOUT

12 LICENSING HOURS

13 ANY OTHER BUSINESS-PREVIOUSLY NOTIFIED

14 DATE OF NEXT MEETING

The date of the next meeting will be decided on the evening.

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RENEWAL AND RECREATION POLICY DEVELOPMENT AND SCRUTINY COMMITTEE

BECKENHAM TOWN CENTRE WORKING GROUP

Minutes of the meeting held at 7.30 pm on 20 April 2017

Present:

Councillor Michael Tickner (Chairman)

Marsha Berg, (Beckenham Business Association)
Jackie Groundsell, (Beckenham Business Association)
Alan Old, (Copers Cope Residents Association)
Janice Pilgrim, (Kent Association for the Blind)
David Wood, (The Beckenham Society)
Kevin Munnely, (LBB Head of Renewal and Recreation)
Stephen Oliver, (LBB Senior Planning Officer)
Tina Slater, (Environment & Community Services)
Garry Warner, (LBB Head of Traffic Management)
Stephen Wood, (LBB Committee Secretary)
Helen McConnell (FM Conway)

Also present:

Terence Stanley (Beckenham Resident)
Nick Goy (Beckenham Resident)
Susan Ryle (Beckenham Resident)
Alice Marsh (Beckenham Forum Website)
Gillian Morphy (Beckenham Resident)

122	APOLOGIES FOR ABSENCE
	Apologies for absence were received from Councillor Ian Dunn, Marie Pender, Cliff Watkins, Gail Low. Councillor Russell Mellor, Councillor Wells, Councillor Collins and Chloe-Jane Ross. Apologies were also received from Martin Pinell-Head of Town Centre Management & Business Support.
123	MINUTES OF THE MEETING HELD ON 9TH MARCH 2017
	Amendments to the previously published minutes had been submitted by Mr Nick Goy. The minutes had been revised and republished accordingly. With the incorporation of these adjustments, the minutes were agreed as a correct record.

124	MATTERS ARISING
	<p>CSD 17066</p> <p>The Matters Arising report noted that pollution readings could be taken from the diffusion tube at Beckenham Road, but that this would not provide an accurate reading with respect to Rectory Road.</p> <p>The Chairman requested that pollution readings be taken from the diffusion tube at Beckenham Road. The readings requested were historical, current, and subsequent to the cessation of the Major Scheme works.</p> <p>Mr Warner assured that this was possible, and that he would ensure that the data was provided.</p> <p>RESOLVED that pollution level data be provided to the Working Group in due course.</p>
125	MAJOR SCHEME UPDATE
	<p>It was noted that the Major Scheme was now in the implementation stage, and Mr Warner provided a verbal update regarding the phasing plan.</p> <p>The Group was informed that Mr Warner attended on site most days, and that he also met with Mr Oliver once a week. Phase 1 was running according to schedule. The area around Beckenham Junction was due for re-surfacing next week, and the previous box junction would no longer be present. Mr Warner was waiting for details of the planters from FM Conway.</p> <p>It was noted that at the junction where Albemarle Road met the High Street and Southend Road, there were issues with traffic turning right out of Albemarle Road, causing delays. Mr Warner stated that at the junction it was not intended to use right turn boxes or filter arrows as there should be enough capacity for vehicles to turn right.</p> <p>Marsha Berg enquired what was happening with the proposed seat that was due to be located outside of the taxi office at Beckenham Junction. Mr Oliver clarified that this had not yet been installed as negotiations were ongoing with Network Rail.</p> <p>Mr Wood had brought in some colour photographs of the new granite paving that had been laid. The paving looked dirty and in need of cleaning. Mr Warner explained that there would be remnants of cement on the paving, and that the area was still really a 'building site'. The paving was due to be jet washed the following week. There was a brief discussion concerning whether or not the jet</p>

washing would incorporate the use of detergent. Marsha Berg suggested that perhaps businesses could be incentivised to clean the pavements outside of their premises. One way to incentivise could be by way of a small reduction in business rates.

One of the premises highlighted was the kebab shop near the Bridge Bar. The Bridge Bar owner (who owned several shops in the vicinity-including the kebab shop) had been approached concerning the dirty pavement outside of the kebab shop. He stated that the staff working at the kebab shop cleaned up every night.

Mr Goy commented that the additional cleaning budget for Bromley North light yellow paving was in the region of £40-£70k and enquired if the rest of the paving in Beckenham could be laid as dark red brindle bricks as opposed to light grey granite slabs, to reduce cleaning costs and because he felt it would look better. Mr Munnelly stated that this would not be possible as the paving for the scheme had been designated as grey granite. A budget had been incorporated into the scheme for cleaning costs. He was confident that when the work had been completed, and everything had been washed and bedded in, that the quality of the final design would be manifest.

There was some discussion amongst Group members concerning the colour of the granite paving. The paving was supposed to have an element of pink mixed with grey; some Group members expressed the view that there was no sign of the pink colouration. Mr Goy was disappointed with the grey granite paving and expressed the view that the paving was not of a high quality, just looking like common concrete slabs but showing dirt and stains more quickly. Mr Munnelly stated that he would seek confirmation from the contractors that the paving was the correct specification.

The Chairman said that Mr Goy's suggestion was fair, but the newly-laid granite paving at Beckenham Junction should be assessed after jet-washing on the weekend.

Helen McConnell (FM Conway) advised that the bus stop by the Coppers restaurant needed to be moved to the kerb line, and that TfL would be dealing with this. In the next few weeks, work would be undertaken by the Public Hall, where burnt ochre paving would be laid. Stephen Oliver confirmed the brick colour as 'burnt ochre' not 'brindle'.

The Chairman hoped that licensees would apply for the relevant licences required to provide tables and chairs outside. He hoped that a continental café style culture could be promoted in Beckenham. Mr Munnelly pointed out that such arrangements would need to ensure that they did not infringe on wheelchair mobility and did not adversely affect individuals with visual impairments- a case by case

	<p>approach was required.</p> <p>No negative comments had been received concerning the contractors, and several positive comments had been received by the Beckenham Business Association, and passed to Helen McConnell.</p> <p>RESOLVED that the Major Scheme update be noted.</p>
126	<p>AREA CPZ AND OFF STREET PARKING REVIEW</p>
	<p>Mr Warner briefed the Group concerning the Burnhill Road site meeting. The meeting had been well attended and Lidl's delivery contractor (DHL) had been present. New road markings and yellow lines had been laid and new parking restrictions had been implemented. Gillian Morphy stated that in the residential parking area by Lidl's, there was not enough room for the delivery lorry to turn from Fairfield Road into Burnhill Road without mounting the pavement. Mr Wood highlighted that as Burnhill Road was in a Conservation Area, the yellow lines that had been laid were too thick, and they would need to be removed and re-painted.</p> <p>The area around 5-7 Kelsey Square was mentioned. In this area there were no parking restrictions. It was noted that parking restrictions were going to be implemented to prevent individuals from parking there all day. This was an issue that would be dealt with outside of the project.</p> <p>The Chairman requested that outside of the traffic exit from the Odeon Cinema car park, either signage or an arrow be painted on to the road to show that exiting traffic could turn left only.</p> <p>There was a discussion concerning parking and loading bays and it was felt that Beckenham needed a comprehensive parking review. Marsha Berg expressed the view that CPZ (Controlled Parking Zone) signs should not be displayed on long poles. Mr Warner commented that the signage had to be visible. The Chairman suggested that as CPZ signs were hard to understand, perhaps LBB should use explanatory signs in addition to standard signage.</p> <p>Members felt that there had been a lack of communication and information disseminated by TfL. They felt that more information should be disseminated concerning construction phase changes, bus diversions, and new temporary locations of bus stops.</p> <p>RESOLVED that a comprehensive CPZ review of Beckenham be undertaken and a report be presented to the Group in due course.</p>
127	<p>UPDATE ON BUS DIVERSIONS</p>

	<p>David Wood stated that the public were not aware of where the buses were now stopping during the current phase of the project. He expressed concern that not enough information and explanation was being provided by TfL.</p> <p>Tina Slater responded that TfL were conscious that there had been communication issues, and that they were taking steps to remedy this. The Chairman commented that the matter of communication should have been thought through.</p> <p>RESOLVED that TfL be invited to the next meeting.</p>
<p>128</p>	<p>TOWN TEAM UPDATE</p>
	<p>Mr Old raised the issue of the Christmas tree lights on the Green. He asked if the lights would be able to extend around the corner to Albemarle Road. Mr Munnely responded that this had only been raised recently and was being looked into. It was suggested that this should be a matter to be incorporated onto the next agenda.</p> <p>The Group heard that the Town Team had met recently and had discussed the Heritage Trail, the Beckenham Green canopy and issues concerning TfL.</p> <p>RESOLVED that the matter of Christmas tree lights be added as an agenda item for the next meeting.</p>
<p>129</p>	<p>FLAG RAISING CEREMONY FOR THE PURPLE FLAG</p>
	<p>Cllr Wells had emailed the Chairman prior to the meeting, expressing concern at the size of the flagpole. He felt it was not long enough. He also noted that there was no sign of illumination. Mr Oliver responded that the pole length was as specified in the Major Scheme plans and that six metres in length was a standard specification that had been used in other boroughs.</p> <p>Mr Goy echoed Cllr Wells' concerns on the 'dwarf' pole; with a 1.5m wide flag, hanging down further, it could be a grabbing challenge for a person standing on another's shoulders.</p> <p>Tina Slater informed the Group that no date had yet been received from LBB Planning Department to hear the planning application for the flagpole. This was delaying the siting of the Purple Flag. Permission was not required for the associated plaque.</p> <p>The Chairman remarked that perhaps the flagpole could be erected and a retrospective planning application be submitted. The Chairman asked to be informed if the application for the flagpole was</p>

not presented to Plans Sub Committee 3 on 11th May.

Post meeting note:

The date of the Plans Sub Committee 3 has been moved from 11th May to 9th May. The flagpole is on the agenda.

The web link to the planning application is:

<http://cde.bromley.gov.uk/ieListDocuments.aspx?CId=126&MId=5796&Ver=4>

Marsha Berg expressed the view that many residents did not understand the meaning of the Purple Flag, and that more publicity was required to remedy this. The Chairman suggested a target date for the raising of the Purple Flag of 19th May at 8.00pm.

The Purple Flag plaque was made of stainless steel. The wording on the plaque was, *"This Purple Flag is in recognition of Beckenham's safe, diverse and vibrant night-time economy."*

Illumination could be achieved via the lamp column adjacent to the pole. There would be a cost for this, which would be advised by Street Lighting and would depend on what kind of additional equipment was needed.

Mr Goy sought assurances that the illumination would not shine into flats above shops in Rectory Road. He was informed that the beam would be vertically upward.

Ms Slater updated the Group concerning plans to apply for a renewal of the Purple Flag. The renewal bid had to be finalised by the end of June 2017. A draft of the bid would be circulated to the Group by the end of May for comments. In preparation for this, various data streams were being collated. This would include data about crime, health, alcohol, and public perceptions of Beckenham.

A perceptions survey was currently being circulated; this could be found at the following web link: <https://www.surveymonkey.co.uk/r/7CN3D5J>. The link had been disseminated to Copers Cope Area Residents Association and West Beckenham Residents' Association, as well as Councillors.

RESOLVED that

(1) The Chairman be informed if the application for the flagpole was not presented to Plans Sub Committee 3 on 11th May.

(2) Subject to planning permission, the target date for the raising of the Purple Flag would be Friday 19th May at 8.00pm.

	<p>(3) A draft of the bid for the renewal of the Purple Flag accreditation would be circulated to the Group by the end of May for comment.</p>
<p>130</p>	<p>BECKENHAM GREEN CANOPY</p>
	<p>Chloe-Jane Ross had emailed details of a possible new canopy design to Mr Oliver, and the pictures were circulated to the Group. A positive aspect regarding the proposed canopy design, was that it only had one leg. This was helpful because of the extensive tree roots beneath the current structure. It was stated the canopy was made of a composite material.</p> <p>Mr Goy queried the ability to add temporary sides for rain and wind protection of electrical equipment and performers. He was informed the manufacturer did not include this feature but the canopy might be capable of modification.</p> <p>Mr Old stated that he still favoured a design competition for a new canopy.</p> <p>RESOLVED that the Group continue with the original idea of a design competition for a new canopy on Beckenham Green, and that Mr Old would help in formulating the design brief.</p>
<p>131</p>	<p>BID DEVELOPMENT</p>
	<p>Ms Slater provided the BID update:</p> <p>Talks with businesses indicated that the improvement works were currently having a negative effect concerning the BID concept. Therefore the Ballot Day for the BID had been re-scheduled to 28 Feb 2018. This would be twelve months into the improvements, with some positive visuals on what the finished work would look like. The revised timescale would hopefully increase the possibility of a successful outcome in the Bid Ballot.</p> <p>LBB had completed the feasibility study and were now progressing the planning stage, which would include:</p> <ul style="list-style-type: none"> • In-depth consultation with businesses and marketing campaigns to raise awareness with local traders. • Core businesses had been identified to form the shadow Steering Group for the BID. The initial meeting would be arranged for mid-May 2017 where CMS would present their consultation questionnaire for approval by the group. (CMS were Central Management Solutions and were LBB's BID consultants).

	<ul style="list-style-type: none"> • CMS would attempt to consult with every rate paying business included in the BID area, aiming at a 45% minimum response rate – the exact BID area was still to be determined and LBB would be guided by CMS and the responses to the questionnaire. • CMS would then draft a business plan for discussion with the group during the summer, with the final draft to be approved by the Steering Group by the beginning of August 2017. <p>The campaign stage to encourage businesses to vote positively for a BID would commence in November, but would not be vigorously campaigned over the Christmas period. It would re-commence in mid-January 2018, building up to the ballot on 28 February 2018, with results due on 1 March 2018.</p> <p>Susan Ryall made the point that that there may be a conflict of interest between businesses and rate payers. In response, assurances were made that the Town Centre Team would be working closely with local residents to get their views and keep them informed.</p> <p>RESOLVED that the BID update be noted.</p>
132	HERITAGE PLAQUES UPDATE
	<p>The Group heard that the suggested wordings for the plaques would be published when consultations were complete. The plaques would be sited in the pavement. All of the plaques would be laid at the same time at the end of the project in August 2018.</p> <p>Mr Wood stated that the ‘Walk around Beckenham’ publication would be republished with a link online.</p>
133	ANY OTHER BUSINESS-- PREVIOUSLY NOTIFIED
	<p>It was noted that Beckenham Business Association and LBB had been working together on a leaflet for delivery to residents, retailers and businesses. The leaflet would provide details of parking and bus routes during the High Street Improvement works.</p> <p>The Chairman asked those present how many leaflets they would like for delivery to their various organisations and where the leaflets should be delivered to. Anyone requiring leaflets was advised to contact Jackie Groundsell for further information.</p> <p>Helen McConnell advised that the yellow information signs were now ready and would be fixed to lampposts during the next two weeks.</p> <p>Mr Wood commented that nobody knew what was happening with</p>

	<p>respect to the lighting for the project. The Chairman responded that this was a matter that had been discussed at previous meetings. Mr Warner reported that the new lighting was being installed the following week. Lighting would be fixed on buildings where possible. Mr Goy asked if the lighting would be able to give out a warm orange glow. Mr Warner answered that the lighting would be a white LED light.</p>
134	DATE OF NEXT MEETING
	<p>The date of the next meeting was confirmed as Thursday 22nd June at 7.30pm.</p> <p>A prior walking inspection of the High Street works was agreed, for those interested, commencing at 7pm at Beckenham Junction Station forecourt, continuing on to the Beckenham Library meeting.</p>

The Meeting ended at 9.30 pm

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Report No.
CSD 17087

LONDON BOROUGH OF BROMLEY
PART ONE-PUBLIC

Decision Maker: Beckenham Town Centre Working Group

Date: 22nd June 2017

Decision Type: Non Urgent Non Executive Non Key

Title: **MATTERS ARISING**

Contact Officer: Steve Wood, Democratic Services Officer
Tel: 020 8313 4316 E-mail: stephen.wood@bromley.gov.uk

Chief Officer: Mark Bowen, Director of Corporate Services

Ward: N/A

1. Reason for report

1.1 **Appendix A** updates Members of the Group on matters arising from previous meetings.

2. **RECOMMENDATION**

2.1 The Group is asked to review progress on matters arising from previous meetings.

Non-Applicable Sections:	Policy/Financial/Legal/Personnel
Background Documents: (Access via Contact Officer)	Minutes from the meeting held on 20 th April 2017

Corporate Policy

1. Policy Status: Existing Policy
 2. BBB Priority: Excellent Council/Quality Environment, Thriving Town Centres,
-

Financial

1. Cost of proposal: No Cost to Democratic Services
 2. Ongoing costs: Not Applicable
 3. Budget head/performance centre: Democratic Services
 4. Total current budget for this head: £343,810
 5. Source of funding: 2017/18 revenue budget
-

Staff

1. Number of staff (current and additional): 8 posts (7.27fte)
 2. If from existing staff resources, number of staff hours: Completion of "Matters Arising" Reports for PP&S PDS meetings (and their sub groups) can take up to a few hours per meeting.
-

Legal

1. Legal Requirement: None
 2. Call-in: Not Applicable
-

Customer Impact

1. Estimated number of users/beneficiaries (current and projected): This report is intended primarily for Members of the Beckenham Town Centre Working Group
-

Ward Councillor Views

1. Have Ward Councillors been asked for comments? Ward Councillors attend and comment at the meetings.
2. Summary of Ward Councillors comments: N/A

<u>Minute Number/Title</u>	<u>Matters Arising</u>	<u>Update</u>
Minute 124 Matters Arising 20th April 2017	<p>The Chairman requested that pollution readings be taken from the diffusion tube at Beckenham Road. The readings requested were historical, current, and subsequent to the cessation of the Major Scheme works. Mr Warner assured that this was possible, and that he would ensure that the data was provided.</p> <p>Resolved that pollution level data be provided to the Working Group in due course.</p>	<p>Air quality data is published annually in line with reporting data requirements to meet statutory requirements. Monthly ratified data is not available. The latest data is available and future surveys will be provided each year.</p> <p>An Air Quality Annual Status report has been incorporated as Item 3a.</p>
Minute 125 Major Scheme Update 20th April 2017	<p>Marsha Berg enquired what was happening with the proposed seat that was due to be located outside of the taxi office at Beckenham Junction. Mr Oliver clarified that this had not yet been installed as negotiations were ongoing with Network Rail.</p>	<p>Negotiations with Network Rail are ongoing.</p>
Minute 125 Major Scheme Update 20th April 2017	<p>Mr Munnelly stated that he would seek confirmation from the contractors that the paving was the correct specification.</p>	<p>It is anticipated that Mr Munnelly will be able to provide an update at the meeting.</p>
Minute 126 Area CPZ and Off Street Parking Review 20th April 2017	<p>Mr Wood highlighted that as Burnhill Road was in a Conservation Area, the yellow lines that had been laid were too thick, and they would need to be removed and re-painted.</p>	<p>Although 50mm wide yellow lines can be laid in conservation areas, this is not a requirement and the recent parking restrictions were installed using 100mm lines for consistency and to match the existing markings. When the markings are due for replacement consideration will be given to using a narrow marking.</p>
Minute 126 Area CPZ and Off Street Parking Review 20th April 2017	<p>The Chairman requested that outside of the traffic exit from the Odeon Cinema car park, either –signage or an arrow be painted on to the road to show that exiting traffic could turn left only.</p>	<p>The project will include the construction of a new central reserve in rectory Road to prevent vehicles turning right. A 'left only' arrow will also be painted on the carriageway.</p>

<p>Minute 126 Area CPZ and Off Street Parking Review</p> <p>20th April 2017</p>	<p>Resolved that a comprehensive CPZ review of Beckenham be undertaken and a report be presented to the Group in due course.</p>	<p>The advice from the Portfolio Holder of Environmental Services was that recent Control Parking reviews have taken place in all roads across the wider Beckenham Area in recent years and that no further reviews are intended for the foreseeable future..</p>
<p>Minute 127 Bus Diversions</p> <p>20th April 2017</p>	<p>It was resolved that TfL be invited to the next meeting to update on bus diversions.</p>	<p>The matter is on the agenda, and a representative from TfL will be attending the meeting.</p>
<p>Minute 129 Flag Raising Ceremony for the Purple Flag</p> <p>20th April 2017</p>	<p>Subject to planning permission, the target date for the raising of the Purple Flag would be Friday 19th May at 8.00pm.</p> <p>A draft of the bid for the renewal of the Purple Flag accreditation would be circulated to the Group by the end of May for comment.</p>	<p>The flag raising ceremony took place as planned.</p> <p>The documents were emailed to BTCWG members on 1st June 2017. The renewal application is being circulated on 15th June 2017</p>
<p>Minute 130 Beckenham Green Canopy</p> <p>20th April 2017</p>	<p>Resolved that the Group continue with the original idea of a design competition for a new canopy on Beckenham Green, and that Mr Old would help in formulating the design brief.</p>	<p>Prior to the last meeting Mr Oliver put together a first draft of the competition brief, which he sent to Chloe Jane Ross and Mr Alan Old. Ms Ross and Mr Old have both responded with comments. Mr Old has suggested the Council consider how they want the project, as whole, brought to completion as this will influence the format of competition to be adopted. Mr Old has sent Mr Oliver two guides produced by the RIBA for competition clients and entrants which will hopefully be of assistance.</p>

Bromley Air Quality Annual Status Report for 2016 Date of publication: 4th May 2017



This report provides a detailed overview of air quality in Bromley during 2016. It has been produced to meet the requirements of the London Local Air Quality Management statutory process¹.

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¹ LLAQM Policy and Technical Guidance 2016 (LLAQM.TG(16)). <https://www.london.gov.uk/what-we-do/environment/pollution-and-air-quality/working-boroughs>

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Abbreviations

AQAP	Air Quality Action Plan
AQMA	Air Quality Management Area
AQO	Air Quality Objective
BEB	Buildings Emission Benchmark
CAB	Cleaner Air Borough
CAZ	Central Activity Zone
EV	Electric Vehicle
GLA	Greater London Authority
LAEI	London Atmospheric Emissions Inventory
LAQM	Local Air Quality Management
LLAQM	London Local Air Quality Management
NRMM	Non-Road Mobile Machinery
PM ₁₀	Particulate matter less than 10 micron in diameter
PM _{2.5}	Particulate matter less than 2.5 micron in diameter
TEB	Transport Emissions Benchmark
TfL	Transport for London

Table A. Summary of National Air Quality Standards and Objectives

Pollutant	Objective (UK)	Averaging Period	Date ¹
Nitrogen dioxide - NO ₂	200 $\mu\text{g m}^{-3}$ not to be exceeded more than 18 times a year	1-hour mean	31 Dec 2005
	40 $\mu\text{g m}^{-3}$	Annual mean	31 Dec 2005
Particles - PM ₁₀	50 $\mu\text{g m}^{-3}$ not to be exceeded more than 35 times a year	24-hour mean	31 Dec 2004
	40 $\mu\text{g m}^{-3}$	Annual mean	31 Dec 2004
Particles - PM _{2.5}	25 $\mu\text{g m}^{-3}$	Annual mean	2020
	Target of 15% reduction in concentration at urban background locations	3 year mean	Between 2010 and 2020
Sulphur Dioxide (SO ₂)	266 $\mu\text{g m}^{-3}$ not to be exceeded more than 35 times a year	15 minute mean	31 Dec 2005
	350 $\mu\text{g m}^{-3}$ not to be exceeded more than 24 times a year	1 hour mean	31 Dec 2004
	125 $\mu\text{g m}^{-3}$ not to be exceeded more than 3 times a year	24 hour mean	31 Dec 2004

Note: ¹by which to be achieved by and maintained thereafter

1. Air Quality Monitoring

1.1 *Locations*

The Council has historically monitored at six continuous monitoring sites within the Borough, five of which are now closed. The one operational monitoring station is located in Harwood Avenue. Figure 1 and Table B provide details of this monitoring site. The station was operated by the Environmental Research Group (ERG) as part of the London Air Quality Network (LAQN) from July 1998 to July 2010. Monitoring at the site was suspended until July 2011 when it was recommissioned and has since been operated by Bromley Borough Council. Details of the relevant Quality Assurance / Quality Control (QA/QC) procedures that have been followed throughout the monitoring period are provided in Appendix A.

Table B. Details of Automatic Monitoring Sites for 2016

Site ID	Site Name	X (m)	Y (m)	Site Type	In AQMA?	Distance from monitoring site to relevant exposure (m)	Distance to kerb of nearest road (N/A if not applicable) (m)	Inlet height (m)	Pollutants monitored	Monitoring technique
BRY-CM3	Harwood Avenue	540518	169324	Roadside	Y (NO ₂)	60	4	3.5	NO ₂ , PM ₁₀ and PM _{2.5}	Chemiluminescence, BAM

The London Borough of Bromley carries out passive monitoring using NO₂ diffusion tubes at 9 locations within the AQMA in the north western part of the Borough. All the diffusion tube sites are either at roadside or kerbside locations, and all sites are triplicate tube sites. The Harwood Avenue diffusion tube site is co-located with the automatic monitor. Figure 1 and Table C provide details of the operational diffusion tube sites within the Borough during 2016.

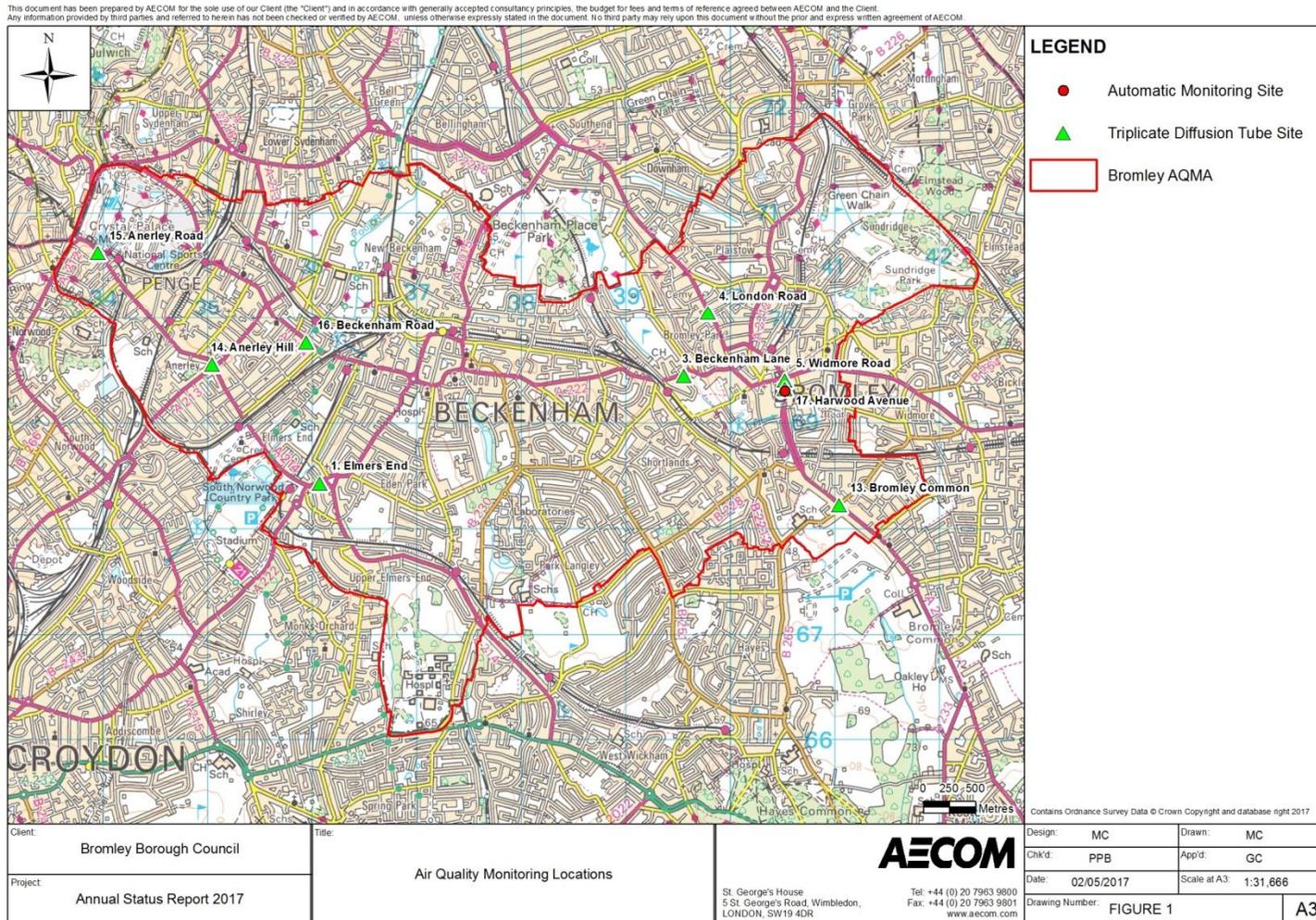
Table C. Details of Non-Automatic Monitoring Sites for 2016

Site ID	Site Name	X (m)	Y (m)	Site Type	In AQMA?	Distance from monitoring site to relevant exposure (m)	Distance to kerb of nearest road (N/A if not applicable) (m)	Inlet height (m)	Pollutants monitored	Tube co-located with an automatic monitor? (Y/N)
Area 1	Elmers End	536073	168434	Roadside	Y	4	1	2	NO ₂	N
Area 3	Beckenham Lane	539557	169448	Roadside	Y	3	3	2	NO ₂	N
Area 4	London Road	539786	170051	Roadside	Y	4	2	2	NO ₂	N
Area 5	Widmore Road	540519	169406	Roadside	Y	0*	3	2	NO ₂	N
Area 13	Bromley Common	541039	168229	Roadside	Y	2	2	2	NO ₂	N
Area 14	Anerley Hill	535042	169558	Kerbside	Y	13**	0.5	2	NO ₂	N
Area 15	Anerley Road	533950	170623	Kerbside	Y	3	0.5	2	NO ₂	N
Area 16	Beckenham Road	535945	169767	Kerbside	Y	10**	0.5	2	NO ₂	N
Area 17	Harwood Avenue	540519	169325	Roadside	Y	14**	3	2	NO ₂	Y

* not directly on a facade, but representative of adjacent facade road distance.

** monitoring site closer to the road source than the nearest façade.

Figure 1. Map of Automatic and Non-Automatic Monitoring Sites



1.2 Comparison of Monitoring Results with AQOs

The NO₂ monitoring results from the automatic monitoring stations and diffusion tube locations for the last seven years are shown in Table D and Table E. All data has been ratified, and details of the data ratification process are provided in Appendix A. For sites where data capture for the calendar year was less than 75% the results presented are after adjustment for “annualisation”.

Diffusion tube monitoring results have been adjusted for bias using the national bias adjustment factor. The derivation of the bias adjustment factor is described in Appendix A. The diffusion tubes are prepared and analysed by Gradko (using the 20% triethanolamine (TEA) in water preparation method). Details of the QA/QC procedures applied to the diffusion tube results are summarised in Appendix A. Façade distance correction calculations have been carried out for those monitoring locations that are not representative of relevant public exposure. The details of the “annualisation” and façade distance corrections are described in Appendix A.

Data capture at the Harwood Avenue automatic monitoring station was low in 2016 (23% for NO₂ and 21% for PM₁₀) as data collection was only possible between 1st January 2016 to 1st April 2016. All the diffusion tube sites achieved greater than 75% data capture for 2016 (i.e. more than 9 months), and therefore no “annualisation” was required for any diffusion tube site.

The annual mean NO₂ objective of 40 µg/m³ was exceeded at all NO₂ monitoring locations with the exception of the Harwood Avenue automatic monitoring station and co-located diffusion tube site. This is consistent with the results for all years since 2012. The highest annual mean NO₂ concentration in 2016 was monitored at Elmers End Road with a value of 68.8 µg/m³; this site has reported the highest NO₂ concentrations in all years since 2010. In all years between 2012 and 2016 annual mean NO₂ concentrations at Elmers End have been greater than 60 µg/m³; where NO₂ concentrations exceed 60 µg/m³ there is a risk that the short-term NO₂ objective (1-hour mean NO₂ concentration not to exceed 200 µg/m³ more than 18 hours per year) is exceeded. During 2016 the only other site where the annual mean NO₂ concentration was greater than 60 µg/m³ was the Bromley Common site (63.3 µg/m³).

The Anerley Hill and Beckenham Road diffusion tube sites are not located at points of relevant exposure. In order to estimate the annual mean NO₂ concentrations at the nearest location of relevant exposure, Defra’s façade distance correction tool has been used. These results are not shown in the main report in order to maintain time series consistency with previous reports; however, the distance-corrected concentrations can be found in Appendix A. After correction for façade distance annual mean NO₂ concentrations at Anerley Hill and Beckenham Road are lower than the annual mean NO₂ objective.

Table D. Annual Mean NO₂ Ratified and Bias-adjusted Monitoring Results (µg/m³)

Site ID	Site type	Valid data capture for monitoring period % ^a	Valid data capture 2016 % ^b	Annual Mean Concentration (µgm ⁻³)						
				2010 ^c	2011 ^c	2012 ^c	2013 ^c	2014 ^c	2015 ^c	2016 ^c
Harwood Avenue	Automatic	91.4	22.7	N/A	33.0	32.2	38.4	28.6	30.7	31.9
Elmers End	Diffusion tube	100	100	<u>68.2</u>	57.7	<u>61.4</u>	<u>71.8</u>	<u>69.9</u>	<u>64.2</u>	<u>68.8</u>
Beckenham Lane	Diffusion tube	100	100	45.2	39.5	43.6	47.2	47.6	42.7	46.8
London Road	Diffusion tube	100	100	52.0	46.7	47.7	51.7	51.7	46.1	52.4
Widmore Road	Diffusion tube	100	100	<u>60.8</u>	53.4	52.4	<u>67.3</u>	54.4	50.5	50.9
Bromley Common	Diffusion tube	100	100	55.8	54.5	54.7	57.3	59.9	57.2	<u>63.3</u>
Anerley Hill	Diffusion tube	100	100	53.5	48.1	48.0	54.7	51.1	43.7	49.6
Anerley Road	Diffusion tube	100	100	57.7	44.4	48.6	49.9	51.3	46.4	47.9
Beckenham Road	Diffusion tube	100	100	55.8	54.5	54.7	52.8	49.6	44.8	47.9
Harwood Avenue	Diffusion tube	100	100	40.4	38.9	40.8	38.9	36.7	34.0	31.3

Notes: Exceedance of the NO₂ annual mean AQO of 40 µgm⁻³ are shown in bold.

NO₂ annual means in excess of 60 µg m⁻³, indicating a potential exceedance of the NO₂ hourly mean AQS objective are shown in bold and underlined.

^a data capture for the monitoring period, in cases where monitoring was only carried out for part of the year

^b 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" in accordance with LLAQM Technical Guidance, if valid data capture is less than 75%

Figure 2 shows the trend in annual mean NO₂ concentrations at Harwood Avenue automatic monitoring station from 1999 to 2016. The graph shows that the high concentrations of NO₂ were recorded before 2002, before dropping sharply in 2002. Concentrations were then observed to increase year on year from 2003 to 2005 with concentrations rising from 40 µg/m³ to almost 50 µg/m³. Between 2007 and 2009 levels of NO₂ were observed to decrease again but remained above the annual mean NO₂ objective. No monitoring was undertaken in 2010 but following the recommencement of monitoring at in 2011 annual mean NO₂ concentrations have remained below 40 µg/m³ and have, therefore, achieved the annual mean NO₂ air quality objective.

Figure 3 presents the trends in annual mean NO₂ concentrations at the diffusion tube sites. During the 2010 to 2016 period there has been no consistent upward or downward trend in annual mean NO₂ concentration at any of the diffusion tube monitoring locations. In general higher concentrations were measured in 2010, 2013 and 2016, and lower values in 2011 and 2015. At the Beckenham Road and Harwood Avenue sites, there is evidence of a slight downward trend in annual mean NO₂ concentrations between 2012 and 2016. The slight downward trend that had been apparent at many of the diffusion tube sites between 2013 and 2015 came to an end in 2016, with all sites except Harwood Avenue recording increases in concentration. When considering all seven years from 2010 to 2016, the Harwood Avenue, Anerley Road, Widmore Road and Beckenham Road sites show an overall decrease, while Elmers End, Bromley Common, London Road and Beckenham Lane show an overall increase. The annual mean NO₂ concentration recorded at the Anerley Hill site has not changed significantly over the 7 year period.

Figure 2. Annual mean NO₂ concentrations at the Harwood Avenue Automatic Monitoring Site

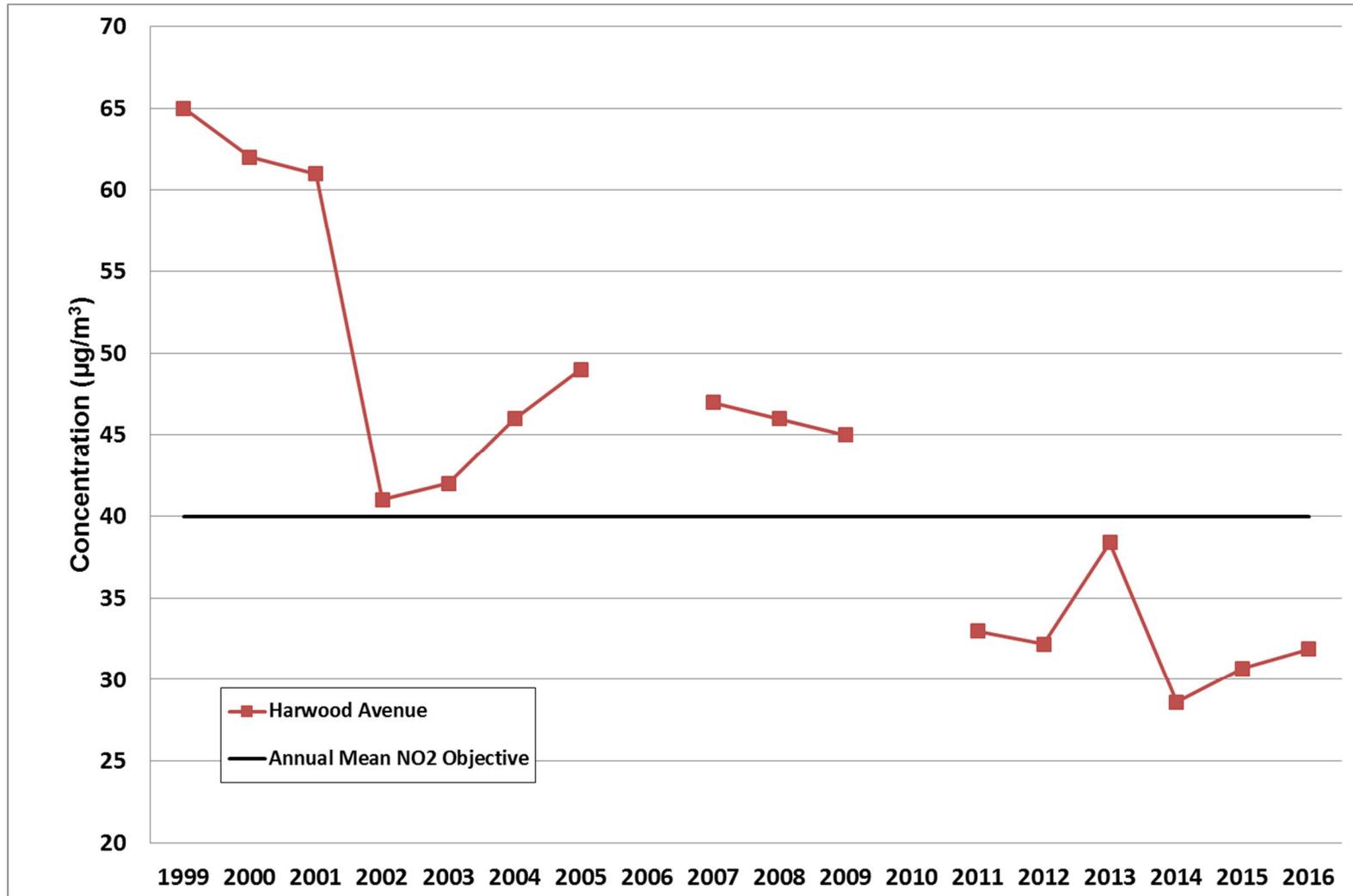


Figure 3 Annual mean NO₂ concentrations at Non-Automatic Monitoring Sites

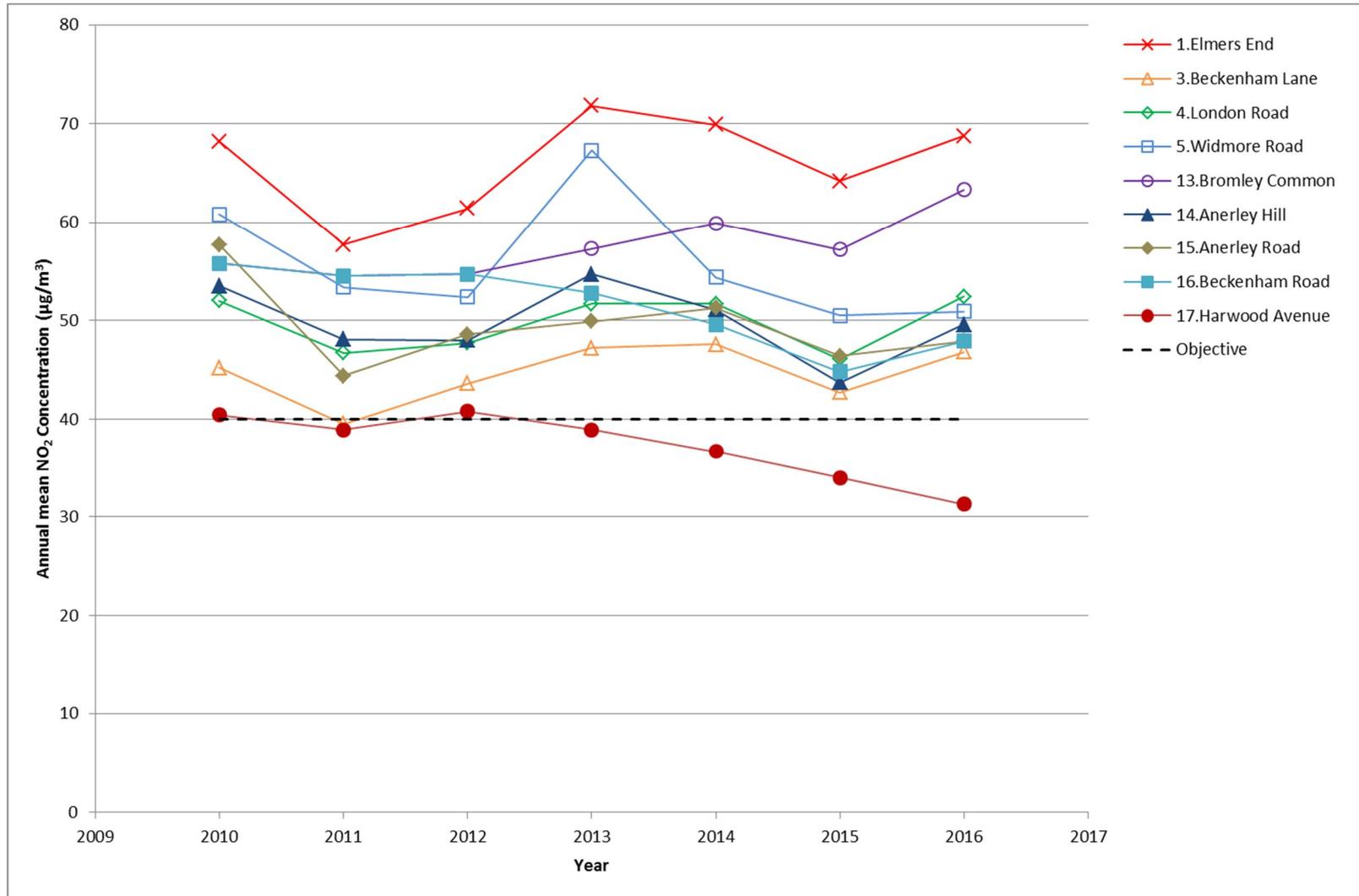


Table E. NO₂ Automatic Monitor Results: Comparison with 1-hour Mean Objective

Site ID	Valid data capture for monitoring period % ^a	Valid data capture 2016 % ^b	Number of Hourly Means > 200 µgm ⁻³						
			2010 ^c	2011 ^c	2012 ^c	2013 ^c	2014 ^c	2015 ^c	2016 ^c
Harwood Avenue	91.4	22.7	N/A	0 (193) ^d	0 (84) ^d	0 (113) ^d	4 (102) ^d	0 (90.6) ^d	0 (98.3) ^d

Notes: Exceedance of the NO₂ short term AOO of 200 µgm⁻³ over the permitted 18 days per year are shown in bold.

^a data capture for the monitoring period, in cases where monitoring was only carried out for part of the year

^b 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" in accordance with LLAQM Technical Guidance, if valid data capture is less than 75%

^d Data capture is less than 90%, and so 99.8th percentiles of hourly means (in µg.m⁻³) are shown in brackets.

Table E shows the 1-hour NO₂ monitoring results for 2010 to 2016. The 1-hour NO₂ air quality objective was achieved at Harwood Avenue in 2016 and in all years since 2010. During the 2010 to 2016 period there were no monitored exceedances of the 1-hour NO₂ standard of 200 µg/m³, except for 4 hours in 2014. This is well within the permitted 18 hours of exceedance in order to achieve the 1-hour NO₂ objective. Where data capture rates were lower than 90% the 99.8th percentiles of hourly mean NO₂ concentrations have been calculated and are shown in brackets alongside the number of exceedances in Table E. Between 2010 and 2016 the 99.8th percentiles of hourly mean NO₂ concentrations were lower than 200 µg/m³; it is therefore likely that the 1-hour NO₂ objective was achieved in all years during this period.

The Council has been monitoring PM₁₀ within the Borough since October 1999. The only currently operational monitoring station is Harwood Avenue. The annual mean PM₁₀ results are shown in Table F and the 24-hour mean PM₁₀ results are presented in Table G. Data capture at the site in 2016 was low (21.3%). The annual mean PM₁₀ concentration at Harwood Avenue in 2016 (after "annualisation") was 29.5 µg/m³, which is below the annual mean objective of 40 µg/m³. This is consistent with all years since 1999 (see Figure 4). It should be noted that the annual mean PM₁₀ concentration for 2015 in this report (30.1 µg/m³) differs from that reported in the 2016 ASR; this is due to an error in the 2015 dataset that has subsequently been corrected.

The 24-hour mean PM₁₀ monitoring results are shown in Table G. There were four exceedances of the 24-hour mean air quality standard of 50 µg/m³ in 2016. This result is well within the 35 permitted days of exceedance to achieve the 24-hour mean PM₁₀ air quality objective. It should be noted that data was only captured for the first 3 months of the year so this figure could potentially have been higher. The 90.4th percentile of daily mean PM₁₀ concentrations in 2016 was 45 µg/m³. This result also indicates that the 24-hour mean PM₁₀ objective is likely to have been achieved in 2016. Between

2010 and 2016 the 24-hour mean PM₁₀ objective has been achieved at Harwood Avenue in all years except 2011, when the 90.4th percentile of the daily monitored PM₁₀ concentrations was 51 µg/m³. It should be noted that the exceedance statistics for PM₁₀ concentrations for 2015 in this report differ from those reported in the 2016 ASR; this is due to an error in the 2015 dataset that has subsequently been corrected.

Table F. Annual Mean PM₁₀ Automatic Monitoring Results (µg/m³)

Site ID	Valid data capture for monitoring period % ^a	Valid data capture 2016 % ^b	Annual Mean Concentration (µgm ⁻³)						
			2010 ^c	2011 ^c	2012 ^c	2013 ^c	2014 ^c	2015 ^c	2016 ^c
Harwood Avenue	85.5	21.3	N/A	38.4	36.3	22.1	33.3	30.1	29.5

Notes: Exceedance of the PM₁₀ annual mean AQO of 40 µgm⁻³ are shown in bold.

^a data capture for the monitoring period, in cases where monitoring was only carried out for part of the year

^b 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" in accordance with LLAQM Technical Guidance, if valid data capture is less than 75%

Table G. PM₁₀ Automatic Monitor Results: Comparison with 24-Hour Mean Objective

Site ID	Valid data capture for monitoring period % ^a	Valid data capture 2016 % ^b	Number of Daily Means > 50 µgm ⁻³						
			2010 ^c	2011 ^c	2012 ^c	2013 ^c	2014 ^c	2015 ^c	2016 ^c
Harwood Avenue	85.5	21.3	N/A	16 (51)	21 (49)	9	12 (43)	10 (39)	4 (45)

Notes: Exceedance of the PM₁₀ short term AQO of 50 µg m⁻³ over the permitted 35 days per year or where the 90.4th percentile exceeds 50 µg m⁻³ are shown in bold.

Where the period of valid data is less than 90% of a full year, the 90.4th percentile is shown in brackets after the number of exceedances.

^a data capture for the monitoring period, in cases where monitoring was only carried out for part of the year

^b 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" in accordance with LLAQM Technical Guidance, if valid data capture is less than 75%

Figure 4. Annual mean PM₁₀ concentrations at the Harwood Automatic Monitoring Site

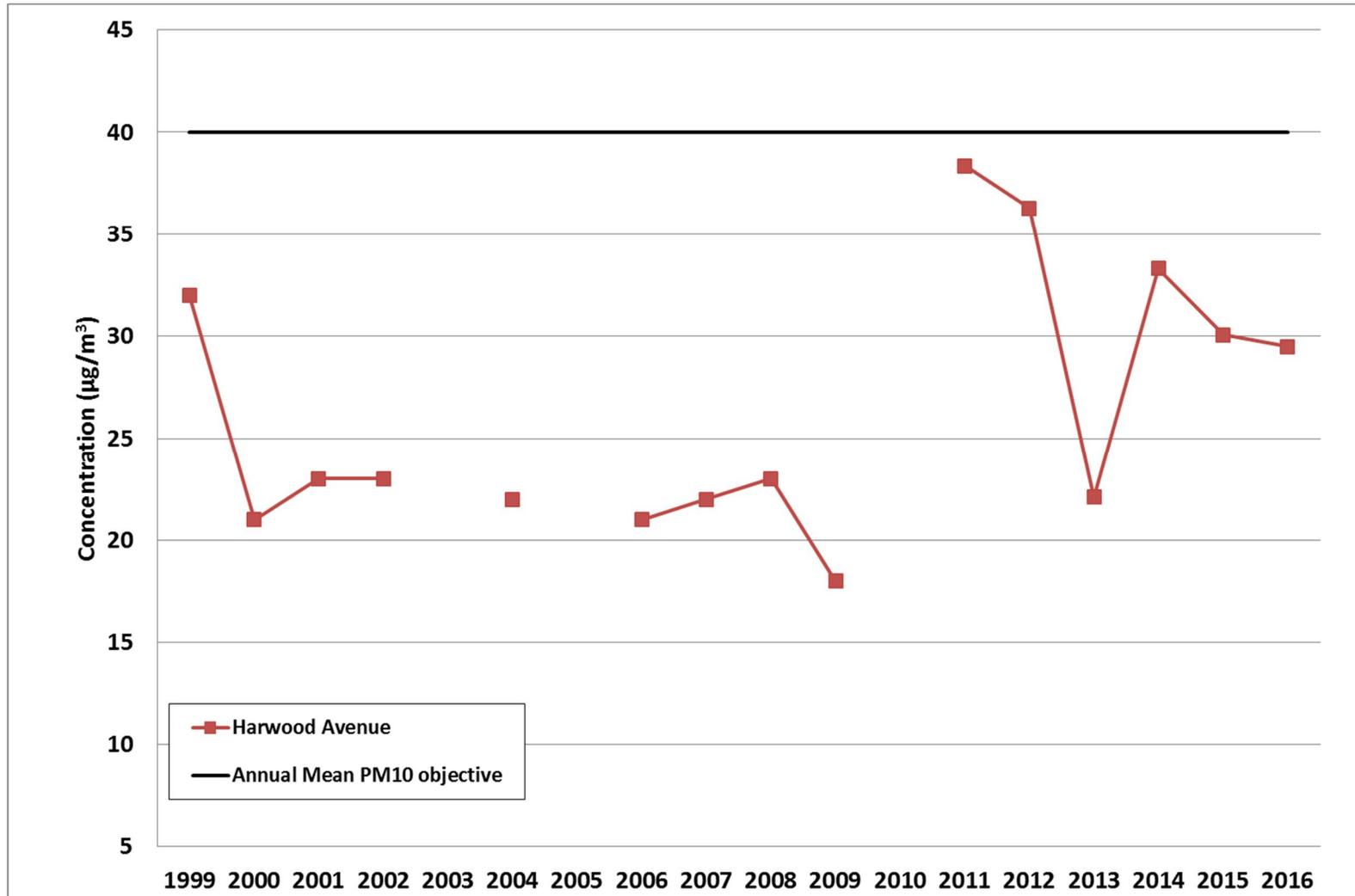


Figure 4 shows that PM₁₀ concentrations at Harwood Avenue between 2000 and 2009 were consistently between 20 µg/m³ and 25 µg/m³. New monitoring was installed in 2011, which coincided with an increase in monitored PM₁₀ concentrations. The change of equipment may explain in part the elevated PM₁₀ concentrations observed since 2011, although poor data capture may be a more significant factor. It is worthy of note that annual mean PM₁₀ concentrations at Harwood Avenue between 2011 and 2016 show evidence of a decreasing trend.

Table H. Annual Mean PM_{2.5} Automatic Monitoring Results (mg m⁻³)

Site ID	Valid data capture for monitoring period % ^a	Valid data capture 2016 % ^b	Annual Mean Concentration (µgm ⁻³)						
			2010 ^c	2011 ^c	2012 ^c	2013 ^c	2014 ^c	2015 ^c	2016 ^c
Harwood Avenue	78.9	19.6	-	-	-	-	-	-	15.5

Notes: Exceedance of the PM_{2.5} annual mean AQO of 25 µgm⁻³ are shown in bold.

^a data capture for the monitoring period, in cases where monitoring was only carried out for part of the year

^b 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" in accordance with LLAQM Technical Guidance, if valid data capture is less than 75%

Monitoring of PM_{2.5} has been undertaken at Harwood Avenue since 2015 using an inlet particle sensor that attaches to the PM₁₀ monitor. This monitoring technique is not reference equivalent and the results should be viewed as indicative. The PM_{2.5} data capture rate for 2016 was 19.6% due to data collection only being possible during the first 3 months of the year. The data capture rate for the 3 month period was 78.9%. The "annualised" mean PM_{2.5} concentration at Harwood Avenue was 15.5 µg/m³, which is below the annual mean air quality objective value of 25 µg/m³. Due to technical issues with the inlet particle sensor during 2015 there was no valid PM_{2.5} data collected, and so inter-year comparisons are not currently possible.

2. Action to Improve Air Quality

Table J. Commitment to Cleaner Air Borough Criteria

The London Borough of Bromley is not applying for Cleaner Air Borough status in 2017.

2.1 Air Quality Action Plan Progress

Progress on the development and publication of a new Air Quality Action Plan (AQAP) for Bromley was slower than expected in 2016 due to staff and budget limitations. The new version is intended to make the AQAP align better with the latest Defra guidance and templates. The current AQAP for Bromley was published in 2010. Table K provides a brief summary of Bromley progress against the 2010 AQAP, in previous years. In 2016, no further progress was able to be made on the actions listed in the AQAP because of limited resources available.

All measures detailed below that aim to reduce NO_x and PM₁₀ will also have an impact on PM_{2.5}. Further actions will be included in the upcoming AQAP. Indicative PM_{2.5} monitoring capability has been installed at Harwood Avenue, but data capture has been limited to date by a number of technical difficulties.

Table K. Delivery of Air Quality Action Plan Measures

Measure	Action	Progress	Further information
		<ul style="list-style-type: none"> • Emissions/Concentration data • Benefits • Negative impacts / Complaints 	
Construction and demolition activities	The Council will mitigate against or resist development that is likely to cause air quality objectives to be breached, particularly within designated Air Quality Management Areas.	Ongoing. Construction dust plans required from constructors.	
Bonfires	The Council will support and investigate the case for promoting a restriction on bonfires based on area and time.	Ongoing. Bonfire leaflets published in 2014. Trade waste burning controlled to enforce Clean Air Act.	

Planning and mitigation	Investigate the use of Section 106 agreements for future developments within the AQMA.	No relevant Section 106 agreements in place at moment.	
Planning and mitigation	Encourage the use of the Mayor of London's sustainable design and construction supplementary planning guidance to mitigate against inappropriate design, layout, orientation and construction to avoid increased exposure.	Ongoing. Charging points opportunities identified for developments built on Council land. Travel plans required for all new developments (highways and planning teams responsible)	
Industries	The Council will ensure all new installations are brought into the relevant regime and existing installations are kept informed of new legislative requirements under the Pollution Prevention and Control Act 1999 and Solvent Emissions Directive.	Ongoing. Environmental permits required from industrial installations.	
Smoke control	The Council will continue to inform residents of the smoke control areas and where necessary take enforcement action if unauthorized fuels are burned or unauthorized appliances used.	Ongoing. Residents and developers informed of wood burning stove requirements.	
Oil and gas heating	Where possible the Council will encourage, through the planning process, developers or new business premises to use low NOx burners or other cleaner fuels including the Sulphur Content of Liquid Fuels (England and Wales) Regulations 2007.	Ongoing. Installation of ultra-low NOx gas boilers encouraged.	
Oil and gas heating	The Council will promote energy efficiency and sustainability on new developments by supporting the Council sustainability and energy efficiency policy through the planning process.	Not yet implemented.	

Oil and gas heating	The Council will encourage efficient local energy generating schemes, particularly combined heat and power and community heating schemes through the Mayor's Energy Strategy and the Mayor's London Plan (Spatial Development Strategy).	Not yet implemented.	
Oil and gas heating	The Council will encourage energy efficiency measures and insulation of domestic dwellings to reduce energy use.	Ongoing. Housing team through HHRS on an ad-hoc basis.	
Holistic approach to air quality	Improve links with the energy and housing officers in order to adopt a more holistic approach to air quality.	Not yet implemented.	
Air quality monitoring	Continue to monitor air quality in Bromley, particularly for pollutants of concern such as Nitrogen Dioxide and PM ₁₀ .	Ongoing. Harwood Avenue monitoring station maintained in-house. Monthly reports required from service contractor (ET).	
Air quality monitoring	The Council will seek ways to improve publicity of pollution data and its availability to the public.	Ongoing. Council available to answer queries.	
Public awareness and education	Develop the London Borough of Bromley website to include real time air quality monitoring data.	Ongoing. Through Love Clean Air website.	
Movement of traffic	Provide data and monitoring services to target problematic junctions in order to improve the movement of traffic.	Ongoing. Air Quality focus of traffic monitoring could be improved.	
Real time traffic information	Introduction of real time traffic with variable messages for Bromley town centre.	Not yet implemented.	

Council owned fleet	Provide data or monitoring services to target problematic junctions in order to improve the movement of council vehicles.	Not yet implemented.	
Council owned fleet	New drivers will be trained in fuel efficient driving.	Ongoing. In house driving training (Advanced motoring) provided to Council officers. Latest course provided 2013.	
Vehicle emission testing	Ensure the Council's fleet complies with vehicle standard requirements of Section 83 of the Environment Act 1995.	No testing undertaken by EH.	
Compliance with European emission standards for vehicles	Continue to ensure that the Council's fleet vehicles comply with European emission standards.	No testing undertaken by EH.	
City Car Clubs	The Council will encourage and support employers and other organisations wishing to establish Car Clubs and investigate the possibility of providing on road spaces available for car club vehicles where suitable off-road provision cannot be made.	Several private Car clubs operating successfully in the Borough.	
Car Sharing Schemes	The Council will promote workplace car sharing schemes.	Not yet implemented.	
South London Freight Quality Partnership	The Council will play an active role in the further development and adoption of the SLFQP including among other initiative trailing of night time deliveries, loading bay optimization and feasibility studies of consolidation centres.	Ongoing in collaboration with TFL. Main focus on Noise impacts, but Air Quality benefits follow.	

Idling vehicles	The Council will reduce pollution from unnecessarily idling vehicles through an awareness campaign and enforcement.	Ongoing. Council officers given powers to enforce idling restrictions.	
London Bromley Council Workplace Travel Plans	The Air Quality Officer and Pollution Team will continue to support the LBBWTP and as appropriate provide air quality data and expertise to maximize the potential improvements to air quality.	Ongoing. Cycle to work scheme (financial support, bicycles provided to Council officers, showers provided in the workplace).	
School travel plans	The Council will develop strong links with the school travel plan coordinator to help identify and target those schools that due to their proximity to the more congested junctions have a proportionally greater impact on the quality of air.	Not yet implemented.	
School travel plans	The Council will continue to provide and collect additional air quality data to assist in the identification of problematic junctions adjacent to large employers and schools.	Not yet implemented.	
School travel plans	The Council will support and help promote the numerous initiatives as outlined in Bromley LIPS 2007 such as Bike Week, Walk to School Weeks, EU mobility week and the London Wide "Good going" campaign.	Not yet implemented.	
School travel plans	The Council will seek funding to implement an air quality awareness campaign at local schools that will dovetail with current schemes such as WOW (Walk on Wednesdays, Bike week, Don't stop to drop).	Not yet implemented.	

PM _{2.5} Monitoring	PM _{2.5} monitoring equipment in place at Harwood Avenue station.	Currently not operating due to technical issues.	
Reducing PM _{2.5}	Estimate of impacts on PM _{2.5} of current and planned measures for reducing NO _x and PM ₁₀ .	To be implemented as part of new AQAP.	

3. Planning Update and Other New Sources of Emissions

Table L gives a summary of planning requirements relating to air quality in LB Bromley in 2016.

Table L. Planning requirements met by planning applications in LB Bromley in 2016

Condition	Number
Number of planning applications reviewed for air quality impacts	10
Number of planning applications required to monitor for construction dust	1
Number of CHPs/Biomass boilers refused on air quality grounds	0
Number of CHPs/Biomass boilers subject to GLA emissions limits and/or other restrictions to reduce emissions	0
Number of AQ Neutral building and/or transport assessments undertaken	10
Number of AQ Neutral building and/or transport assessments not meeting the benchmark and so required to include additional mitigation	0
Number of planning applications with S106 agreements including other requirements to improve air quality	0
Number of planning applications with CIL payments that include a contribution to improve air quality	0
<p>* NRMM: Greater London (excluding Central Activity Zone and Canary Wharf)</p> <p>Number of conditions related to NRMM included.</p> <p>Number of developments registered and compliant.</p> <p>Developments have been registered at www.nrmm.london and where marked as such all NRMM used on-site is compliant with Stage IIIA of the Directive and/or exemptions to the policy.</p>	<p>A NRMM condition is applied to all major applications.</p> <p>Currently there is an ongoing joint funded project with Merton to ensure compliance. Data is not available as yet for this project.</p>

* To form a comprehensive list of both registered and non-registered current and upcoming construction sites, Lewisham have joined the MAQF scheme managed by Merton. The officer visits the site to check that plant meets the required standard and provides advice regarding the NRMM website and compliance requirements.

3.1 New or significantly changed industrial or other sources

There are no new or significantly changed sources of pollution in the Borough since the publication of the 2016 Annual Status Report.

Appendix A Details of Monitoring Site QA/QC

A.1 Automatic Monitoring Sites

During 2016, the Harwood Avenue station was operated by the London Borough of Bromley. QA/QC procedures involve monthly maintenance and calibration visits by LB Bromley local site operator, and regular service checks by instrument supplier EnviroTechnology. All data has been ratified according to Defra LAQM Technical Guidance standards.

PM₁₀ Monitoring Adjustment

All PM₁₀ monitoring data has been fully ratified. Prior to ratification, a fixed zero offset of 15 µg/m³ is removed from the raw PM₁₀ concentration. The PM₁₀ concentrations are then divided by 1.21 to make them equivalent to the reference method, following Defra guidance (Defra, 2009).

A.2 Diffusion Tube Quality Assurance / Quality Control

AIR is an independent analytical proficiency-testing (PT) scheme, operated by LGC Standards and supported by the Health and Safety Laboratory (HSL). AIR PT is a new scheme, started in April 2014, which combines two long running PT schemes: LGC Standards STACKS PT scheme and HSL Workplace Analysis Scheme for Proficiency (WASP) PT scheme.

AIR NO₂ PT forms an integral part of the UK NO₂ Network's QA/QC, and is a useful tool in assessing the analytical performance of those laboratories supplying diffusion tubes to Local Authorities for use in the context of Local Air Quality Management (LAQM). Defra and the Devolved Administrations advise that diffusion tubes used for LAQM should be obtained from laboratories that have demonstrated satisfactory performance in the AIR-PT scheme.

The results for Gradko International were overall satisfactory as stated here. Gradko International scored 100% satisfactory results for all relevant AIR-PT rounds:

- AR012 (January-February 2016).
- AR013 (April-May 2016)
- AR015 (July-August 2016)
- AR016 (September-October 2016)
- AR018 (January-February 2017)

Factor from Local Co-Location Studies (if available)

LB Bromley has one co-location site at Harwood Avenue, where triplicate diffusion tubes are co-located adjacent to the inlet of the automatic monitor, so that diffusion tube concentrations can be adjusted for bias by comparing to the more accurate continuous monitoring dataset. A spreadsheet tool for calculating the locally-derived bias adjustment factor for triplicate tubes co-located at a continuous monitor is available from the Defra website.

In 2016 data capture for the automatic monitor was low meaning that it was not possible to use the data to derive a local factor for the purpose of bias-adjusting the council's diffusion tube results.

National Bias Adjustment Factor

The national bias adjustment factor for 2016 is available from the Defra website. The results of multiple co-location studies are collated, and the average bias adjustment factor is taken for studies using the 20% TEA/water preparation method, analysed by Gradko. The national bias adjustment factor for 2016 is 0.94, based on 21 studies, details of which are shown in Figure A - 1 below.

Figure A - 1 National Bias Adjustment Factor Spreadsheet

National Diffusion Tube Bias Adjustment Factor Spreadsheet						Spreadsheet Version Number: 03/17 V2				
Follow the steps below in the correct order to show the results of relevant co-location studies						This spreadsheet will be updated at the end of June 2017				
Data only apply to tubes exposed monthly and are not suitable for correcting individual short-term monitoring periods						LAQM Helpdesk Website				
Whenever presenting adjusted data, you should state the adjustment factor used and the version of the spreadsheet						Spreadsheet maintained by the National Physical Laboratory. Original compiled by Air Quality Consultants Ltd.				
This spreadsheet will be updated every few months: the factors may therefore be subject to change. This should not discourage their immediate use.										
The LAQM Helpdesk is operated on behalf of Defra and the Devolved Administrations by Bureau Veritas, in conjunction with contract partners AECOM and the National Physical Laboratory.										
Step 1:		Step 2:		Step 3:		Step 4:				
Select the Laboratory that Analyses Your Tubes from the Drop-Down List		SELECT Preparation Method from the Drop-Down List		SELECT Year from the Drop-Down List		Where there is only one study for a chosen combination, you should use the adjustment factor shown with caution. Where there is more than one study, use the overall factor ² shown in blue at the foot of the final column.				
If laboratory is not chosen, we have no data for this laboratory.		If preparation method is not chosen, we have no data for this method for this laboratory.		If a year is not chosen, we have no data.		If you have your own co-location study then see footnote ⁴ . If uncertain what to do then contact the Local Air Quality Management Helpdesk at LAQMHelpdesk@uk.bureauveritas.com or 0800 0327953				
Analysed By ¹	Method	Year ²	Site Type	Local Authority	Length of Study (months)	Diffusion Tube Mean Conc. (Dm) ($\mu\text{g}/\text{m}^3$)	Automatic Monitor Mean Conc. (Cm) ($\mu\text{g}/\text{m}^3$)	Bias (B)	Tube Precision ³	Bias Adjustment Factor (A) (Cm/Dm)
Gradko	20% TEA in water	2016	R	Gateshead Council	12	29	26	10.5%	G	0.90
Gradko	20% TEA in water	2016	R	Gateshead Council	11	35	37	-6.0%	G	1.06
Gradko	20% TEA in water	2016	R	Gateshead Council	12	37	31	19.0%	G	0.84
Gradko	20% TEA in water	2016	R	Wokingham Borough Council	11	45	41	9.0%	G	0.92
Gradko	20% TEA in water	2016	R	Wokingham Borough Council	11	37	34	9.5%	G	0.91
Gradko	20% TEA in water	2016	R	Cheshire West and Chester	12	37	39	-5.3%	G	1.06
Gradko	20% TEA in water	2016	R	Thurrock Borough Council	12	29	26	11.0%	G	0.90
Gradko	20% TEA in water	2016	R	Borough Council of King's Lynn & West Norfolk	11	30	25	18.2%	G	0.85
Gradko	20% TEA in water	2016	UB	Eastleigh Borough Council	11	29	30	-4.7%	G	1.05
Gradko	20% TEA in water	2016	R	Eastleigh Borough Council	12	44	42	2.9%	G	0.97
Gradko	20% TEA in water	2016	R	Brighton & Hove City Council	12	52	48	8.8%	G	0.92
Gradko	20% TEA in water	2016	R	Eastleigh Borough Council	11	29	37	-22.0%	G	1.28
Gradko	20% TEA in water	2016	KS	Marglebone Road Intercomparison	12	99	79	25.2%	G	0.80
Gradko	20% TEA in water	2016	R	Monmouthshire County Council	11	39	34	16.8%	G	0.86
Gradko	20% TEA in water	2016	R	Preston City Council	10	30	27	10.0%	G	0.91
Gradko	20% TEA in water	2016	R	Dudley MBC	12	37	34	11.0%	G	0.90
Gradko	20% TEA in water	2016	UB	Dudley MBC	12	26	22	18.6%	G	0.84
Gradko	20% TEA in water	2016	R	Dudley MBC	11	43	38	12.4%	G	0.89
Gradko	20% TEA in water	2016	R	Dudley MBC	12	51	54	-5.6%	G	1.06
Gradko	20% TEA in water	2016	B	LB Waltham Forest	12	31	30	2.3%	G	0.98
Gradko	20% TEA in water	2016	R	NOTTINGHAM CITY COUNCIL	12	37	39	-5.4%	G	1.06
Gradko	20% TEA in water	2016		Overall Factor² (21 studies)					Use	0.94

Discussion of Choice of Factor to Use

In 2016 there was insufficient data capture at the Harwood Avenue continuous monitoring site to allow the calculation of a local bias adjustment factor. Therefore, the national bias adjustment factor (0.94) has been applied to the raw diffusion tube results.

The national bias adjustment factor for 2016 is in close agreement with bias adjustment factors used by LB Bromley in recent years. The bias adjustment factors used for LAQM for the last five years are as follows:

- 2012 – 0.96
- 2013 – 0.95
- 2014 – 0.92
- 2015 – 0.88
- 2016 – 0.94

A.3 Adjustments to the Ratified Monitoring Data

Short-term to Long-term Data Adjustment

In 2016, the data capture rates for NO₂, PM₁₀, and PM_{2.5} at the Harwood Road automatic monitoring station were lower than 75%. Therefore to estimate the annual mean pollutant concentrations from the measured period mean a seasonal adjustment factor has been calculated for each.

In accordance with LAQM.TG(16) guidance, period and annual mean NO₂ concentrations were calculated from three nearby background NO₂ LAQN monitoring sites (Wandsworth Town Hall, Putney and Elephant and Castle). These sites all achieved data capture rates of greater than 80%. The seasonal adjustment factor is calculated as the average annual mean / period mean ratio for the LAQN sites.

Details of the “annualisation” factor calculation are given in Table M.1 and supporting notes.

Table M.1. Short-Term to Long-Term Monitoring Data Adjustment for NO₂ at Harwood Avenue Automatic Monitoring Site.

Site	Site Type	Annual Mean (µg/m ³)	Period Mean (µg/m ³)	Ratio
Wandsworth Town Hall	Urban Background (LAQN)	43.1	45.3	0.95
Putney	Urban Background (LAQN)	44.9	51.8	0.87
Elephant and Castle	Urban Background (LAQN)	38.3	42.4	0.90
Average				0.91

Data capture for NO₂ at the Harwood Avenue automatic monitoring site in 2016 was 23%. The dates used for the period mean calculations are: 01/01/2016 01:00 to 01/04/2016 00:00.

By multiplying the unadjusted period mean NO₂ concentration recorded at the Harwood Avenue automatic monitoring site between 01/01/2016 and 01/04/2016 (35.2 µg/m³) by the calculated “annualisation” factor, 0.91, an annual mean NO₂ concentration for 2016 of 31.9 µg/m³ was obtained.

For the “annualisation” of monitored PM₁₀ concentrations, the three different nearby LAQN monitoring sites (New Cross, Belvedere West and Sir John Cass School) were used to calculate an adjustment factor. Details of the “annualisation” factor calculation are given in Table M.2 and supporting notes.

Table M.2. Short-Term to Long-Term Monitoring Data Adjustment for PM₁₀ at Harwood Avenue Automatic Monitoring Site.

Site	Site Type	Annual Mean (µg/m ³)	Period Mean (µg/m ³)	Ratio
New Cross	Roadside	23.6	24.2	0.98
Belvedere West	Urban Background (LAQN)	15.1	15.5	0.98
Sir John Cass School	Urban Background (LAQN)	24.4	25.1	0.97
Average				0.97

Data capture for NO₂ at the Harwood Avenue automatic monitoring site in 2016 was 21%. The dates used for the period mean calculations are: 01/01/2016 01:00 to 01/04/2016 00:00.

By multiplying the unadjusted period mean PM₁₀ concentration recorded at the Harwood Avenue automatic monitoring site between 01/01/2016 and 01/04/2016 (30.3 µg/m³) by the calculated “annualisation” factor, 0.97, an annual mean PM₁₀ concentration of 29.5 µg/m³ for 2016 was obtained.

For the “annualisation” of monitored PM₁₀ concentrations, the LAQN monitoring sites at New Cross, Belvedere West and Sir John Cass School were used to calculate an adjustment factor. Details of the “annualisation” factor calculation are given in Table M.3 and supporting notes.

Table M.3. Short-Term to Long-Term Monitoring Data Adjustment for PM_{2.5} at Harwood Avenue Automatic Monitoring Site.

Site	Site Type	Annual Mean (µg/m ³)	Period Mean (µg/m ³)	Ratio
New Cross	Roadside	19.0	18.8	1.01
Camden Bloomsbury	Urban Background (LAQN)	12.1	11.1	1.09
Sir John Cass School	Urban Background (LAQN)	14.9	14.7	1.01
Average				1.04

Data capture for NO₂ at the Harwood Avenue automatic monitoring site in 2016 was 19%. The dates used for the period mean calculations are: 01/01/2016 01:00 to 01/04/2016 00:00.

By multiplying the unadjusted period mean PM_{2.5} concentration recorded at the Harwood Avenue automatic monitoring site between 01/01/2016 and 01/04/2016 (14.9 µg/m³) by the calculated “annualisation” factor, 1.04, an annual mean PM_{2.5} concentration of 15.5 µg/m³ for 2016 was obtained.

Distance Adjustment

The diffusion tube sites at Anerley Hill and Beckenham Road are considered not representative of relevant exposure, and for reference, the distance-corrected annual mean NO₂ concentrations are shown below. It has been decided not to present these concentrations in the main report in order to maintain consistency with previous LAQM reports. The distance-corrected values are shown

below in Figure A - 2 and Figure A - 3. The local annual mean background concentrations in 2016 from the Defra 2013-based background maps have been used for the calculation.

Figure A - 2 Façade distance correction calculator for Anerley Hill diffusion tube.

BUREAU VERITAS

Air Quality CONSULTANTS

Enter data into the red cells

Step 1	How far from the KERB was your measurement made (in metres)?	0.5	metres
Step 2	How far from the KERB is your receptor (in metres)?	13	metres
Step 3	What is the local annual mean background NO ₂ concentration (in µg/m ³)?	21.16409	µg/m ³
Step 4	What is your measured annual mean NO ₂ concentration (in µg/m ³)?	49.5795167	µg/m ³
Result	The predicted annual mean NO ₂ concentration (in µg/m ³) at your receptor	33.2	µg/m ³

Figure A - 3 Façade distance correction calculator for Beckenham Road diffusion tube.

BUREAU VERITAS

Air Quality CONSULTANTS

Enter data into the red cells

Step 1	How far from the KERB was your measurement made (in metres)?	0.5	metres
Step 2	How far from the KERB is your receptor (in metres)?	10	metres
Step 3	What is the local annual mean background NO ₂ concentration (in µg/m ³)?	21.66643	µg/m ³
Step 4	What is your measured annual mean NO ₂ concentration (in µg/m ³)?	47.8950889	µg/m ³
Result	The predicted annual mean NO ₂ concentration (in µg/m ³) at your receptor	34.0	µg/m ³

Appendix B Full Monthly Diffusion Tube Results for 2016

Table N.1. NO₂ Diffusion Tube Results (Triplicate Averages)

Site ID	Valid data capture for monitoring period % ^a	Valid data capture 2016 % ^b	Annual Mean NO ₂													Annual mean – raw data ^c	Annual mean – bias adjusted ^c
			Jan	Feb	March	Apr	May	June	Jul	Aug	Sept	Oct	Nov	Dec			
Elmers End	100	100	59.8	76.8	80.5	71.0	73.6	72.2	50.9	83.0	37.7	110.1	83.9	78.4	<u>73.2</u>	<u>68.8</u>	
Beckenham Lane	100	100	35.2	46.7	60.9	47.3	54.7	47.8	27.8	49.7	29.2	80.7	56.3	61.1	49.8	46.8	
London Road	100	100	45.9	50.7	58.6	50.3	54.6	52.2	34.0	60.2	32.7	91.5	69.7	69.1	55.8	52.4	
Widmore Road	100	100	40.8	55.7	65.1	51.2	59.4	54.9	44.1	52.8	41.1	57.6	68.2	59.2	54.2	50.9	
Bromley Common	100	100	51.8	60.8	73.6	63.0	68.2	63.9	43.9	83.4	35.7	99.5	83.3	81.3	<u>67.4</u>	<u>63.3</u>	
Anerley Hill	100	100	38.7	51.3	56.9	51.2	57.7	50.0	30.8	60.2	29.4	82.9	62.4	61.5	52.7	49.6	
Anerley Road	100	100	44.2	48.5	61.7	52.4	54.7	46.3	25.0	49.4	29.8	82.5	56.9	60.1	51.0	47.9	
Beckenham Road	100	100	38.3	48.8	62.0	45.3	54.2	47.9	30.2	54.2	28.1	78.0	63.4	60.9	51.0	47.9	
Harwood Avenue	100	100	32.6	37.2	40.5	33.9	36.9	21.7	28.8	33.6	28.7	36.5	24.7	44.4	33.3	31.3	

Exceedance of the NO₂ annual mean AQO of 40 µg m⁻³ are shown in bold.

^a data capture for the monitoring period, in cases where monitoring was only carried out for part of the year

^b 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” in accordance with LLAQM Technical Guidance, if valid data capture is less than 75%

Table N.2. NO₂ Diffusion Tube Results (Single Tubes)

Site ID	Valid data capture for monitoring period % ^a	Valid data capture 2016 % ^b	Annual Mean NO ₂ (µg/m ³)													
			Jan	Feb	March	Apr	May	June	Jul	Aug	Sept	Oct	Nov	Dec	Annual mean – raw data ^c	Annual mean – bias adjusted ^c
1 Elmers End	100.0	100.0	63.3	94.1	85.3	75.9	82.8	77.5	54.3	89.4	38.5	117.6	82.4	79.3	<u>78.4</u>	<u>73.7</u>
2 Elmers End	100.0	100.0	62.8	63.7	76.8	72.2	72.3	70.8	48.3	78.1	37.5	101.1	80.4	77.5	<u>70.1</u>	<u>65.9</u>
3 Elmers End	91.7	91.7	53.3	72.7	79.6	65.0	65.7	68.2	50.0	81.6	37.2	111.6	88.9	-	<u>70.3</u>	<u>66.1</u>
7 London Road	100.0	100.0	40.7	48.6	61.5	51.7	55.1	51.9	33.2	61.6	32.3	93.9	67.6	69.8	55.6	52.3
8 London Road	100.0	100.0	42.4	51.9	57.9	49.9	53.0	53.9	33.6	60.1	33.4	88.1	70.7	69.1	55.3	52.0
9 London Road	100.0	100.0	54.6	51.6	56.5	49.4	55.7	50.8	35.4	58.8	32.5	92.4	70.7	68.4	56.4	53.0
10 Widmore Road	100.0	100.0	36.4	56.2	68.8	54.3	64.3	54.5	44.0	56.0	41.3	57.9	68.7	58.0	55.0	51.7
11 Widmore Road	100.0	100.0	42.0	55.5	66.9	51.7	55.4	54.1	44.9	50.4	39.9	58.5	66.7	59.3	53.8	50.5
12 Widmore Road	100.0	100.0	44.1	55.4	59.7	47.5	58.5	56.1	43.4	51.9	42.1	56.2	69.1	60.3	53.7	50.5
13 Beckenham Lane	100.0	100.0	29.4	48.0	59.3	50.2	49.6	46.3	30.5	51.0	29.3	80.6	58.7	61.0	49.5	46.5

Site ID	Valid data capture for monitoring period % ^a	Valid data capture 2016 % ^b	Annual Mean NO ₂ (µg/m ³)													
			Jan	Feb	March	Apr	May	June	Jul	Aug	Sept	Oct	Nov	Dec	Annual mean – raw data ^c	Annual mean – bias adjusted ^c
14 Beckenham Lane	100.0	100.0	36.8	45.8	66.9	46.1	60.0	51.0	25.1	48.0	29.0	83.5	55.0	61.1	50.7	47.6
15 Beckenham Lane	100.0	100.0	39.5	46.3	56.6	45.5	54.6	46.2	27.9	50.2	29.2	78.0	55.3	61.1	49.2	46.2
16 Bromley Common	100.0	100.0	54.1	58.9	67.2	57.7	67.4	62.9	42.2	81.2	35.8	97.1	86.0	81.1	<u>66.0</u>	<u>62.0</u>
17 Bromley Common	83.3	83.3	43.3	58.2	75.2	65.8	69.7	67.5	44.0	86.7	-	103.0	-	86.0	<u>69.9</u>	<u>65.7</u>
18 Bromley Common	100.0	100.0	58.2	65.4	78.6	65.4	67.4	61.3	45.4	82.3	35.5	98.5	80.6	76.9	<u>67.9</u>	<u>63.9</u>
19 Beckenham Road	100.0	100.0	40.5	50.4	61.2	44.1	47.5	46.8	29.2	51.3	26.9	79.2	63.4	63.3	50.3	47.3
20 Beckenham Road	100.0	100.0	37.3	48.1	64.5	44.0	57.0	49.3	30.6	56.2	27.5	81.4	62.2	59.8	51.5	48.4
27 Beckenham Road	100.0	100.0	31.6	46.9	46.6	48.9	56.1	48.3	30.1	62.7	28.3	82.8	59.0	57.3	49.9	46.9
21 Anerley Hill	91.7	91.7	40.9	50.3	55.7	51.9	55.8	-	28.0	52.9	29.1	84.6	55.1	57.8	51.1	48.0
25 Anerley Hill	100.0	100.0	46.4	46.2	64.9	48.4	53.1	47.1	22.6	49.0	30.6	86.6	54.8	54.5	50.3	47.3
26 Anerley Hill	100.0	100.0	45.4	49.0	64.6	57.0	55.2	45.5	24.5	46.4	29.8	76.3	60.9	68.0	51.9	48.8
22 Anerley Road	100.0	100.0	39.1	54.4	60.8	49.7	56.6	49.7	28.4	59.0	28.6	82.9	59.8	61.4	52.5	49.4
23 Anerley Road	100.0	100.0	45.4	52.7	63.2	54.9	60.5	51.9	33.9	58.9	31.5	83.0	68.3	65.6	55.8	52.5

Site ID	Valid data capture for monitoring period % ^a	Valid data capture 2016 % ^b	Annual Mean NO ₂ (µg/m ³)													
			Jan	Feb	March	Apr	May	June	Jul	Aug	Sept	Oct	Nov	Dec	Annual mean – raw data ^c	Annual mean – bias adjusted ^c
24 Anerley Road	100.0	100.0	37.2	47.9	60.3	47.8	58.2	47.8	30.9	55.0	29.8	73.5	64.7	59.6	51.0	48.0
28 Harwood Avenue	100.0	100.0	32.4	37.2	40.2	32.3	37.5	32.4	28.5	32.5	28.6	35.1	0.3	44.1	31.7	29.8
29 Harwood Avenue	91.7	91.7	33.0	39.0	40.4	35.0	36.6	32.4	29.6	34.7	28.8	-	49.0	43.5	36.5	34.3
30 Harwood Avenue	83.3	83.3	32.4	35.3	41.0	34.4	36.7	0.3	28.2	33.7	-	38.0	-	45.5	32.6	30.6

Exceedance of the NO₂ annual mean AQO of 40 µg.m⁻³ are shown in bold.

NO₂ monthly means in excess of 60 µg.m⁻³, indicating a potential exceedance of the NO₂ hourly mean AQS objective are shown in bold and underlined.

^a data capture for the monitoring period, in cases where monitoring was only carried out for part of the year

^b 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 for the single tubes HAVE NOT BEEN “annualised” in accordance with LLAQM Technical Guidance, if valid data capture is less than 75%.