

# **London Borough of Brent Air Quality Annual Status Report for 2015**

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This report provides a detailed overview of air quality in LB Brent during 2015. It has been produced to meet the requirements of the London Local Air Quality Management statutory process<sup>1</sup>.

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<sup>1</sup> 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 <sub>10</sub>	Particulate matter less than 10 micron in diameter
PM <sub>2.5</sub>	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**

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

Note: <sup>1</sup>by which to be achieved by and maintained thereafter

## **1. Air Quality Monitoring**

The London Borough of Brent operates two automatic monitoring stations situated at roadside (R) sites (BT4 and BT6) and one at an industrial (I) location (BT5). The Ikea site (BT4)<sup>2</sup> measures NO<sub>2</sub>, PM<sub>10</sub> (by TEOM, Tapered Element Oscillating Microbalances), and PM<sub>2.5</sub> (by TEOM); the Neasden Lane site (BT5) measures NO<sub>2</sub> and PM<sub>10</sub> (by TEOM); and the John Keble Primary School site (BT6) measures NO<sub>2</sub> and PM<sub>10</sub> (by TEOM). All monitoring sites are within the Council's AQMA.

The London Borough of Brent also monitors annual mean NO<sub>2</sub> concentrations using passive diffusion tubes at 25 sites located throughout the Borough. One of these sites has triplicate tubes (site 52 A, B and C) which are co-located with the automatic monitoring site BT4 (Ikea). Diffusion tubes currently include 24 roadside locations and one background location (Tube ID 33A).

### **1.1 Locations**

**Table B. Details of Automatic Monitoring Sites for 2015**

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 (m)	Inlet height (m)	Pollutants monitored	Monitoring technique
BT4	IKEA	520866	185169	Roadside	Y	38	2	2.5	NO2, PM10, PM2.5, O3	Chemiluminescent, TEOM, VCM method
BT5	Neasden Lane	521511	185204	Industrial	Y	35	4	2.5	NO2, PM10	Chemiluminescent, TEOM, VCM method
BT6	John Keble Primary School	521619	183554	Roadside	Y	10	2	2.5	NO2, PM10	Chemiluminescent, TEOM, VCM method

<sup>2</sup> The Ikea site (BT4) is a King's College Supersite and in addition to the pollutants listed above it also measures carbon dioxide (CO<sub>2</sub>), ozone (O<sub>3</sub>), and sulphur dioxide (SO<sub>2</sub>).

**Table C. Details of Non-Automatic Monitoring Sites for 2015**

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 (m)	Inlet height (m)	Pollutants monitored	Tube co-located with an automatic monitor? (Y/N)
1	Junction of Kenton Rd / Upton Gardens	516929	188560	Roadside	Y	15	2m	1.5	NO2	N
2	Harrow Rd, Sudbury Court Drive	515793	186042	Roadside	N	10	1m	1.5	NO2	N
4	Junction of Shaftesbury Avenue / Woodcock Hill	518254	187771	Roadside	N	6	1m	1.5	NO2	N
7	Bridgewater Rd / Ealing Road	517921	183716	Roadside	Y	17	2m	1.5	NO2	N
9	Junction of East Lane / Wembley Hill Road	518499	186168	Roadside	Y	20	2m	1.5	NO2	N
17	Old Church Lane junction with Neasden Lane	520480	186537	Roadside	Y	4	1m	1.5	NO2	N
21A	Central Middlesex Hospital, Central Way	520078	182857	Roadside	Y	4	1m	1.5	NO2	N
22	Junction of Kingsbury Road / Edgware Road	521447	188730	Roadside	Y	5	1m	1.5	NO2	N
23	Junction North Circular Rd / Chartley Avenue	521213	186125	Roadside	Y	10	2m	1.5	NO2	N
26	Dudden Hill Lane junction with High Road	522191	184821	Roadside	Y	19	1m	1.5	NO2	N
29	Junction Dollis Hill Lane / Cricklewood	523191	186571	Roadside	Y	12	1m	1.5	NO2	N
30	Chichele Road near Melrose Ave	523663	185353	Roadside	Y	9.8	1m	1.5	NO2	N
33A	Fryent Park Car Park area	519572	187691	Urban background	N	500	1m	1.5	NO2	N
41	R/O 246 Neasden Lane	521455	185920	Roadside	Y	3	4m	1.5	NO2	N
48	Kilburn Park Rd near junction with Shirland Rd	525196	182517	Roadside	Y	2	1m	1.5	NO2	N
52	IKEA, Hut, North Circular Road	520874	185173	Roadside	Y	40	1m	1.5	NO2	Y
53	Junction Ealing Road / High Road	518020	185043	Roadside	Y	15	1m	1.5	NO2	N
54	Ealing Road / Riverside Gardens	518221	183206	Roadside	Y	4	1m	1.5	NO2	N
BRT 42	Police Station, Craven Park	521155	184002	Roadside	Y	3	1m	1.5	NO2	N

BRT 43	Pitfield Way	520242	184541	Roadside	Y	20	2m	1.5	NO2	N
BRT 53	High Road Wembley	518303	185181	Roadside	Y	0	0.5m	1.5	NO2	N
BRT 55	High Street, Harlesden	521743	183361	Roadside	Y	3	0.5m	1.5	NO2	N
BRT 56	Chamberlayne Road	523635	183153	Roadside	Y	15	0.5m	1.5	NO2	N
BRT 57	Kilburn Bridge	525461	183558	Roadside	Y	8	0.5m	1.5	NO2	N
BRT 58	51 High Road, Willesden	523031	184655	Roadside	Y	2	0.5m	1.5	NO2	N

## 1.2 Comparison of Monitoring Results with AQOs

In 2015 Brent Council had very low data capture rates (4%) due to difficulties maintaining our automatic monitoring stations and issues with equipment failure. In addition, there were no co-located diffusion tube results (for similar periods) that could be used from representative sites to derive the annualisation factor. As a result the council has provided data as reported, applying a bias correction factor, rather than providing annualised data.

**Table D. Annual Mean NO<sub>2</sub> Ratified and Bias-adjusted Monitoring Results ( $\mu\text{g m}^{-3}$ )**

Site ID	Site type	Valid data capture for monitoring period % <sup>a</sup>	Valid data capture 2015 % <sup>b</sup>	Annual Mean Concentration ( $\mu\text{g m}^{-3}$ )						
				2009 <sup>c</sup>	2010 <sup>c</sup>	2011 <sup>c</sup>	2012 <sup>c</sup>	2013 <sup>c</sup>	2014 <sup>c</sup>	2015 <sup>c</sup>
BT1	Automatic	-	-	31.7	28.8	N/A	N/A	N/A	N/A	N/A
BT4	Automatic	47	4	<u>70.5</u>	<u>74.0</u>	<u>74.9</u>	<u>76.1</u>	N/A	<u>79.7</u>	41.0
BT5	Automatic	57	4	43.2	39.4	41.2	44.0	38.9	N/A	38.8
BT6	Automatic	-	-	55.6	52.7	44.8	41.1	37.5	N/A	N/A
BT7	Automatic	-	-	35.7	35.3	N/A	N/A	N/A	N/A	N/A
1	Diffusion tube	85	50	44.3	44.3	38.7	37.9	41.0	41.9	40.1
2	Diffusion tube	95	55	46.9	47.5	42.1	42.2	46.9	46.1	41.7

Site ID	Site type	Valid data capture for monitoring period % <sup>a</sup>	Valid data capture 2015 % <sup>b</sup>	Annual Mean Concentration ( $\mu\text{gm}^{-3}$ )						
				2009 <sup>c</sup>	2010 <sup>c</sup>	2011 <sup>c</sup>	2012 <sup>c</sup>	2013 <sup>c</sup>	2014 <sup>c</sup>	2015 <sup>c</sup>
4	Diffusion tube	96	56	44.6	43.0	40.4	41.8	45.3	47.9	40.3
7	Diffusion tube	95	56	<u>68.7</u>	<u>70.7</u>	56.7	59.7	<u>71.2</u>	<u>69.4</u>	<u>62.3</u>
9	Diffusion tube	96	56	50.7	49.9	44.3	46.6	50.5	53.9	47.3
17	Diffusion tube	96	56	56.1	53.6	54.1	52.8	55.5	59.6	55.4
21A	Diffusion tube	95	56	N/A	N/A	43.1	47.1	49.5	55.1	48.7
22	Diffusion tube	95	56	<u>66.1</u>	<u>60.7</u>	51.6	54.1	57.9	<u>64.7</u>	56.7
23	Diffusion tube	96	56	<u>87.0</u>	<u>86.8</u>	<u>82.1</u>	<u>92.8</u>	<u>104.5</u>	<u>108.7</u>	<u>93.2</u>
26	Diffusion tube	85	50	<u>67.1</u>	<u>60.6</u>	58.1	<u>60.4</u>	<u>65.4</u>	<u>68.9</u>	<u>63.9</u>
29	Diffusion tube	85	50	<u>60.5</u>	<u>64.1</u>	<u>63.5</u>	<u>75.8</u>	<u>79.0</u>	<u>82.7</u>	<u>74.1</u>
30	Diffusion tube	95	56	<u>68.1</u>	<u>68.6</u>	59.1	<u>64.6</u>	<u>62.5</u>	58.6	52.6
33A	Diffusion tube	96	56	N/A	N/A	22.2	24.7	26.3	26.1	22.9
41	Diffusion tube	95	55	<u>61.0</u>	57.8	57.8	<u>61.6</u>	57.6	<u>65.7</u>	<u>60.7</u>
48	Diffusion tube	82	48	<u>74.0</u>	<u>65.7</u>	<u>69.3</u>	<u>76.6</u>	<u>70.5</u>	<u>63.1</u>	56.5
52	Diffusion tube	95	56	<u>81.6</u>	<u>84.2</u>	<u>87.7</u>	<u>102.8</u>	<u>104.1</u>	<u>103.4</u>	<u>87.9</u>
53	Diffusion tube	72	42	N/A	N/A	<u>66.9</u>	<u>66.9</u>	<u>64.4</u>	<u>70.0</u>	<u>66.6</u>
54	Diffusion tube	96	56	N/A	N/A	41.9	49.7	47.0	50.3	47.1
BRT 42	Diffusion tube	96	56	54.0	43.2	43.6	45.1	48.5	47.7	41.8



Site ID	Site type	Valid data capture for monitoring period % <sup>a</sup>	Valid data capture 2015 % <sup>b</sup>	Annual Mean Concentration ( $\mu\text{gm}^{-3}$ )						
				2009 <sup>c</sup>	2010 <sup>c</sup>	2011 <sup>c</sup>	2012 <sup>c</sup>	2013 <sup>c</sup>	2014 <sup>c</sup>	2015 <sup>c</sup>
BRT 43	Diffusion tube	96	56	<b><u>77.7</u></b>	52.2	58.1	<b><u>64.2</u></b>	<b><u>66.9</u></b>	<b><u>72.7</u></b>	<b><u>80.3</u></b>
BRT 53	Diffusion tube	95	56	57.9	46.3	48.1	<b><u>64.8</u></b>	<b><u>75.0</u></b>	<b><u>77.1</u></b>	<b><u>75.7</u></b>
BRT 55	Diffusion tube	96	56	<b><u>76.6</u></b>	<b><u>66.9</u></b>	<b><u>70.6</u></b>	<b><u>76.2</u></b>	<b><u>70.4</u></b>	<b><u>76.2</u></b>	<b><u>73.5</u></b>
BRT 56	Diffusion tube	98	57	<b><u>70.3</u></b>	<b><u>62.5</u></b>	<b><u>66.5</u></b>	<b><u>75.2</u></b>	<b><u>70.1</u></b>	<b><u>67.7</u></b>	56.8
BRT 57	Diffusion tube	95	56	<b><u>84.2</u></b>	<b><u>76.3</u></b>	<b><u>81.6</u></b>	<b><u>100.8</u></b>	<b><u>88.0</u></b>	<b><u>86.2</u></b>	<b><u>85.3</u></b>
BRT 58	Diffusion tube	95	55	<b><u>65.1</u></b>	54.1	<b><u>60.3</u></b>	<b><u>68.2</u></b>	<b><u>65.4</u></b>	<b><u>65.6</u></b>	58.1

Notes: Exceedance of the NO<sub>2</sub> annual mean AQO of 40  $\mu\text{gm}^{-3}$  are shown in **bold**.

NO<sub>2</sub> annual means in excess of 60  $\mu\text{g m}^{-3}$ , indicating a potential exceedance of the NO<sub>2</sub> hourly mean AQS objective are shown in bold and underlined.

<sup>a</sup> data capture for the monitoring period, in cases where monitoring was only carried out for part of the year

<sup>b</sup> 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%)

<sup>c</sup> Arithmetic Means only: Not "annualised" (as per TG16), due to extremely low data capture or unavailability of an appropriate annualisation factor

**Table E. NO<sub>2</sub> Automatic Monitor Results: Comparison with 1-hour Mean Objective**

Site ID	Valid data capture for monitoring period % <sup>a</sup>	Valid data capture 2015 % <sup>b</sup>	Number of Hourly Means > 200 µg <sup>m</sup> <sup>-3</sup>						
			2009 <sup>c</sup>	2010 <sup>c</sup>	2011 <sup>c</sup>	2012 <sup>c</sup>	2013 <sup>c</sup>	2014 <sup>c</sup>	2015 <sup>c</sup>
BT1	Automatic	-	0	0	N/A	N/A	N/A	N/A	N/A
BT4	Automatic	4	8	7	10	<b>32</b>	<b>N/A</b>	10	0
BT5	Automatic	4	3	0	2	0	0	<b>N/A</b>	0
BT6	Automatic	-	8	12	0	0	0	<b>N/A</b>	<b>N/A</b>
BT7	Automatic	-	4	0	N/A	N/A	N/A	N/A	N/A

Notes: Exceedance of the NO<sub>2</sub> short term AQO of 200 µg<sup>m</sup><sup>-3</sup> over the permitted 18 days per year are shown in **bold**.

<sup>a</sup> data capture for the monitoring period, in cases where monitoring was only carried out for part of the year

<sup>b</sup> 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%)

<sup>c</sup> Not “annualised” (as per TG16), due to extremely low data capture or unavailability of an appropriate annualisation factor

**Table F. Annual Mean PM<sub>10</sub> Automatic Monitoring Results ( $\mu\text{g m}^{-3}$ )**

Site ID	Valid data capture for monitoring period % <sup>a</sup>	Valid data capture 2015 % <sup>b</sup>	Annual Mean Concentration ( $\mu\text{g m}^{-3}$ )						
			2009 <sup>c</sup>	2010 <sup>c</sup>	2011 <sup>c</sup>	2012 <sup>c</sup>	2013 <sup>c</sup>	2014 <sup>c</sup>	2015 <sup>c</sup>
BT1	N/A	N/A	18.1	19.3	N/A	N/A	N/A	N/A	N/A
BT4	95	95	32.4	32.6	34.5	32.9	34.1	28.6	29.2
BT5	53	53	36.7	36.1	34.3	32.5	26.5	24.1	31.3
BT6	93	93	23.4	25.7	25.5	24.4	25.3	21.2	16.9
BT7	N/A	N/A	21.1	19.8	N/A	N/A	N/A	N/A	N/A

Notes: Exceedance of the PM<sub>10</sub> annual mean AQO of 40  $\mu\text{g m}^{-3}$  are shown in **bold**.

<sup>a</sup> data capture for the monitoring period, in cases where monitoring was only carried out for part of the year

<sup>b</sup> 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%)

<sup>c</sup> Not "annualised" (as per TG16), due to unavailability of an appropriate annualisation factor

**Table G. PM<sub>10</sub> Automatic Monitor Results: Comparison with 24-Hour Mean Objective**

Site ID	Valid data capture for monitoring period % <sup>a</sup>	Valid data capture 2015 % <sup>b</sup>	Number of Daily Means > 50 µg m <sup>-3</sup>						
			2009 <sup>c</sup>	2010 <sup>c</sup>	2011 <sup>c</sup>	2012 <sup>c</sup>	2013 <sup>c</sup>	2014 <sup>c</sup>	2015 <sup>c</sup>
BT1	N/A	N/A	4	2	N/A	N/A	N/A	N/A	N/A
BT4	95	95	<b>36</b>	31	<b>46</b>	35	<b>38</b>	26	23
BT5	53	53	<b>80</b>	<b>63</b>	<b>62</b>	<b>57</b>	17	5	15
BT6	93	93	7	8	15	11	10	1	1
BT7	N/A	N/A	5	2	N/A	N/A	N/A	N/A	N/A

Notes: Exceedance of the PM<sub>10</sub> short term AQO of 50 µg m<sup>-3</sup> over the permitted 35 days per year or where the 90.4th percentile exceeds 50 µg m<sup>-3</sup> 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.

<sup>a</sup> data capture for the monitoring period, in cases where monitoring was only carried out for part of the year

<sup>b</sup> 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%)

<sup>c</sup> Not “annualised” (as per TG16), due to unavailability of an appropriate annualisation factor

## 2. Action to Improve Air Quality

Table J. Commitment to Cleaner Air Borough Criteria

Theme	Criteria		Achieved (Y/N)	Evidence
<b>1. Political leadership</b>	<b>1.a</b>	Pledged to become a Cleaner Air for London Borough (at cabinet level) by taking significant action to improve local air quality and signing up to specific delivery targets.	Y	<i>No evidence required</i>
	<b>1.b</b>	Provided an up-to-date Air Quality Action Plan (AQAP), fully incorporated into LIP funding and core strategies.	Y	<i>The 2015 AQAP is available online at <a href="https://www.brent.gov.uk/services-for-residents/environment/pollution/air-quality/">https://www.brent.gov.uk/services-for-residents/environment/pollution/air-quality/</a> The AQAP has been incorporated into Brent LIP process and is a key consideration in all existing and emerging local transport policy.</i>
<b>2. Taking action</b>	<b>2.a</b>	Taken decisive action to address air pollution, especially where human exposure and vulnerability (e.g. schools, older people, hospitals etc) is highest.	Y	<i>The council monitors air quality at key locations in the borough including town centres and areas where exposure to poor air quality is greatest. The council responds reactively to complaints about air pollution and uses regulatory enforcement powers where appropriate to address immediate pollution issues.</i>
	<b>2.b</b>	Developed plans for business engagement (including optimising deliveries and supply chain), retrofitting public buildings using the RE:FIT framework, integrating no engine idling awareness raising into the work of civil enforcement officers, (etc)	N	<i>The council will consider measures to address this in the next air quality action plan.</i>
	<b>2.c</b>	Integrated transport and air quality, including by improving traffic flows on borough roads to reduce stop/start conditions	Y	<i>The impacts of air pollution are a key consideration in our transport strategies (both current and long term) and actions outlined in both aim to reduce congestion and improve traffic flows. In addition, the Brent Council considers air quality impacts of proposed schemes as standard practice. The council promotes active travel including the provision of free cycle training, a healthy walks programme, Bike it Plus and Walk and Stride</i>

				<i>programmes for schools. The use and promotion of local car clubs is also a significant contributor to improvement of traffic flows.</i>
	<b>2.d</b>	Made additional resources available to improve local air quality, including by pooling its collective resources (s106 funding, LIPs, parking revenue, etc).	Y	<i>The council utilises funds from s106 and the LIP to finance local air quality monitoring and the implementation of the air quality action plan.</i>
<b>3. Leading by example</b>	<b>3.a</b>	Invested sufficient resources to complement and drive action from others	Y	<i>The council currently employs 1 FTE equivalent responsible for air quality action and monitoring. We are members of the West London Air Quality Group and use this forum to share best practice and information.  The council provides air quality information and guidance to developers and other commercial operators to limit local air quality impacts. The council takes enforcement action such as the service of abatement notice and conducts regular inspections of polluting premises to secure legal compliance.</i>
	<b>3.b</b>	Maintained an appropriate monitoring network so that air quality impacts within the borough can be properly understood	Y	<i>The council has maintained continuous AQ monitors and a network of non-continuous monitors since 2001. We have maintained our membership of the London Air Quality Network annually throughout this time to ensure ready access to current air quality information is available to the public.  All existing AQ monitors are now subject o a programme of upgrade and additional resources made available for the provision of future monitoring</i>
	<b>3.c</b>	Reduced emissions from council operations, including from buildings, vehicles and all activities.	Y	<i>Our Civic Centre is officially recognised as the greenest public building in the UK, through its BREEAM Outstanding accreditation. Further details of the sustainable elements of the centre can be found <a href="#">here</a>  The council encourages all visitors to use public transport to visit our offices and parking is limited to promote this aim. The council operates a car club from the building which permits staff access to low emission vehicles for essential journeys.</i>

				<i>The council operations are based in contribute to council savings of £2.5m a year,</i>
	<b>3.d</b>	Adopted a procurement code which reduces emissions from its own and its suppliers activities, including from buildings and vehicles operated by and on their behalf (e.g. rubbish trucks).	<i>N</i>	<i>The council will consider measures to address this in the next air quality action plan.</i>
<b>4. Using the planning system</b>	<b>4.a</b>	Fully implemented the Mayor's policies relating to air quality neutral, combined heat and power and biomass.	<i>Y</i>	<i>Require all approved planning applications meet the Mayor's requirements relating to AQ neutral and CHPs</i>
	<b>4.b</b>	Collected s106 from new developments to ensure air quality neutral development, <b>where possible</b>	<i>Y</i>	<i>The council has obtained funds for implementation of the air quality action plan via s106.</i>
	<b>4.c</b>	Provided additional enforcement of construction and demolition guidance, with regular checks on medium and high risk building sites.	<i>N</i>	<i>We have joined the London Low Emission Construction Partnership.</i>
<b>5. Integrating air quality into the public health system</b>	<b>5</b>	Included air quality in the borough's Health and Wellbeing Strategy and/or the Joint Strategic Needs Assessment	<i>N</i>	<i>Air quality is a key theme in our previous JSNA. Work is underway to update our Health and Well being Strategy.</i>
<b>6. Informing the public</b>	<b>6.a</b>	Raised awareness about air quality locally	<i>Y</i>	<i>The council attends residents meetings to raise local awareness of air quality issues and action. The council promotes the use of Airtext and appropriate journey planning apps to assist residents to walk and cycle.</i>  <i>The council ensures air quality impacts are communicated when promoting initiatives such as Walk and Stride and during public consultation of key documents such as the Cycling strategy and Long Term Transport Strategy.</i>  <i>The council publishes information about air quality on our website.</i>

## 2.1 Air Quality Action Plan Progress

Table K provides a brief summary of London Borough of Brent's progress against the Air Quality Action Plan, showing progress made this year.

**Table K. Delivery of Air Quality Action Plan Measures**

<b>Measure</b>	<b>Action</b>	<b>Progress to date</b>	<b>Next Steps</b>
Monitor key air pollutants throughout the Borough	The council continues to operate 3 continuous monitoring stations in town centre locations as well as deploying diffusion tubes for non-continuous monitoring at 25 roadside or kerbside locations.	<p>The council reviews its programme for non-continuous monitoring annually. No changes were made to diffusion tube locations in 2015.</p> <p>The data capture rate for continuous monitoring was poor in 2015 across the network and upgrade of analysers required.</p>	<p>The council will continue to maintain and upgrade its continuous monitors and aims for a significant improvement in the data capture rate.</p> <p>The council will review its programme for non-continuous monitoring.</p>



<b>Measure</b>	<b>Action</b>	<b>Progress to date</b>	<b>Next Steps</b>
Reduce emissions to air from industrial installations and waste facilities	The council regulates some polluting processes via the Environmental Permitting Regime. The council ensures that local emissions from waste facilities are minimised and undertakes joint inspections of facilities where appropriate.	The council has undertaken 90% of inspections of those scheduled.  The council has investigated 20 complaints made in respect of emissions from waste facilities or industrial installations in 2015.	Complaints made to the council in respect of pollution and emissions will be investigated as they are received.  The council will continue to participate in consultations for new Waste Transfer Stations, monitoring the impacts of existing stations where appropriate and actively resists applications likely to contribute significantly to poor local air quality.  This is ongoing and subject to annual review.
Implement all feasible options for reducing the impacts of idling engines from commercial and domestic vehicles	The council investigates complaints received regarding idling and may issue fixed penalty notices for non-compliance.	The council reactively investigated complaints received about idling. No fixed penalty notices were served for idling in 2015.	The council will implement a no-idling campaign to raise awareness of the impacts of idling on local air quality.

<b>Measure</b>	<b>Action</b>	<b>Progress to date</b>	<b>Next Steps</b>
Review all new planning applications for potential air quality impacts and implement controls to limit impacts	The council reviews applications for new development or changes to existing developments that might have a negative environmental impact	In 2015 the council reviewed 577 planning applications with specific regard to their potential impacts on local air quality. Where appropriate controls are implemented to ensure that development is air quality neutral.	This is ongoing and subject to annual review.
Implement measures to restrict the burning of waste	<p>The council reactively responds to complaints regarding unauthorised burning on trade premises or nuisance from residential bonfires.</p> <p>The council also enforces illegal burning in smoke control areas</p>	<p>The council actively discourages the domestic burning of waste and provides alternatives such as green waste collection service.</p> <p>The council dealt with 200 complaints regarding nuisance from the burning of waste in 2015.</p>	This is ongoing and subject to annual review.

Measure	Action	Progress to date	Next Steps
Work with West London Partners to reduce emissions regionally	The council works with West London Air Quality Cluster Group (WLAQCG) members (Ealing, Hammersmith and Fulham, Hounslow, Hillingdon, Richmond, Harrow and Westtrans) to share best practice and coordinate air quality action in West London	WestTrans in partnership with the West London Air Quality Cluster Group (WLAQCG) successfully bid for the Mayor's Air Quality Fund in 2014/15 which was used to develop a sub regional freight strategy, travel demand management for key trip generators and a mapping template for low pollution routes across West London.	Further promote and develop an air quality communications strategy action across West London.  Develop a regional Air Quality Strategy
Raise awareness, engage and educate stakeholders and residents about air quality issues	The council actively engages stakeholders and residents.	The council provides air quality information on request to developers, residents and other interested parties.  The council provides information about local air quality action plan progress via our website.  The council continues to promote Airtext via our website.	The council will develop a communications strategy to complement the review of the air quality action plan.  The council will work more closely with residents to promote air quality action.

Measure	Action	Progress to date	Next Steps
<p>Support Mayoral, Government and EU initiatives to achieve emission reductions in the Borough</p>	<p>The council acts in compliance with regional or national air quality action.</p>	<p>The council is compliant with its Local Air Quality Management (LAQM) responsibilities and continues to review and assess local air quality in accordance with the requirements.</p> <p>The council was actively involved in the LAQM review process and has responded to Mayoral and Government consultations relating to air quality action.</p>	<p>The council will continue to comply with regional or national air quality action.</p> <p>The council will continue to give regard to London-wide policies such as the London Plan in consideration of air quality impacts and action associated with new development, traffic and transport and other potential emissions sources.</p>
<p>Support the Council's aim to place Green Travel and sustainable transport at the top of the corporate agenda</p> <p>Increase car to non-car (walking and cycling) modal shift</p>	<p>Achieve walking modal share of 31.40% and cycling of 1.05%</p>	<p>The council published its Long Term Transport Strategy in 2015 and 2 core objectives are to increase the uptake of sustainable and active modes of transport such as cycling and walking and reduce exposure to pollution generated by the Brent transport network.</p> <p>The council updated its Parking Strategy in 2015 which includes details of differential parking permits based on vehicle emissions ensuring those that drive the most polluting vehicles pay more.</p>	<p>The council recently published its Cycling Strategy and is in the process of developing a Walking Strategy.</p>

<b>Measure</b>	<b>Action</b>	<b>Progress to date</b>	<b>Next Steps</b>
Integrate local air quality improvements into Borough public health plan	Review core measures in emerging strategies and quantify potential benefits of air quality actions in areas targeted	Local air quality impacts considered in relation to the Borough's Joint Strategic Needs Assessment.	This is subject to regular review and the council will update the Health and Wellbeing Strategy to include air quality.
Increase the number of suitable tree species planted in new developments		The council currently uses a list of suitable species (as outlined in the existing Tree Strategy) in the consideration of the re-provision of trees as well as for those proposed in new developments. This includes a targeted programme for planting and future maintenance. The council has implemented an Adopt-a-Tree programme to encourage residents' involvement in local tree provision.	Further work is proposed which will align future programmes with areas of significant deficiency.

<b>Measure</b>	<b>Action</b>	<b>Progress to date</b>	<b>Next Steps</b>
<p>Develop a cohesive strategy for biomass installations and achieve 20% carbon reduction from renewables.</p> <p>Implement measures to reduce carbon emissions in accordance with Council Carbon Strategies</p>	<p>The council's carbon management strategy focusses on carbon reduction via energy efficiency and management in council buildings.</p> <p>The council will devise a Strategy for determination of applications for biomass and similar installations.</p>	<p>Further work will then be needed to identify options for carbon reduction for renewables. It is likely that this will result in the provision of a more achievable carbon reduction target.</p>	<p>A revised target will be incorporated into the revised action plan.</p>
<p>Update the Sustainable Development Checklist to reflect the Borough's commitment to reducing the environmental impact of new development</p>	<p>Quantify reduction in air pollution secured by implementation of the Checklist</p>	<p>Further work is needed to quantify the reduction in air pollution achieved.</p>	<p>The checklist was incorporated into a supplementary planning guide that will be subject to review in 2016.</p>
<p>Set carbon and nitrogen dioxide reduction targets for regeneration schemes</p>	<p>Published guidance</p> <p>Reduction targets are set for carbon and nitrogen dioxide</p>	<p>The original target date set at Mar 2015.</p> <p>The council is currently working on enhanced guidance for developers to facilitate this. Further work is needed to establish practical and achievable reduction targets.</p>	<p>Compliance monitoring following revision of reduction target</p>

Measure	Action	Progress to date	Next Steps
Review planning policies to safeguard against environmental impacts of new and existing Waste Transfer Stations	<p>Protocol set up for joint approach to monitoring impacts of waste facilities</p> <p>New waste transfer facilities are monitored and appropriately located</p>	No progress in 2015.	
Install electric charging points at strategic locations in Brent	Count, number of points installed	<p>The council currently operates a network of 57 charging points.</p> <p>The council provides a reduction on resident's permits for electric vehicles to promote take-up.</p>	The council is in the process of reviewing the provision of electric vehicle charging points including investigating options for partner providers and increasing the network.
Facilitate the delivery of new car clubs in the borough	Facilitate take-up and use via planning and transport policy	<p>Provision of car clubs considered for eligible and appropriate new development schemes or through negotiation with providers for on-street bays</p> <p>Council car club (Zip car) provides option for use of low emission vehicles.</p>	The Long Term Transport Strategy includes a commitment to create a Car Club Management Plan to provide a framework for additional car clubs.

Measure	Action	Progress to date	Next Steps
Work with Brent businesses to achieve 10% emissions reductions from their core operations	Work with Brent Businesses to determine local baselines and measures required to secure reduction	No progress in 2015	Council will include this as an action in the new air quality action plan.
<p>Secure a 20% decrease of energy use in Council housing stock and 25% reduction in emissions arising from Council service delivery</p> <p>Reduce use of fossil fuels in council buildings</p>	<p>The councils Carbon Management Programme aims to achieve a target of 15 per cent total reduction of carbon generated by council activities.</p> <p>Secure target reduction council energy derived from fossil fuels</p>	<p>The councils total carbon footprint has reduced by 11.3 per cent.</p> <p>The council has reduced CO<sub>2</sub> emissions by 1605 tonnes to 12,585 in 2015/16,</p>	The council is aiming to achieve a target of 15 per cent total reduction via an ongoing programme of streetlight replacement, reducing energy use in council buildings and retrofitting some buildings to improve energy efficiency.
Secure 10% reduction in nitrogen dioxide, particulates and carbon dioxide from major commercial fleet operators in Brent	Determine baseline for fleet operators selected	No progress in 2015	Council will review this measure and include in the new air quality action plan.



<b>Measure</b>	<b>Action</b>	<b>Progress to date</b>	<b>Next Steps</b>
Lobby government to raise awareness of challenges to implementing waste licensing controls whilst achieving National Air Quality targets	Work with Stakeholders/ Partners to identify key issues relating to emissions controls	Worked in Partnership with the Environment Agency to address issues relating to air quality impacts from waste sites in Brent. Need for this measure reviewed in 2015 and no further action required.	No further action.

### **3. Planning Update and Other New Sources of Emissions**

#### **3.1 *New or significantly changed industrial or other sources***

*No new sources identified*

## **Appendix A Details of Monitoring Site QA/QC**

### ***A.1 Automatic Monitoring Sites***

QA/QC for Brent's automatic monitoring stations is provided by ERG King's College London. These stations are calibrated fortnightly by LSO, with audits every 6 months. Calibrations are carried out by the Local Authority. Audits are carried out by the National Physics Laboratory and are UKAS accredited.

### ***A.2 Diffusion Tube Quality Assurance / Quality Control***

### ***A.3 Adjustments to the Ratified Monitoring Data***

#### **Short-term to Long-term Data Adjustment**

A final measurement data set was produced by King's College following retrospective ratification of the measurements using procedures which exceed the requirements given by LAQM TG09 (DEFRA, 2009). During ratification, information from regular calibrations, audits and daily manual validation were used to establish an operational and calibration history of the instruments. The pollution measurements were then corrected to establish traceability to National Meteorological Standards. Details of the monitoring site and the final dataset can be found at [www.londonair.org.uk](http://www.londonair.org.uk).

**Appendix B Full Monthly Diffusion Tube Results for 2015**

**Table N. NO<sub>2</sub> Diffusion Tube Results**

Site ID	Valid data capture for monitoring period % <sup>a</sup>	Valid data capture 2015 % <sup>b</sup>	Annual Mean NO <sub>2</sub>													Annual mean – raw data <sup>c</sup>	Annual mean – bias adjusted <sup>c</sup>
			Jan	Feb	March	Apr	May	June	Jul	Aug	Sept	Oct	Nov	Dec			
1	85	50	42.3							42.7	42.2	46.9	40.8	49.7	<b>44.1</b>	<b>40.1</b>	
2	95	55	47.7						41.6	49.0	39.9	44.2	41.5	56.8	<b>45.8</b>	<b>41.7</b>	
4	96	56	42.6						40.3	49.2	42.9	55.7	40.7	38.5	<b>44.3</b>	<b>40.3</b>	
7	95	56	64.2						66.1	75.0	62.4	74.6	73.9	63.0	<b>68.5</b>	<b>62.3</b>	
9	96	56	55.8						53.4	57.2	43.7	53.6	45.7	54.2	<b>51.9</b>	<b>47.3</b>	
17	96	56	60.1						63.4	69.8	46.3	60.9	68.4	57.1	<b>60.8</b>	<b>55.4</b>	
21A	95	56	54.9						51.0	58.9	41.1	60.5	46.6	61.7	<b>53.5</b>	<b>48.7</b>	
22	95	56	62.7						68.8	68.0	59.2	71.4	55.4	50.9	<b>62.3</b>	<b>56.7</b>	
23	96	56	105.8						111.0	124.9	81.3	100.2	92.8	100.8	<b>102.4</b>	<b>93.2</b>	
26	85	50	62.9							83.3	56.7	88.9	66.9	62.3	<b>70.2</b>	<b>63.9</b>	
29	85	50	74.1							98.8	56.2	88.5	73.5	97.2	<b>81.4</b>	<b>74.1</b>	
30	95	56	49.4						59.4	63.6	45.8	71.9	56.1	58.2	<b>57.8</b>	<b>52.6</b>	
41	96	56	62.6						69.9	73.0	50.8	69.1	66.8	74.7	<b>66.7</b>	<b>60.7</b>	
48	95	55	71.8						57.4	65.1	55.0	70.1	54.1	61.3	<b>62.1</b>	<b>56.5</b>	
53	82	48	56.4						74.4	83.9	53.3	64.9		106.5	<b>73.2</b>	<b>66.6</b>	
54	95	56	50.1						46.3	56.5	41.5	51.1	55.3	61.4	<b>51.8</b>	<b>47.1</b>	

Site ID	Valid data capture for monitoring period % <sup>a</sup>	Valid data capture 2015 % <sup>b</sup>	Annual Mean NO <sub>2</sub>													Annual mean – raw data <sup>c</sup>	Annual mean – bias adjusted <sub>c</sub>
			Jan	Feb	March	Apr	May	June	Jul	Aug	Sept	Oct	Nov	Dec			
33A	72	42	25.7								21.1	28.1	26.4	24.5	25.1	22.9	
52 A	96	56	91.6						110.0	112.9	85.2	105.9	84.1	91.1	<b>97.2</b>	<b>88.5</b>	
52 B	96	56	89.4						102.6	116.3	81.8	108.0	81.0	98.9	<b>96.9</b>	<b>88.1</b>	
52 C	96	56	89.5						105.0	113.2	79.2	106.4	85.5	89.9	<b>95.5</b>	<b>86.9</b>	
BRT 42	95	56	39.7						39.8	47.4	42.0	57.5	49.2	45.7	<b>45.9</b>	<b>41.8</b>	
BRT 43	96	56	63.5						118.2	100.9	87.3	83.3	76.5	87.6	<b>88.2</b>	<b>80.3</b>	
BRT 53	98	57	62.0						103.0	99.9	68.9	87.0	84.6	76.5	<b>83.1</b>	<b>75.7</b>	
BRT 55	95	56	71.9						82.6	89.6	79.0	92.7	76.4	73.2	<b>80.8</b>	<b>73.5</b>	
BRT 56	95	55	62.6						59.1	72.3	54.5	68.1	55.4	65.0	<b>62.4</b>	<b>56.8</b>	
BRT 57	95	56	85.6						91.3	102.4	70.2	77.6	132.8	96.1	<b>93.7</b>	<b>85.3</b>	
BRT 58	79	46	59.9						67.9	66.2		66.0	60.2	62.6	<b>63.8</b>	<b>58.1</b>	

Exceedance of the NO<sub>2</sub> annual mean AQO of 40 µg m<sup>-3</sup> are shown in **bold**.

<sup>a</sup> data capture for the monitoring period, in cases where monitoring was only carried out for part of the year

<sup>b</sup> 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%)

<sup>c</sup> Means should be “annualised” in accordance with LLAQM Technical Guidance, if valid data capture is less than 75%