London Borough of Brent Air Quality Annual Status Report for 2022

Date of publication: 31 May 2023

This report provides a detailed overview of air quality in London Borough of Brent during 2022. It has been produced to meet the requirements of the London Local Air Quality Management (LLAQM) statutory process[1].

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[1] LLAQM Policy and Technical Guidance 2019 (LLAQM.TG(19))

Contents

Tables

Figures

Abbreviations

Abbreviation	Description
AQAP	Air Quality Action Plan
AQMA	Air Quality Management Area
AQO	Air Quality Objective
BEB	Buildings Emission Benchmark
CAB	Cleaner Air Borough
EV	Electric Vehicle
GLA	Greater London Authority
LAEI	London Atmospheric Emissions Inventory
LAQM	Local Air Quality Management
LBB	London Borough of Brent
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
TEOM	Tapered Element Oscillating Microbalances
TfL	Transport for London
WHO	World Health Organisation

Table A. Summary of National Air Quality Standards and Objectives

Pollutant	Standard / Objective (UK)	Averaging Period	Date[(1)]
Nitrogen dioxide (NO_2)	200 µg m^{-3} not to be exceeded more than 18 times a year	1-hour mean	31 Dec 2005
Nitrogen dioxide (NO_2)	40 µg m^{-3}	Annual mean	31 Dec 2005
Particles (PM_{10})	50 µg m^{-3} not to be exceeded more than 35 times a year	24-hour mean	31 Dec 2004
Particles (PM_{10})	40 µg m^{-3}	Annual mean	31 Dec 2004
Particles ($PM_{2.5}$)	20 µg m^{-3}	Annual mean	2020
Particles ($PM_{2.5}$)	Target of 15% reduction in concentration at urban background locations	3-year mean	Between 2010 and 2021
Sulphur dioxide (SO_2)	266 µg m^{-3} not to be exceeded more than 35 times a year	15-minute mean	31 Dec 2005
Sulphur dioxide (SO_2)	350 µg m^{-3} not to be exceeded more than 24 times a year	1-hour mean	31 Dec 2004
Sulphur dioxide (SO_2)	125 µg m^{-3} mot to be exceeded more than 3 times a year	24-hour mean	31 Dec 2004

Notes:

(1) Date by which to be achieved by and maintained thereafter

1. Air Quality Monitoring

The London Borough of Brent operates three automatic monitoring stations at roadside (R) sites (BT4, BT6 and BT8) and one at an industrial (I) site (BT5). The IKEA site (BT4) measures NO_2, PM_{10} (by continuous Beta-attenuation Particulate

Monitor (BAM)) and $PM_{2.5}$ (by BAM); the Neasden Lane site (BT5) measures NO_2 and PM_{10} (by Tapered Element Oscillating Microbalances (TEOM)); the John Keble Primary School site (BT6) measures NO_2 and PM_{10} (by TEOM); and Ark Franklin Primary Academy site (BT8) measures NO_2, PM_{10} and $PM_{2.5}$ (both by TEOM). All monitoring sites are within the Council's Air Quality Management Area (AQMA). The LB of Brent monitors annual mean NO_2 concentrations using passive diffusion tubes at 45 sites throughout the Borough. In 2022, diffusion tubes were setup to include 43 roadside locations and 2 background locations (site ID 33A and 71).

1.1 Locations

Table B. Details of Automatic Monitoring Sites for 2022

Site ID	Site Name	X (m)	Y (m)	Site Type	In AQMA? If so, which AQMA?	Distance to Relevant Exposure (m)	Distance to Kerb of Nearest Road (N/A if not applicable) (m)	Inlet height (m)	Pollutants monitored	Monitoring technique
BT4	IKEA	520866	185169	Roadside	Y	38	3.7	1.6	NO_2, PM_{10}, $PM_{2.5}$, O_3	Chemiluminescent; TEOM
BT5	Neasden Lane	521511	185204	Industrial	Y	35	4	2.5	NO_2, PM_{10}	Chemiluminescent, TEOM
BT6	John Keble Primary School	521619	183554	Roadside	Y	10	2	2.5	NO_2, PM_{10}	Chemiluminescent, TEOM
BT8	Ark Franklin Primary Academy	523716	183030	Roadside	Y	10	3.3	2.5	NO_2, PM_{10}, $PM_{2.5}$	Chemiluminescent, TEOM

Table C. Details of Non-Automatic Monitoring Sites for 2022

Site ID	Site Name	X (m)	Y (m)	Site Type	In AQMA? If so, which AQMA?	Distance 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)
1	Junc. Kenton Rd/Upton Gds	516929	188560	Roadside	Y	15	2	1.5	NO_2	N
2	Harrow Rd/Sudbury Court Drive	515793	186042	Roadside	N	10	1	1.5	NO_2	N
4	Junc. Shaftsbury Ave/Woodcock Hill	518240	187747	Roadside	N	6	1	1.5	NO_2	N
7	Junc. Bridgewater Rd/Ealing Rd	517942	183721	Roadside	Y	17	2	1.5	NO_2	N
9	Junc. East Lane/Wembley Hill Rd	518499	186168	Roadside	Y	20	2	1.5	NO_2	N
17	Junc. Old Church Lane/Neasden Lane	520480	186537	Roadside	Y	4	1	1.5	NO_2	N
21a	Central Way, Park Royal	520077	182853	Roadside	Y	4	1	1.5	NO_2	N
22	Junc. Kingsbury Rd/Edgware Rd	521447	188730	Roadside	Y	5	1	1.5	NO_2	N
23	Junc. North Circular Rd/Chartley Ave	521213	186125	Roadside	Y	10	2	1.5	NO_2	N

Site ID	Site Name	X (m)	Y (m)	Site Type	In AQMA? If so, which AQMA?	Distance 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)
26	Junc. Dudden Hill Lane/High Rd	522191	184821	Roadside	Y	19	1	1.5	NO_2	N
29	Junc. Dollis Hill Lane/Cricklewood B/W	523191	186571	Roadside	Y	12	1	1.5	NO_2	N
30	Chichele Rd near Melrose Ave	523663	185353	Roadside	Y	10	1	1.5	NO_2	N
33a	Fryent Country Park	519572	187691	UrbanBG	Y	50	1	1.5	NO_2	N
41	R/O 246 Neasden Lane	521455	185920	Roadside	Y	3	4	1.5	NO_2	N
48	Kilburn Park Rd Junc. Shirland Rd	525196	182517	Roadside	Y	2	1	1.5	NO_2	N
52	IKEA hut North Circular Rd	520874	185173	Roadside	Y	10	3.7	1.5	NO_2	Y
53	Junc. Ealing Rd/High Road	518026	185028	Roadside	Y	15	1	1.5	NO_2	N
54	Junc. Ealing Rd/Riverside Gds	518236	183207	Roadside	Y	4	1	1.5	NO_2	N
60	Junc. Bridge Rd/Forty Ave	519475	186557	Roadside	Y	35	1	2	NO_2	N
61	Forty Lane F/O Old Brent Town hall			Roadside	Y	40	1	2	NO_2	N

Site ID	Site Name	X (m)	Y (m)	Site Type	In AQMA? If so, which AQMA?	Distance 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)
62	Junc. Kings Drive/Forty Lane	519667	186604	Roadside	Y	40	1	2.5	NO_2	N
63	King's Drive opp no 37	519703	187007	Roadside	N	7	1	2.5	NO_2	N
64	The Paddocks opp no 9	519824	186715	Roadside	Y	20	1	2.1	NO_2	N
65	Junc. Aybone Rd/ 517 NCR	521313	186529	Roadside	Y	7	1	2.2	NO_2	N
66	Junc. Heather Rd/Tanfield Ave	521912	186514	Roadside	Y	20	1	2.1	NO_2	N
67	Dawport Road f/o 24	521651	186611	Roadside	Y	5	1	2.1	NO_2	N
68	Junc. Randall Ave/next to 730 NCR	521448	186626	Roadside	Y	5	1	2.5	NO_2	N
69	F/O 65 Wrentham Ave	523782	183527	Roadside	Y	8	1	2.1	NO_2	N
70	Junc. Peploe Rd / f/o 72 Chevening Rd	523828	183338	Roadside	Y	5	1	2.1	NO_2	N
71	Queens Park rec area on CCTV post	524179	183232	UrbanBG	Y	25	45	2.1	NO_2	N
72	f/o 139 Harvist Road	524142	183120	Roadside	Y	5	1	2.1	NO_2	N

Site ID	Site Name	X (m)	Y (m)	Site Type	In AQMA? If so, which AQMA?	Distance 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)
73	Jct Harvist Rd/Salisbury Rd opp Police St	524607	183267	Roadside	Y	3	1	2.1	NO_2	N
74	Jct Salisbury Rd/Chevening Rd	524283	183882	Roadside	Y	5	3	2.1	NO_2	N
75	Jct Woodcock Hill	517499	187778	Roadside	N	15	3	2.1	NO_2	N
76	Lindsay Dr Jct Branksome Way	518430	188406	Roadside	N	5	1	2.1	NO_2	N
77	Beverly Dr Jct Sandhurst Rd	519100	189827	Roadside	N	11	1	2.1	NO_2	N
78	Jct Harrow Rd/Watford Rd	516721	185478	Roadside	Y	12	2	2.1	NO_2	N
79	Ark Franklin AQ station	523721	183008	Roadside	Y	10	2	1.5	NO_2	Y
BRT42	Police St, Craven Park	521131	183995	Roadside	Y	3	3	1.5	NO_2	N
BRT43	Pitfield Way, North Circular	520242	184541	Roadside	Y	20	2	1.5	NO_2	N
BRT53	High Rd Wembley	518303	185181	Roadside	Y	4	0.5	1.5	NO_2	N
BRT55	High Street Harlesden	521743	183361	Roadside	Y	3	0.5	1.5	NO_2	N
BRT56	Chamberlayne Road	523635	183153	Roadside	Y	15	0.5	1.5	NO_2	N

Site ID	Site Name	X (m)	Y (m)	Site Type	In AQMA? If so, which AQMA?	Distance 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)
BRT57	Kilburn Bridge	525419	183612	Roadside	Y	8	0.5	1.5	NO_2	N
BRT58	51 High Road, Willesden	523031	184655	Roadside	Y	2	0.5	1.5	NO_2	N

1.2 Comparison of Monitoring Results with AQOs

The results presented are after adjustments for “annualisation” and for distance to a location of relevant public exposure (if required), the details of which are described in Appendix A.

Table D. Annual Mean NO_2 Ratified, Bias-adjusted, and “Distance Corrected” Monitoring Results

Site ID	Site type	Valid data capture for monitoring period %[(a)]	Valid data capture 2022 %[(b)]	2016	2017	2018	2019	2020	2021	2022
BT4	Automatic	99.5	99.5	**76.0**	**72.0**	**71.0**	**63.0**	**49.0**	**46.4**	**43.2**
BT5	Automatic	99.6	99.6	**44.0**	**46.0**	*38.0*	*38.0*	29.0	30.0	28.0
BT6	Automatic	99.5	99.5	**45.0**	**45.0**	*39.0*	*37.0*	29.0	28.7	27.7
BT8	Automatic	99.7	99.7	N/A	**54.0**	**46.0**	**41.0**	29.0	31.5	28.6
1	Diffusion Tube	91.8	91.8	**41.1**	*36.2*	LD	30.3	28.4	31.8	27.7
2	Diffusion Tube	91.8	91.8	**51.0**	**41.8**	LD	30.9	27.4	33.9	31.4
4	Diffusion Tube	84.6	84.6	**51.1**	**42.7**	LD	30.8	28.9	30.2	30.9
7	Diffusion Tube	84.6	84.6	**71.6**	**62.8**	LD	*39.5*	29.3	34.8	34.9
9	Diffusion Tube	81.0	81.0	**57.1**	**49.9**	LD	32.8	35.1	28.7	27.7

Site ID	Site type	Valid data capture for monitoring period %[a]	Valid data capture 2022 %[b]	2016	2017	2018	2019	2020	2021	2022
17	Diffusion Tube	92.0	92.0	**67.5**	**55.7**	LD	**42.7**	31.7	33.5	34.1
21a	Diffusion Tube	99.2	99.2	**55.1**	**46.9**	LD	*37.2*	30.6	32.4	30.7
22	Diffusion Tube	91.8	91.8	**65.1**	**58.1**	LD	*38.1*	31.1	*36.1*	35.5
23	Diffusion Tube	90.7	90.7	**115.4**	**93.9**	LD	**59.7**	**44.7**	**45.7**	**41.0**
26	Diffusion Tube	99.2	99.2	**73.7**	**61.9**	LD	30.4	25.8	31.1	33.2
29	Diffusion Tube	99.2	99.2	**86.0**	**55.6**	LD	35.3	26.6	29.3	28.8
30	Diffusion Tube	99.2	99.2	**62.6**	**51.3**	LD	31.2	26.2	29.2	29.6
33a	Diffusion Tube	73.4	73.4	29.1	22.2	LD	24.3	26.0	29.1	27.9
41	Diffusion Tube	99.2	99.2	**74.4**	**60.1**	LD	*39.3*	*39.5*	**46.7**	**43.3**
48	Diffusion Tube	99.2	99.2	**71.6**	**59.9**	LD	**40.6**	30.1	33.3	30.3
52	Diffusion Tube	99.2	99.2	**102.1**	**86.6**	LD	*37.7*	30.3	35.5	34.0
53	Diffusion Tube	84.6	84.6	**83.85**	**68.3**	LD	**44.8**	34.5	**40.6**	*38.9*
54	Diffusion Tube	99.2	99.2	**52.5**	**46.0**	LD	*37.6*	27.1	31.2	30.6

Site ID	Site type	Valid data capture for monitoring period %[a]	Valid data capture 2022 %[b]	2016	2017	2018	2019	2020	2021	2022
60	Diffusion Tube	92.3	92.3	N/A	N/A	LD	30.1	33.1	27.6	26.6
61	Diffusion Tube	99.2	99.2	N/A	N/A	LD	33.7	28.9	31.2	30.1
62	Diffusion Tube	99.2	99.2	N/A	N/A	LD	27.5	26.6	30.4	31.6
63	Diffusion Tube	99.2	99.2	N/A	N/A	LD	26.0	19.0	20.5	20.2
64	Diffusion Tube	99.2	99.2	N/A	N/A	LD	33.5	23.0	28.5	28.0
65	Diffusion Tube	99.2	99.2	N/A	N/A	LD	35.9	33.7	34.2	32.8
66	Diffusion Tube	90.4	90.4	N/A	N/A	LD	34.6	25.3	29.2	28.8
67	Diffusion Tube	90.7	90.7	N/A	N/A	LD	33.4	24.1	26.0	25.7
68	Diffusion Tube	99.2	99.2	N/A	N/A	LD	37.6	32.4	32.5	30.3
69	Diffusion Tube	99.2	99.2	N/A	N/A	LD	34.5	21.6	25.8	24.0
70	Diffusion Tube	91.5	91.5	N/A	N/A	LD	33.0	21.5	23.5	22.8
71	Diffusion Tube	99.2	99.2	N/A	N/A	LD	30.2	20.1	22.8	22.4
72	Diffusion Tube	99.2	99.2	N/A	N/A	LD	35.6	24.9	26.7	25.3

Site ID	Site type	Valid data capture for monitoring period %[a]	Valid data capture 2022 %[b]	2016	2017	2018	2019	2020	2021	2022
73	Diffusion Tube	99.2	99.2	N/A	N/A	LD	34.6	26.0	30.0	28.5
74	Diffusion Tube	99.2	99.2	N/A	N/A	LD	31.4	22.4	26.2	23.7
75	Diffusion Tube	91.8	91.8	N/A	N/A	LD	31.4	19.5	22.7	21.3
76	Diffusion Tube	91.8	91.8	N/A	N/A	LD	25.9	21.8	18.3	18.0
77	Diffusion Tube	91.8	91.8	N/A	N/A	LD	31.2	23.0	24.9	23.3
78	Diffusion Tube	99.2	99.2	N/A	N/A	LD	33.6	30.7	33.2	32.1
79	Diffusion Tube	89.8	89.8	N/A	N/A	LD	34.2	28.6	30.0	27.3
BRT42	Diffusion Tube	99.2	99.2	**49.8**	**42.4**	LD	*37.7*	26.8	30.6	30.9
BRT43	Diffusion Tube	99.2	99.2	**80.7**	**73.7**	LD	**42.6**	35.2	32.6	31.4
BRT53	Diffusion Tube	83.5	83.5	**80.8**	**64.9**	LD	**49.8**	**54.1**	**43.7**	**48.0**
BRT55	Diffusion Tube	82.7	82.7	**91.8**	**76.7**	LD	**67.1**	35.2	**84.7**	**61.9**
BRT56	Diffusion Tube	83.8	83.8	**69.4**	**58.3**	LD	**41.3**	30.0	28.7	34.4
BRT57	Diffusion tube	57.4	57.4	**84.2**	**64.4**	LD	**41.7**	33.8	*39.6*	37.4

Site ID	Site type	Valid data capture for monitoring period %[a]	Valid data capture 2022 %[b]	2016	2017	2018	2019	2020	2021	2022
BRT58	Diffusion Tube	99.2	99.2	**65.7**	**52.7**	LD	**41.7**	35.5	33.8	35.6

Notes:

The annual mean concentrations are presented as µg m^{-3}.

Exceedances of the NO_2 annual mean AQO of 40 µg m^{-3} are shown in **bold**.

NO_2 annual means in excess of 60 µg m^{-3}, indicating a potential exceedance of the NO_2 hourly mean AQS objective are shown in **bold and underlined**.

Means for diffusion tubes have been corrected for bias.

All means have been "annualised" in accordance with LLAQM Technical Guidance if valid data capture for the calendar year is less than 75% and greater than 25%.

Results have been distance corrected where applicable, to represent a location of relevant public exposure, **since 2019. Please see Table O for annual concentrations at the diffusion tube location.**

(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%).

1.3 Discussion on NO2 Annual Mean Concentrations

Automatic Monitoring Stations

The automatic monitoring stations have measured, on average, a decrease of 39% in the annual mean concentration of NO_2 since 2016, and a decrease of 28% since 2019. Site location BT4 (Ikea, North Circular) remains in exceedance of the NO_2 annual mean AQO of 40 µg m^{-3} at 43.2 µg m^{-3}. In 2022, BT5, BT6 and BT8 were below the WHO interim 2 guideline[2] of 30 µg m^{-3}.

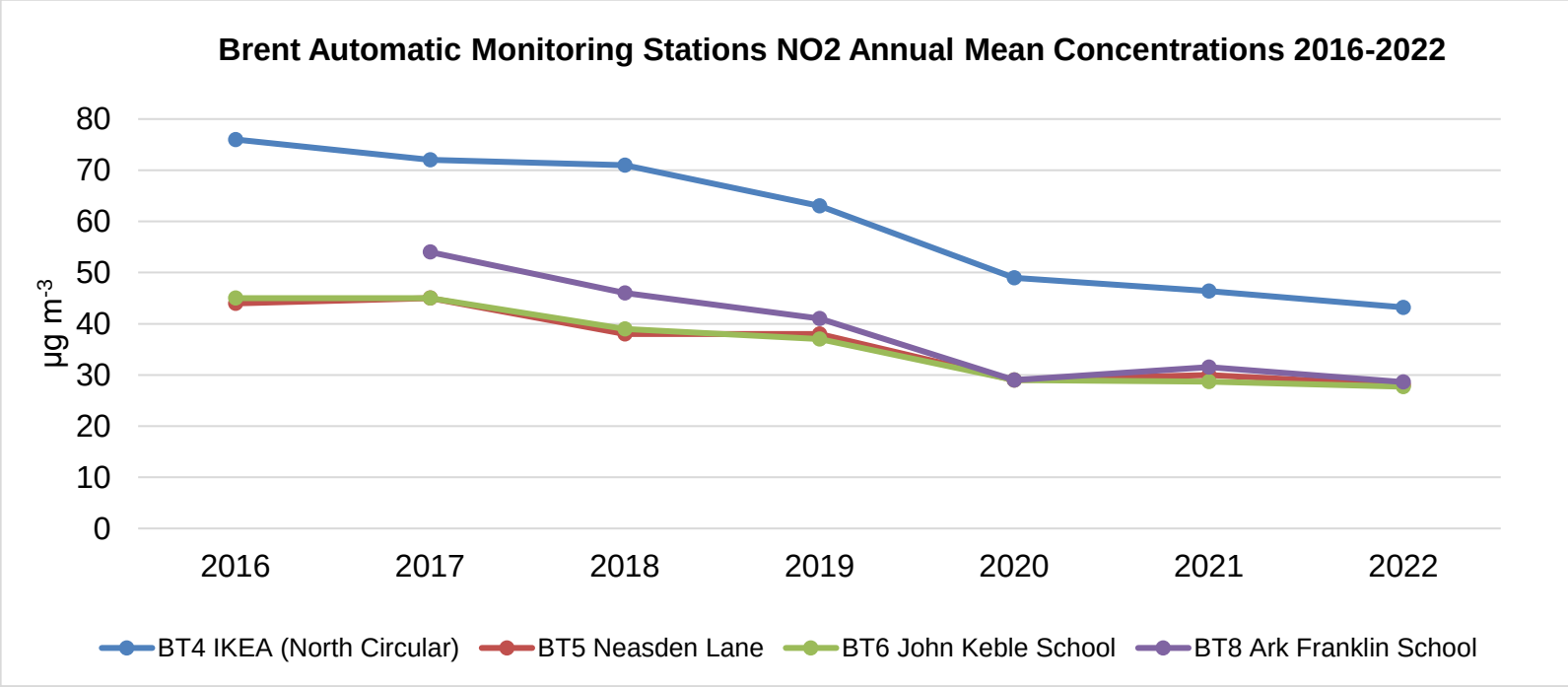

Figure 1. Graph showing trend of annual mean concentrations for nitrogen dioxide from 2016-2022

[2] WHO global air quality guidelines

Diffusion Tube Data Discussion

Table D shows that, since 2019, NO_2 annual mean concentrations have decreased at the majority of sites across the borough, with the exception of six locations:

- 2 (Harrow Road, Sudbury Court Drive), 4 (Junction of Shaftesbury Avenue / Woodcock Hill), 26 (Dudden Hill Lane junction with High Road), 33a (Fryent Country Park), 41 (R/O 246 Neasden Lane), 62 (Junction of Kings Drive/Forty Lane).

Once distance to a relevant exposure has been considered, there are still five sites in 2022 which are in exceedance of the NO_2 annual mean AQO of 40 µg m^{-3}; these are: BT4 (Ikea, North Circular), 23 (Junction North Circular Road / Chartley Avenue), 41 (R/O 246 Neasden Lane), BRT53 (Wembley High Road), and BRT55 (Harlesden High Street). This compares with twelve sites in 2019.

When considering concentrations at the specific location of the diffusion tube (see Table O), in 2022 there are twelve locations which are in exceedance of the NO_2 annual mean AQO of 40 µg m^{-3} which has decreased from twenty-seven locations in 2019. The additional sites in exceedance of this AQO are 7 (Bridgewater Road / Ealing Road), 17 (Old Church Lane junction with Neasden Lane), 53 (Junction Ealing Road / High Road), 60 (Junction of Bridge Road/Forty Avenue), 61 (Forty Lane, F/O Old Brent Town Hall), BRT43 (Pitfield Way, North Circular), BRT57(Kilburn Bridge).

The diffusion tube data highlights that, despite a decrease in NO_2 annual mean concentrations since 2019, the highest levels of pollution in the borough are recorded in Harlesden High Street (ID BRT55). A spike in pollutant levels was experienced at this site in 2021. The main source of pollutants in this area is road traffic. LBB has conducted a study into Heavy Goods Vehicles routing through the high street and is also partnering with TfL who are consulting on the delivery of a cycle route between Harlesden station and Wembley Central station.

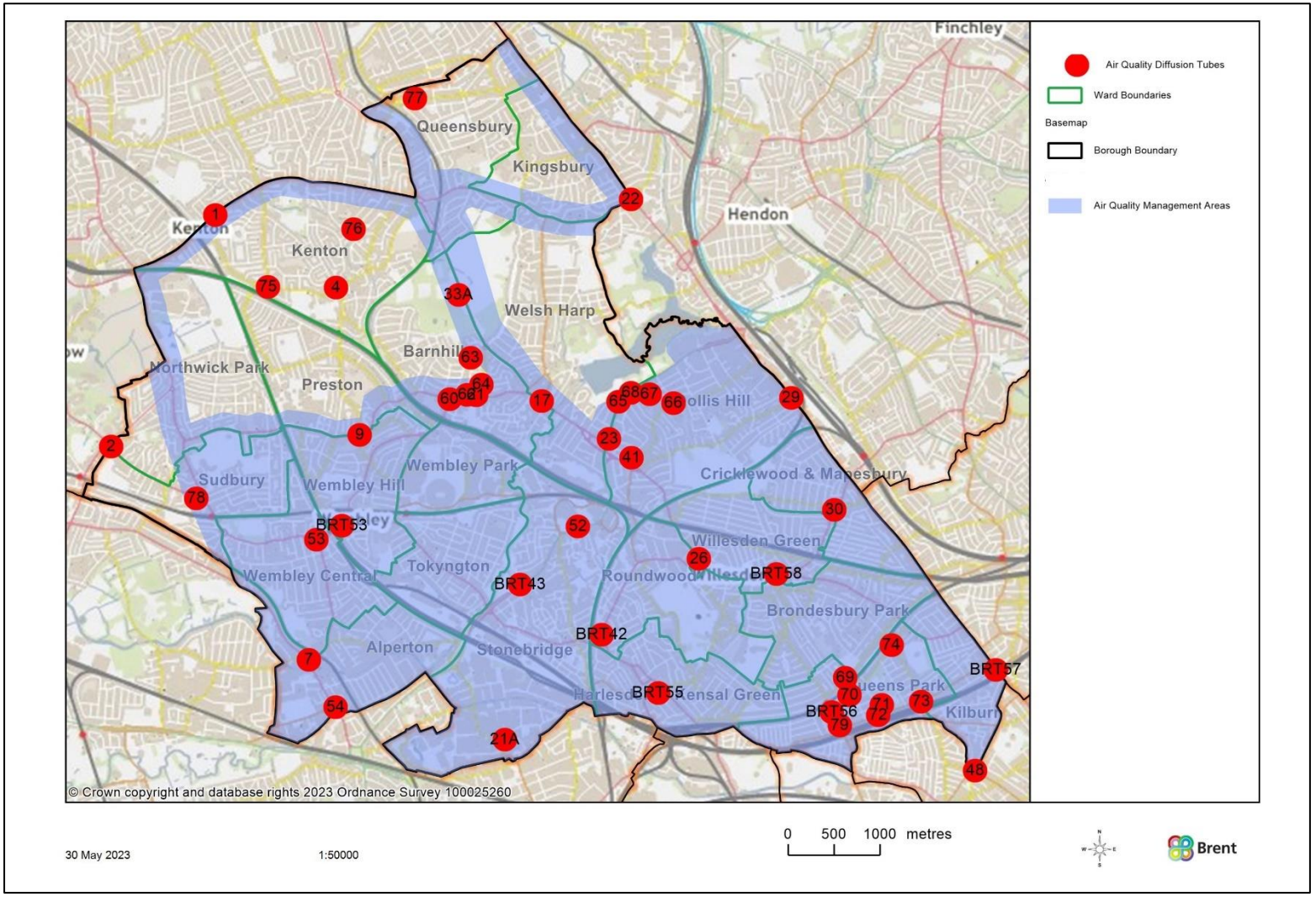

Figure 2. Map showing LBB Diffusion tube network locations and AQMA boundary in blue

Table E. NO_2 Automatic Monitoring Results: Comparison with 1-hour Mean Objective, Number of 1-Hour Means > 200 µg m^{-3}

Site ID	Valid data capture for monitoring period %([a])	Valid data capture 2022 %([b])	2016	2017	2018	2019	2020	2021	2022
BT4	99.5	99.5	**33**	**33**	1	9	0	2	0
BT5	99.6	99.6	**25**	17	1	2	0	0	0
BT6	99.5	99.5	0	0	0	0	0	0	0
BT8	99.7	99.7	N/A	0	0	0	0	0	0

Notes

Results are presented as the number of 1-hour periods where concentrations greater than 200 µg m^{-3} have been recorded.

Exceedance of the NO_2 short term AQO of 200 µg m^{-3} over the permitted 18 hours per year are shown in **bold**.

If the period of valid data is less than 85%, the 99.8th percentile of 1-hour means is provided in brackets.

(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%)

Table F. Annual Mean PM_{10} Automatic Monitoring Results (µg m^{-3})

Site ID	Valid data capture for monitoring period %([a])	Valid data capture 2022 %([b])	2016	2017	2018	2019	2020	2021	2022
BT4	94.5	94.5	33.0	33.0	32.0	30.0	26.0	25.6	27.9
BT5	100.0	100.0	31	30	28	26	21	21.4	18.9
BT6	96.4	96.4	20	20	20	19	19	17.6	16.7
BT8	89.0	89.0	N/A	19	19	18	17	17.6	17.2

Notes

The annual mean concentrations are presented as µg m^{-3}.

Exceedances of the PM_{10} annual mean AQO of 40 µg m^{-3} are shown in **bold**.

All means have been "annualised" in accordance with LLAQM Technical Guidance, if valid data capture is less than 75% and more than 25%.

(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%).

1.4 Discussion on PM10 Annual Mean Concentrations

Table F shows that all four sites monitoring PM_{10} in LB Brent have recorded decreases in PM_{10} annual mean concentrations since 2016. All sites meet the PM_{10} annual mean concentration of 40 µg m^{-3}. Three sites (BT6, BT6, and BT8) meet the WHO interim target 4 of 20 µg $m^{-3.}$

Table G. PM_{10} Automatic Monitoring Results: Comparison with 24-Hour Mean Objective, Number of PM_{10} 24-Hour Means > 50 µg m^{-3}

Site ID	Valid data capture for monitoring period %[(a)]	Valid data capture 2022 %[(b)]	2016	2017	2018	2019	2020	2021	2022
BT4	94.5	94.5	**45**	**41**	**37**	29	20	16	24
BT5	100.0	100.0	**37**	29	22	11	3	4	3
BT6	96.4	96.4	9	20	1	4	4	0	1
BT8	89.0	89.0	N/A	0	1	1	1	1	1

Notes

Exceedances of the PM_{10} 24-hour mean objective (50 µg m^{-3} over the permitted 35 days per year) are shown in **bold.**

Where the period of valid data is less than 85% of a full year, the 90.4th percentile is provided in brackets.

(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%).

Table H. Annual Mean $PM_{2.5}$ Automatic Monitoring Results (µg m^{-3})

Site ID	Valid data capture for monitoring period %[(a)]	Valid data capture 2022 %[(b)]	2016	2017	2018	2019	2020	2021	2022
BT4	100.0	100.0	23.7	21.4	20.0	20.7	13.0	13.5	12.8
BT8	93.7	93.7	N/A	14.7	14.6	18.9	13.7	7.4	7.5

Notes

The annual mean concentrations are presented as µg m^{-3}.

Exceedances of the $PM_{2.5}$ annual mean AQO of 20 µg m^{-3} are shown in **bold**.

All means have been "annualised" in accordance with LLAQM Technical Guidance, if valid data capture is less than 75% and more than 25%.

(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%).

1.5 Discussion on $PM_{2.5}$ Annual Mean Concentrations

Table H shows that both monitoring $PM_{2.5}$ in LBB have recorded decreases in annual mean concentrations of $PM_{2.5}$ since 2016/2017. Both sites meet the $PM_{2.5}$ annual mean concentration AQO of 20 µg m^{-3}. BT8 currently meets the WHO interim target 4 of 10 µg m^{-3} and therefore also meets the 10 µg m^{-3} annual mean target for $PM_{2.5}$ to be met across England by 2030.

2. Action to Improve Air Quality

2.1 Air Quality Action Plan Progress

Table J provides a brief summary of LBB's progress against the Air Quality Action Plan, showing progress made this year.

Table J. Delivery of Air Quality Action Plan Measures

Action ID	Theme	Action	2022 update
1.1	Monitoring and other core statutory duties	Maintaining and where possible expanding monitoring networks, and fulfilling other statutory duties.	**Automatic monitoring** • Brent Council maintains four automatic monitoring stations (three are roadside and one is industrial). ○ Of these, all four measure NO_2 and PM_{10}, two measure $PM_{2.5}$ and one measures O_3. ○ All automatic stations were calibrated fortnightly and audited every six months during 2022 ○ All automatic stations were serviced twice a year and we contracted a 48hr breakdown response service to maintain high data capture rate **Diffusion tube monitoring** • There are 45 diffusion tubes in Brent's statutory air quality monitoring network. • These existing sites have been retained and maintained throughout 2022. ○ All diffusion tubes are analysed in UKAS accredited labs and data is bias

Action ID	Theme	Action	2022 update
1.1	**Monitoring and other core statutory duties**	**Maintaining and where possible expanding monitoring networks, and fulfilling other statutory duties.**	corrected using local studies. • In 2020 a further network of over 70 tubes (separate to the tubes referenced in Table D this report) were deployed for monitoring of School Streets and Low Traffic Neighbourhood schemes These were retained during 2022 and the data is available in Appendix C of this report. **Sharing data** • Results of the monitoring stations are collated in the Annual Status Report which is made available on Brent's Air Quality section of the website: https://www.brent.gov.uk/services-for-residents/environment/air-quality/air-quality-reports/ • LB Brent holds membership of the London Air Quality Network, which means our automatic monitoring site data, is included in periodic LAQN reporting mechanisms. https://www.londonair.org.uk/london/asp/publicbulletin.asp?region=0&bulletin=hourly&site=&lat=51.5585&lon=-0.267803&Species=All&laEdge=&VenueCode=&zoom=11&WhoBulletin=N **Breathe London Network** • Brent Council supports the Breathe London network, which is a network of small sensors supplied by Imperial College London, which collect data that aims to provide greater detail on London's air pollution. The network is funded by the London Mayor.

Action ID	Theme	Action	2022 update
			• As part of our membership, we have four Clarity Nodes sensors. The first installation was in February 21 at our monitoring station BT4 Wembley, as a co-located reference site, followed by two further installations in September 21 at High Road, Wembley and Carlton Vale Road, Kilburn. • A fourth sensor was added in 2022 in Harlesden High Street. • Data is reported via a live feed on the Breathe London website. https://www.breathelondon.org/sensor-info?sitecode=CLDP0028&species=both
2.1	**Emissions from developments and buildings**	**Ensuring emissions from construction are minimised.**	**Construction dust** • Dust management plans required for all major construction sites. • Planning conditions required by Environmental Monitoring team where dust pollution likely. • Brent responds to all statutory nuisance dust/particulate pollution complaints. The council received 41 dust complaints in 2022. • Enforcement under nuisance control legislations or planning enforcement. • Member of the London Low Emission Construction Partnership (LLECP) http://www.clec.uk/about/about-project/llecp-partners

Action ID	Theme	Action	2022 update
2.2	Emissions from developments and buildings	Ensuring enforcement of non-road mobile machinery (NRMM) air quality policies	**NRMM enforcement** • Brent is a member of the pan-London NRMM project. Over 2022, 16 site audits were completed with a 81% compliance rate.
2.3	Emissions from developments and buildings	Reducing emissions from CHP Reducing emissions from CHP (uecontind)	**CHP emissions** • The Brent Local Plan 2019-2041 stipulates a move away from individual gas boilers. • The draft Policy BSUI1 allows for heat network developments to be tapped into as long as the heat network has a decarbonisation plan • At present, any development proposal with planned CHPs are reviewed by the environmental monitoring team to confirm low emission status, with a sustainability checklist used to encourage uptake of greener energy sources. Any CHP proposal would need to prove that local air quality is not affected and that sensitive receptors are not adversely affected by emissions. An AQ neutral assessment would be required. https://www.brent.gov.uk/media/154774/Sustainability%20Checklist%20v4%20Oct2011.xlsx

Action ID	Theme	Action	2022 update
2.4	**Emissions from developments and buildings**	**Enforce Air Quality Neutral policy**	• Planning cases are assessed for air quality issues with Local Plan policies addressing a range of construction and development emissions. • Over 2021, Brent's Local Plan examined by Inspectors. The Brent Local Plan was adopted in February 2022. In addition, London Plan 2021 required all developments to be Air Quality Neutral, not just major developments. All major developments in Growth Areas and AQFA (Air Quality Focus Areas are required to be Air Quality Positive, as identified within the Brent Air Quality Action Plan and Brent Local Plan. • All major developments are reviewed for air quality issues at the pre-application stage as well as during the planning process. Mitigation or modifications of proposed plans are required where poor air quality or high exposure levels are highlighted. https://www.brent.gov.uk/services-for-residents/planning-and-building-control/before-you-make-a-planning-application/planning-pre-application-advice-service/ https://www.brent.gov.uk/services-for-residents/planning-and-building-control/planning-policy/shaping-brent-s-future-together/ https://www.brent.gov.uk/services-for-residents/planning-and-building-control/planning-policy/current-planning-policy-consultations/

Action ID	Theme	Action	2022 update

2.5	**Emissions from developments and buildings**	**Ensuring adequate, appropriate, and well-located green space and infrastructure is included in new and existing developments**	The Brent Local Plan 2019-2041 was adopted by Full Council in February 2022. This states that "All minor residential developments (less than 10 dwellings) are required to deliver an Urban Greening Factor of 0.4 on site. Brent Local Plan also requires all major developments to achieve UGF in line with London Plan Policy G5.
			
			• The new Local Plan includes policies to promote tree planting and secure new open space.
			  ○ 40% of each residential development site needs to be capable of providing bio-diverse environments (Urban Greening Factor 0.4)
			  ○ This is an extension of the London Plan, which only stipulates the Urban Greening Factor for larger developments.
			  ○ Minimum open space requirements, e.g. number of Local Parks set out for new Growth Areas and on-site delivery in Open Space Deficiency Areas.

2.6	**Emissions from developments and buildings**	**Declaring Smoke Control Zones and ensuring they are fully promoted and enforced**	• The whole of Brent Borough is a smoke control zone. This is to control emissions from domestic chimneys caused by the burning of coal and wood. In 2022, 1 complaint was received relating to wood burning in the borough which was investigated through the statutory nuisance process. • Standard practice is that during any complaint/ investigatory visits, environmental health officers advise and direct operators/residents/retailers. • Guidance can be found on the Brent website under the "Smoke control area" header:

Action ID	Theme	Action	2022 update
			https://www.brent.gov.uk/services-for-residents/environment/air-quality/air-quality-management-area/ • Smoke complaints in relation to bonfires are managed through the statutory nuisance process or the illegal disposal of waste if the burning is being carried out by a business. In 2022, 121 Smoke Nuisance complaints were received. • LB Brent is a member of the GLA Wood Burning group and has supported the wood burning information hub campaign through social media. • . In addition, LB Brent has supported research conducted as part of the Defra funded wood burning project.
2.7	**Emissions from developments and buildings**	**Promoting and delivering energy efficiency and energy supply retrofitting projects in workplaces**	One of the five key themes within the Climate Emergency Strategy is Homes, Buildings and the Built Environment. This holds a long-term objective of: 'By 2030, as many homes and buildings in the borough as possible will be more energy efficient, be powered by renewable sources and be resilient to future adverse weather events caused by climate change – and we will do all in our gift to achieve an average rating of Energy Performance Certificate B in directly owned council stock". The current CO2 reductions stand at 67.9% in the most recent year 2021/22 over the 2010/11 baseline.

Action ID	Theme	Action	2022 update
		and homes through EFL retrofit programmes such as RE:FIT, RE:NEW and through borough carbon offset funds	In the second year of delivery (2022-2023), LBB: • Worked to develop a plan for the council to achieve net zero carbon emissions from the council's own estate and operations by 2030, with an internal officer workstream established to deliver this. • Secured funding under the social housing decarbonisation fund to undertake improvements on around 100 worst performing social housing properties, based on the outcome of the detailed assessment undertaken in 2021 of our own housing. We will be using carbon offset funding to match fund the delivery of this. • Cabinet have approved the use of carbon offset funds for up to £3m on (60%) social housing and (30%) schools and 10% on other ad hoc measures to reduce carbon emissions and improve energy efficiency. • Planned the delivery of the tower block works programme, which will include retrofitting work to improve the energy efficiency of properties within at least three council tower blocks – beginning work to our target of an average of EPC B in our housing stock by 2030. This was delayed over 2022, but is aiming to be delivered from 2023. **Projects:**

Action ID	Theme	Action	2022 update
2.7	Emissions from developments and buildings	Promoting and delivering energy efficiency and energy supply retrofitting projects in workplaces and homes through EFL retrofit programmes such as RE:FIT, RE:NEW and through borough carbon offset funds. (continued)	**1. Launch of Carbon Offset Fund** ○ Completed allocation of "Pot 2" funds - education projects e.g. community art project in school. Therefore £100k will be spent on projects in this area over 2023. ○ "Pot 1" funding of £400k has been allocated and detailed surveys have been undertaken to see what can be installed at a range of residential properties and community buildings. Resident meetings for the decision making process are due to continue over 2023. **2. Solar Together (RE:NEW scheme)** • Brent participates in the Mayor of London's Solar Together project, helping residents install solar panels. • Over 2022, phase 4 was continued and began phase 5, with 6 more installed under phase 4 and 24 in phase 5. https://www.brent.gov.uk/solartogether **3. Warmer Homes Advice Service and Brent Well and Warm** • 109 Warmer Home Advice Service consultations delivered to residents over 2022. **5. Green Homes Grant (Fuel Poverty Alleviation scheme):** • Brent are part of a West London Consortia of Boroughs (led by Ealing) who have been awarded funding under the Green Homes Grant - Local Authority Delivery to support refurbishment of homes to improve their energy rating. The Grant scheme is for households in energy inefficient properties. The scheme offers a house survey, plan,

Action ID	Theme	Action	2022 update
2.7	Emissions from developments and buildings	Promoting and delivering energy efficiency and energy supply retrofitting projects in workplaces and homes through EFL retrofit programmes such as RE:FIT, RE:NEW and through borough carbon offset funds. (continued	agreement of works. It aims to improve insulation and make housing heat source pump ready. Installations commenced in March 2021 • This will fund on average £10k per property for owner occupied properties and also rented properties (£5k plus landlords top up with £2.5k) • To be eligible, the total household income must be less than £30k/year (including benefits). The scheme is a quality assured fully managed service providing a whole house plan rather than just single measures. Each property will have an energy survey and measures proposed as part of the scheme • In 2022, 68 properties have been referred for the scheme. https://www.brent.gov.uk/your-community/brent-going-green/in-your-home/home-insulation/ **6. Companion scheme home upgrade grant (HUG)** • This scheme started in 2022. Work undertaken to identify properties which are not currently heated by gas. Oil and solid fuel heated properties are being prioritised. **7. South Kilburn - neighbourhood heating** • Cabinet approved procurement of a district energy network for South Kilburn. The aim is to be able to provide heating to over 1000 homes in south Kilburn from a low emission source. https://www.brent.gov.uk/news-in-brent/2023/may/plans-heat-up-for-low-carbon-network

Action ID	Theme	Action	2022 update
2.7	Emissions from developments and buildings	Promoting and delivering energy efficiency and energy supply retrofitting projects in workplaces and homes through EFL retrofit programmes such as RE:FIT, RE:NEW and through borough carbon offset funds. (continued)	https://www.brent.gov.uk/your-community/regeneration/south-kilburn-regeneration/the-development-process/neighbourhood-heating-system/ **8. Energy Efficiency Works in Brent Corporate Buildings** • Energy audit surveys have been completed on 16 of Brent's largest retained corporate buildings with the highest energy consumption, giving detailed recommendations at each site for energy efficiency measures upgrades works, each with forecasts of energy savings and costs for installation and implementation. A £3.2m grant was secured to decarbonise Brent Council buildings, with works almost complete on 16 Brent buildings and also 17 community schools. Monitoring results will be reported in 2023. **Project highlight:** • All gas using appliances have been removed from New Millennium Day Centre in Willesden (gas heating system replaced with air source heat pump. Also a gas cooker replaced with electric cooker.) • Taken out oil fired heating system at one of the parks pavilions (Northwick Park) and replaced with a ground source heat pump **Energy emissions and new developments:** • Brent follows the London plan • All major residential developments have a zero carbon target with a minimum requirement of 35% over building regulations.

Action ID	Theme	Action	2022 update
2.7	**Emissions from developments and buildings**	**Promoting and delivering energy efficiency and energy supply retrofitting projects in workplaces and homes through EFL retrofit programmes such as RE:FIT, RE:NEW and through borough carbon offset funds. (continued)**	• From January 2019, major developments were required to assess their strategy against SAP10 emission standards (electricity emissions are lower than building regulations requirements). • Most major developments have zero local emission systems such as air source heat pumps. • Building regulations regulate emissions from plant, for both new build and where existing supplies are updated. These are low or even zero emission at source. • Building regulations (L2021) changed in 2022, to restrict gas heating installations even in minor developments. • Developed a Sustainable Development SPD which went out to consultation in 2022. **<u>Council Building policy</u>** As part of Brent's Sustainable Procurement Policy, from 2021 the council have committed to prioritise non-combustion based heating systems wherever possible when building new homes.

Action ID	Theme	Action	2022 update
2.8	**Emissions from developments and buildings**	**Master planning and redevelopment areas aligned with Air Quality Positive and Healthy Streets approaches**	**<u>Masterplanning</u>** • Growth areas and most major site allocations require a masterplanning approach. This will promote high quality environments that provide good mix of uses and quality public realm to reduce the need to travel and support more sustainable forms of travel. • Brent's new Local Plan was adopted in February 2022 and it conforms to the new London Plan. Planning guidance published in relation to the new London Plan will be complied with and incorporated into Brent's planning assessment procedures, for example the upcoming Air Quality Positive guidance. • Brent's Local Plan stipulates: o All major developments within Growth Areas and Air Quality Focus Areas to be air quality positive. This is an extension of the new London Plan. o All applicants complete an air quality impact assessment. Any requirements imposed require discharge of the conditions on completion. o All residential developments to achieve Urban Greening Factor of 0.4 and a target score of 0.3 for predominately commercial development o Healthy streets approach embedded. o Supporting car free development as the starting point for new development in areas with good public transport accessibility where possible o Major non-residential development (1000 square metres or more) attaining BREEAM Excellent

Action ID	Theme	Action	2022 update
			https://www.brent.gov.uk/services-for-residents/planning-and-building-control/planning-policy/shaping-brent-s-future-together/ https://www.brent.gov.uk/services-for-residents/planning-and-building-control/planning-policy/current-planning-policy-consultations/
3.1	**Public health and awareness raising**	**Public Health department taking shared responsibility for borough air quality issues and implementation of Air Quality Action Plans.**	Brent's Public Health team take shared responsibility for AQ issues in the borough. A Senior Public Health Strategist has air quality in their remit. **Key Projects relating to Public Health:** **Clean Air Day 2022** • For Clean Air Day 2022, the council partnered with the NHS North West London CCG to disseminate resources to all medical practices across Brent as well as the North West London partner boroughs. An email was sent to all GPs across the North West London CCG with the following resources: o A new video created by Brent Council promoting the airTEXT service o A new leaflet promoting airTEXT o A link to the Clean Air Day resource pack • The email asked GPs to: • Encourage patients to sign up to airTEXT, making the attached leaflets available to patients by having copies in the waiting room, up on noticeboards and also by giving a copy directly to vulnerable patients where relevant.

Action ID	Theme	Action	2022 update
3.1	**Public health and awareness raising**	**Public Health department taking shared responsibility for borough air quality issues and implementation of Air Quality Action Plans.**	• Promote the airTEXT service via your practice website and by displaying the attached airTEXT animation on your digital displays. • Take part in Clean Air Day 2022 on 16th June – get inspired by taking a look at these resources: Clean Air Day | Healthcare (actionforcleanair.org.uk) • In addition, resource packs including printed leaflets were posted to all 51 GP Practices in Brent **Air Quality Action Plan review and update** • Over the course of 2022 the draft 2023-2027 Air Quality Action Plan was created. The Public Health Team sat on the Air Quality Steering Group for the development of this plan and the draft plan was signed off by the Director of Public Health. In addition, Brent's Health and Wellbeing Strategy incorporates the aim of improving air quality. • The Draft Air Quality Action Plan consultation was shared with all GP practices in the borough. **Joint Strategic Needs Assessment** • Working with the Public Health Team to create a Power BI interactive dashboard displaying air pollution data in a more accessible format for residents. The aim is to launch the dashboard in 2023.

Action ID	Theme	Action	2022 update
			Accessing Asthma Data • The Public Health Team have been working with the NHS ICB to access asthma data submitted by GP practices so that the council have information on how many residents have asthma. The aim is to use this data to better direct air pollution messaging to those who need it most.
3.2	**Public health and awareness raising**	**Engagement with businesses**	**<u>Air Quality Action Plan consultation</u>** • As part of Brent's Draft Air Quality Action Plan update, the consultation was sent out to businesses, asking them have their say on the plan via the business newsletter, which has a reach of 10,000 subscribers **<u>Cargo bike schemes</u>** • In Spring/Summer 2022, the Willesden Green Clean Air Village project was launched (Defra funded, delivered in partnership with Cross River Partnership through the Clean Air Village 4 programme). The project aimed to engage businesses in the Willesden Green Town Centre (an Air Quality Focus Area) and provide a subsidy for using a local cargo bike courier. In total, 72 deliveries were made by project partner eStreet Services for a total of 4 businesses, equating to 56 miles travelled by cargo bike. A further 8 businesses expressed an interest in future schemes. • This equates to a saving of 23 kg of CO2, 54g of NOx, 4g of PM10 and 2g of PM2.5. If the businesses continue to use the cargo bike delivery service for one year, this equates

Action ID	Theme	Action	2022 update
3.2	**Public health and awareness raising**	**Engagement with businesses (continued)**	to the following savings (calculated using CRP emissions tool https://crossriverpartnership.org/news/calculating-and-visualising-travel-emissions/) a) 141kg of CO2 saved b) 335g of NOx saved c) 25g of PM10 saved d) 15g of PM2.5 saved https://www.brent.gov.uk/news-in-brent/2022/may-22/cargo-bike-trials-launched-in-willesden-green • Over 2022, Brent planned for the expansion of its cargo bike schemes with a borough-wide Brent Bikes for Business project launching in 2023. **Other business engagement updates:** • ULEZ information shared with business networks. • Through working with West London Waste and the Restart Project, 20+ Brent based circular economy businesses have been added to the Restart Project's Repair Directory with this number expected to continue to grow. • The Brent for Business Energy Efficiency Scheme was launched and is now coming to an end. Businesses who were eligible had the opportunity to receive: • A free on-site energy audit, tailored energy report and action plan to help reduce their energy use, bills and carbon emissions

Action ID	Theme	Action	2022 update
3.2	**Public health and awareness raising**	**Engagement with businesses (continued)**	• A grant up to the value of £18,000 to fund up to 60% of a project that can reduce their business energy use • Groundwork has conducted audit reports for 54 SMEs, which include recommendations to improve energy efficiency. The scheme closed for new audits in December 2022 and for grant fund applications on Friday 20 January. In total, 24 applications were received for grant funding. • 17 applications have been approved for full or part funding with £137,368.24 allocated to businesses. • 11 businesses have completed the works for which they received the grant and made received their payment. • Funding for projects has ranged from new radiators, double glazing, energy efficient kitchen equipment and solar panel battery storage. • The project is now in the end of project report and case study phase. Over 100 businesses are now signed up to the Brent Environmental Network. This is a network of local residents, businesses, community groups and schools. Businesses can sign up to receive a newsletter with ideas and practical tips for reducing environmental impact. Receive links to support and resources e.g. grants and funding opportunities https://www.brent.gov.uk/your-community/climate-emergency/community/brent-environmental-network/

Action ID	Theme	Action	2022 update
3.2	**Public health and awareness raising**	**Engagement with businesses (continued)**	• Brent held the Small Business Awards 2022 which includes an award category for “Most Green Business”. There were 5 strong businesses shortlisted in the category. • Brent hosted an energy saving workshop for businesses in collaboration with Better Futures+. • Brent has consulted businesses for their feedback on its upcoming Business Climate Charter, which will be launching in Summer 2023. • Brent has commissioned Climax Community and their Climate Essentials tool to support businesses in measuring their carbon emissions and start working on their carbon reduction plan. 16 businesses have been given access and been onboarded onto the tool. They are the early adopters which will be used as examples and case studies; when the Charter is launched, the Climate Essentials tool will be a benefit that businesses can receive for free for 6 months from the Council. • Promoted a series of Clean Air Day resources and top tips in Brent Business News with reach of 10,000 subscribers.

Action ID	Theme	Action	2022 update
3.3	**Public health and awareness raising**	**Supporting a direct alerts service such as Airtext, and promotion and dissemination of high pollution alert services**	Raising awareness of air pollution for the residents of Brent is a priority. Over the course of 2022 Brent's draft Air Quality Action Plan was developed, including a community and engagement plan for the consultation which was implemented in 2023. Involved identifying channels to reach our most vulnerable residents, including hosting pop-up events in each of the borough's proposed Air Quality Focus Areas, community hubs, and delivering presentations at Brent Connect sessions, the Pensioners Forum and Care Home forum. Additional channels for raising awareness of air pollution over 2022 were: **1) AirTEXT** • Brent has renewed AirTEXT subscription for 2022-2023 ○ Brent has a total of 228 subscribers, with 22 new subscribers over 2022. An Airtext tile is on the council website to simplify the user journey and make it easier to sign up. https://www.brent.gov.uk/environment/air-quality/airtext AirText has been promoted through the following channels during the year: • Social media – as part of Clean Air Day and Car free Day • Pollution alerts are shared through social media and sent to early years settings and an air text link is added • Brent's Health and Wellbeing events – leaflets were shared at 98 events over the year

Action ID	Theme	Action	2022 update
3.3	**Public health and awareness raising**	**Supporting a direct alerts service such as Airtext, and promotion and dissemination of high pollution alert services**	• Air Quality Action Plan consultation **2) Brent Council Air Quality website** • Residents can access relevant reports and data. https://www.brent.gov.uk/services-for-residents/environment/air-quality/ **3) Sharing automatic monitoring site data with the London Air Quality Network** • Ensuring this is available to residents on the Council website. https://www.brent.gov.uk/services-for-residents/environment/air-quality/air-quality-monitoring-data/ **4) Sharing GLA Air Pollution alerts with residents** • Brent retweets GLA air pollution alerts • Alerts are also shared with all early years' settings. (voluntary and independent (PVI) settings (approx. 115) and all childminders (approx. 150)) Communication campaigns during Clean Air Day and Car Free Day promoted clean air route finders as well as other actions to take on high pollution days

Action ID	Theme	Action	2022 update

3.4	**Public health and awareness raising**	**Encourage schools to join the TfL STARS accredited travel planning programme**	**<u>Supporting STARs –Brent's programme</u>**
			39% of schools in Brent have a School Travel Plan in 2022 (41 schools in total). Of these, 66% have achieved Gold status (27 schools).
			https://www.brent.gov.uk/services-for-residents/transport-and-streets/road-safety-and-transport-policy/school-travel-plans/
			• Brent reaches out to all schools in the Borough to put in place travel plans
			• Schools are encouraged to achieve higher levels of compliance, attain STARS accreditation or maintain existing gold accreditation.
			• Brent encourages schools to engage with this at least once in the academic year – workshops and assemblies are offered.
			  ○ The School Travel Plan covers:
			  ○ Road safety
			  ○ Air quality
			  ○ Anti-idling
			  ○ Sustainable travel,
			  ○ Modal shift.
			• Brent has proactively added in environmental aspects to School Travel Plans
			• Youth Travel Ambassadors and Junior Road Safety Ambassadors are encouraged so schools can continue the programme throughout the year.

Action ID	Theme	Action	2022 update
3.4	**Public health and awareness raising**	**Encourage schools to join the TfL STARS accredited travel planning programme (continued)**	**<u>School Climate Champions Network</u>** As part of the first year delivery plan for the council's Climate and Ecological Emergency Strategy we committed to engaging with school-led approaches on the climate emergency agenda, supporting the establishment of a professional network of climate emergency leaders/champions within schools to share best practice. The first meeting of this network met in April 2021 and included an agenda section on school signing up the STARS travel-planning programme, and encouraged schools to think about encouraging other schools to join the programme. We have since re-shaped the network in line with our Green Neighbourhood pilots, and will be working closely with the Kingsbury and Harlesden school clusters on environmental sustainability initiatives in particular, with the STARS scheme getting a clear focus this term. We are also in the process of recruiting a Schools Climate Action Coordinator post to drive this work and increase capacity on this going forward.
3.5	**Public health and awareness raising**	**Air quality in and around schools**	Over the course of 2022, Brent's Air Quality Action Plan was reviewed which included a vulnerable population exposure assessment (including schools). Schools were encouraged to take part in the consultation for the draft Air Quality Action Plan. Brent was awarded £470k through the Defra Air Quality Grant for a programme of air quality engagement with schools including development of pollution route maps for all schools in the borough. Significant work has been undertaken over the course of the past year to improve air quality outside schools through the school streets schemes. There has been continuous

Action ID	Theme	Action	2022 update
3.5	**Public health and awareness raising**	**Air quality in and around schools**	engagement to encourage active travel through the roll-out of 28 permanent School Street schemes and 3 trial schemes. A report from GLA finds that School Streets can result in up to 23% reduction in NO2. Over 2022, diffusion tubes monitored NO2 at 35 locations across our school streets schools. New studies show School Streets improve air quality | London City Hall
4.1	**Delivery servicing and freight**	**Update of procurement policies to reduce pollution from logistics and servicing**	• In March 2021, the council published a new Sustainable Procurement Policy. • This ensures sustainability commitments are considered consistently as part of the procurement process, according to the following themes: - Ecology - Energy - Food - Transport - Waste and Resources - Water conservation • All quotes and tenders above £25,000 that involve deliveries/vehicles will be advised to include the relevant criteria detailed in the Brent sustainability assessment measures spreadsheet. As part of the tender evaluation process, contractors that adopt low

Action ID	Theme	Action	2022 update
4.1	**Delivery servicing and freight**	**Update of procurement policies to reduce pollution from logistics and servicing**	emission vehicles such as electric, hybrid, LPG will be scored more favourably. In order to enable this, contractors must provide a list of all vehicles to be used in the first year of the contract https://lbdigitalservices.sharepoint.com/sites/intranet/resources/procurement/Pages/Site%20pages/sustainability.aspx Brent's current target in the Climate Emergency is "through the Sustainable Procurement Policy, we will aspire to review and replace our current fleet with low emission models over the next ten years." • Brent is part of the West London Alliance Low Carbon Procurement group which aims to enable a positive and effective procurement-led response across West London to the climate emergency and 2030 emissions reduction targets. This compliments some of our own commitments detailed in our Procurement sustainably policy. This has resulted in documents which are now included in the procurement process: ○ West London Alliance Low Carbon Charter ○ West London Carbon Procurement Policy ○ Toolkit part 1 and 2 **Example procurement activities with aim of reducing emissions:** • The council re-procured its zipcar fleet in 2022. To support Brent's commitment under the Procurement Sustainability Policy and Brent climate and Ecological Emergency strategy, the fleet requirement was for 17 electric vehicle and 5, moving away from a mix of petrol and hybrid electric vehicles hybrid vehicles.

Action ID	Theme	Action	2022 update
4.2	**Delivery servicing and freight**	**Reducing emissions from deliveries to local businesses and residents**	In 2022 Brent published its Long Term Transport Strategy and has started work on a Delivery and Servicing Action Plan, which aims to identify opportunities to reduce emissions from this sector. **<u>Business engagement</u>** In Spring/Summer 2022, the Willesden Green Clean Air Village project was launched (Defra funded, delivered in partnership with Cross River Partnership through the Clean Air Village 4 programme). The project aimed to engage businesses in the Willesden Green Town Centre (an Air Quality Focus Area) and provide a subsidy for using a local cargo bike courier. In total, 72 deliveries were made by project partner eStreet Services for a total of 4 businesses, equating to 56 miles travelled by cargo bike. A further 8 businesses expressed an interest in future schemes. This equates to a saving of 23 kg of CO2, 54g of NOx, 4g of PM10 and 2g of PM2.5. If the businesses continue to use the cargo bike delivery service for one year, this equates to the following savings (calculated using CRP emissions tool https://crossriverpartnership.org/news/calculating-and-visualising-travel-emissions/) a) 141kg of CO2 saved b) 335g of NOx saved c) 25g of PM10 saved

Action ID	Theme	Action	2022 update
			d) 15g of PM2.5 saved https://www.brent.gov.uk/news-in-brent/2022/may-22/cargo-bike-trials-launched-in-willesden-green • Over 2022, Brent planned for the expansion of its cargo bike schemes with a borough-wide Brent Bikes for Business project launching in 2023.
5.1	**Borough Fleet**	**Reducing emissions from council fleets**	In response to the climate and ecological emergency, Brent have committed to develop a plan to achieve net zero carbon for the Council's own estate and operations by 2030. The Council is actively exploring opportunities for reducing emissions from its activities: • We have recently commissioned MP Smarter Travel to undertake a comprehensive review of our existing fleet and fleet management processes, with the intention of developing a clear routemap of what needs to be undertaken to transition our fleet to low emission vehicles by 2030. This work is expected to complete by Autumn 2023 and will form a key strand of our plan which will enable us to achieve net zero carbon across the council's estate and operations by 2030. • Additionally, the Council is developing a Staff Travel Plan to support Council staff in reducing car usage and adopting active modes of travel wherever possible. In 2022, this was presented to the Ways of Working group and agreed a new staff travel survey should be conducted which will take place in 2023.

Action ID	Theme	Action	2022 update
5.1	**Borough Fleet**	**Reducing emissions from council fleets**	• The council re-procured its zipcar fleet in 2022. To support Brent's commitment under the Procurement Sustainability Policy and Brent climate and Ecological Emergency strategy, the fleet requirement was for 17 electric vehicle and 5, moving away from a mix of petrol and hybrid electric vehicles hybrid vehicles. • In 2022 an internal booking process was set up for the council owned cargo bike. In total, 16 members of staff across 13 council departments received 1:1 Bikeability Level 3 training on the cargo bike with a professional bike trainer. The bike has been used for site visits, events, transporting leaflets, and community skip days.
6.1	**Localised solutions**	**Expanding and improving green Infrastructure (GI)**	In 2022 we published our Green Infrastructure Vision, which details our plans for making Brent the greenest borough in London by 2030. London Borough of Brent Green Infrastructure Vision Improving green infrastructure, as well as following a Healthy Streets approach, is central to this vision. It also features as a priority in Brent's 2019-2040 Inclusive Growth Strategy and the updated Brent Borough Plan (published in 2022) which includes "A Cleaner, Greener Future" as one of the priorities. In addition, a core aim in Brent's Long Term Transport Strategy published in 2022 is making our streets safer, greener and more inclusive. Expanding the provision of 'green' infrastructure, including the greater use of 'parklets', street trees, green walls and

Action ID	Theme	Action	2022 update
6.1	**Localised solutions**	**Expanding and improving green Infrastructure (GI) (continued)**	Sustainable Drainage Systems (SuDS) as a means of reducing environmental impact and mitigating climate change, is a key priority. Greening, including new street trees and rain gardens, continued to be embedded in major public realm and transportation schemes over the course of 2022. This will help establish a greener and more pleasant environment to encourage active travel. The Brent Local Plan 2019-2041 was adopted by Full Council in February 2022, including requirement for "All minor residential developments (less than 10 dwellings) are required to deliver an Urban Greening Factor of 0.4 on site." **Specific Projects:** **<u>Delivery of Green neighbourhoods (Church End and Kingsbury)</u>** Residents in the two pilot areas of Church End and Roundwood, and Kingsbury, asked for enhanced green infrastructure and biodiversity; sustainable travel infrastructure; and recycling and re-use projects, alongside the need to address parallel issues such as anti-social behaviour and fly tipping more holistically. There are 34 actions in the Church End and Roundwood Action plan and 28 actions in the Kingsbury action plan. The aim is to embed environmental sustainability at the heart of day-to-day life in these locations. The plans will be phased with an overall vision to be fully delivered within two years. Green Neighbourhoods full steam ahead | Brent Council

Action ID	Theme	Action	2022 update
6.1	Localised solutions	Expanding and improving green Infrastructure (GI) (continued)	**Kensal Corridor:** • The first phase of public realm improvement at Kensal Rise Overground Station and the adjacent section of Kensal Rise was completed early in 2022. This provided new wider pavements, cycle parking and amenities with a new green roof cycle shelter near the station, pedestrian crossings, trees and greening including rain gardens. The second phase of the scheme on Chamberlayne Rd (section between Bolton Gardens and Banister Rd) and the remaining section of Chamberlayne Road up to Regent Street is planned to be constructed in 2023. Information about the scheme is available on our website; https://www.brent.gov.uk/kensalcorridor **South Kilburn Regeneration** • Large-scale urban regeneration project ongoing over a fifteen year programme that is approximately half way through delivering over 2,400 new high quality homes, new and improved open spaces and public realm, retail, education and health facilities. • Next phase includes regeneration of Carlton Vale Boulevard aim to create a vibrant Boulevard with improved transport links, lighting, street furniture and artwork https://www.brent.gov.uk/your-community/regeneration/south-kilburn-regeneration/the-development-process/carlton-vale-boulevard/ ○ This green spine will focus on improving the health and well-being of residents and will deliver improvements to air quality, sustainable drainage solutions and

Action ID	Theme	Action	2022 update
6.1	**Localised solutions**	**Expanding and improving green Infrastructure (GI) (continued)**	increased biodiversity. Public consultation on the scheme finished in 2021 and construction could start later in 2023, subject to funding. Opportunities for planting and greening include planting ~150 additional trees (include a variety of species), new rain gardens, significant improvements to the urban realm and ongoing air quality monitoring. Other proposals: • A new larger high quality urban park and improved public realm • Improved environmental standards and a site-wide energy solution https://www.brent.gov.uk/your-community/regeneration/south-kilburn-regeneration/what-is-happening-in-south-kilburn/ https://www.brent.gov.uk/your-community/regeneration/south-kilburn-regeneration/the-development-process/ **Kilburn High Road Liveable Neighbourhoods Proposal** • Brent and Camden councils have been working together to develop a public realm improvement scheme that will help to transform the high road. The main objectives of the Kilburn High Road improvement scheme are to reduce the dominance of traffic on the high road, help create a place that people want to visit and spend time in, and support businesses. Emphasis is also placed on improving pedestrian safety and encouraging greater pedestrian and cycle activity.

Action ID	Theme	Action	2022 update
6.1	**Localised solutions**	**Expanding and improving green Infrastructure (GI) (continued)**	• The implementation of the Kilburn High Road scheme is to be undertaken in several phases. Construction of the "Upper Section" between Kilburn Station and Willesden Lane is due to commence in summer 2023 and take approximately 4-months to complete. The scheme includes new footway paving, street lighting, greening and benches and cycle stands. A wider road safety and improvement scheme is also being progressed separately by Brent and Camden councils and traffic modelling is currently being undertaken to determine the impact of proposals on the local highway network. https://www.brent.gov.uk/your-community/regeneration/kilburn-high-road/ **Green and Healthy School Streets** Brent has been awarded funding to make four local school street areas more green, vibrant, and resilient to the climate emergency. The funding is being used to work with local schools and community groups to plant new street trees, flowerbeds, and rain gardens along walking routes to schools. In 2022, co-design workshops were held with participating schools and a consultation held on the schemes. Project: Green and Healthy School Streets (brent.gov.uk) **Other Key Projects** • Delivery of the council's first living wall at Willesden Green Library

Action ID	Theme	Action	2022 update
			• Biodiversity and green infrastructure improvements to Leybourne Open Space in Kingsbury • Planting of 650 trees as part of Miyawaki forest scheme in King Edwards park.
7.1	**Cleaner transport**	**Ensuring that Transport and Air Quality policies and projects are integrated**	**Brent Long Term Transport Strategy 2015-2035 (LTTS)** • The Brent Long Term Transport Strategy 2015-2035 (LTTS) consultation took place in Spring 2022 and was published in October 2022 - it provides the strategic direction for investment in transport in Brent, with the overarching aim of improving transport options for all and to reduce the negative impacts of travel on the borough. It includes air quality targets. One of the core aims of this strategy is "Reduce traffic and facilitate healthy, sustainable travel" https://www.brent.gov.uk/your-community/coronavirus/changes-to-council-services/transport-and-streets/ Brent Long Term Transport Strategy Review 2022 Brent's Inclusive Growth Strategy 2019 -2040 also prioritises sustainable travel and modal shift. **Air Quality Action Plan review** Over the course of 2022, LBB reviewed its Air Quality Action Plan, including a review of the Air Quality Management Area and modelling of pollution concentrations taking into account local traffic data and road networks. The Transportation Planning team sit on the Air Quality Steering Group and are key stakeholders in the development of the plan.

Action ID	Theme	Action	2022 update
7.2	Cleaner transport	Discouraging unnecessary idling by taxis and other vehicles	• Brent enforces idling with FPNs under The Road Traffic (Vehicle Emissions) (Fixed Penalty) (England) Regulations 2002. • Over 2022, the team engaged with over 240 drivers with 80% of drivers pledging not to idle again. Residents can report idling hotspots at: https://www.brent.gov.uk/environment/air-quality/no-idling-campaign • For Clean Air Day 2022, idling engagement took place with an enforcement officer across idling hotspots in the borough as well as with Furness Primary School, Princess Frederica Primary School and College Green Nursery.
7.3	Cleaner transport	Regular temporary car free days	Brent supported Car Free Day 2022 at Church End on 8th October, which saw Church Road pedestrianised for a cultural festival with a Car Free Day zone, featuring cycle training, free bike checks, group cycle tours and more. The council also supported College Green Nursery to host a play street for Clean Air Day. Over 2022, 47 Play Streets were held by residents. The council has a policy of providing Play Streets free of charge.

Action ID	Theme	Action	2022 update
7.4	**Cleaner transport**	**Using parking policy to reduce pollution emissions**	The council's Parking Policy has been developed to provide a consistent and sustainable approach to parking to help balance the needs of residents, businesses and visitors. It has also been designed to complement and support the work of other service areas across the Council with a specific aim to increase the uptake of sustainable modes, in particular active modes. Parking Policy 2020 | Brent Council • To achieve this, the council's resident parking permits are carbon emissions based. The key policies are: ○ Vehicle emissions are graded as low, medium or high. The cost of the parking permit then depends on how the vehicle is graded. ○ There is a £100 diesel surcharge for resident permits that was implemented in 2019 with annual increases applied for the first three years as follows:: ▪ June 2019 – surcharge introduced at £50 ▪ April 2020 – surcharge increased to £75 ▪ April 2021 – surcharge increased to £100 and will remain at this level for all diesel vehicles until reviewed again. ○ Increased fees for residential parking permits for household's second and third vehicles

Action ID	Theme	Action	2022 update
7.4	**Cleaner transport**	**Using parking policy to reduce pollution emissions**	○ The cost of daily visitor vouchers is formally linked to the cost of a London bus fare so the prices are equitable, to encourage motorist to use public transport over driving. ○ The current residents first permit for a low emission vehicle has not increased in line with inflation each year and is designed to steer motorists to consider greener or low emission vehicles. https://www.brent.gov.uk/services-for-residents/parking/parking-permits/parking-charges/ • The aim is to reward environmentally responsible behaviour. • To reduce the exposure of Brent residents to PM and NO2 generated by the transport network • Fees are designed to promote the modal shift from passenger vehicle use to active and sustainable travel. Additionally, Parking officers are supporting the School Streets programme with ANPR cameras installed across all permanent school streets in 2022.

Action ID	Theme	Action	2022 update
7.5	**Cleaner transport**	**Installation of Ultra-low Emission Vehicle (ULEV) infrastructure (electric vehicle charging points, rapid electric vehicle charging point and hydrogen refuelling stations)**	The Council has an extensive programme of installing electric vehicle charging points across the borough. Work has also commenced on the development of an Electric Vehicle Charge Point (EVCP) Delivery Plan that will set out the Council's approach to accelerating delivery of EVCP infrastructure in the borough in line with objectives of the Council's emerging Climate Change Strategy and Air Quality priorities. The Plan will identify the types of infrastructure required (and locations for these), establish mechanisms for funding/delivery and set out the range of processes for implementation. Recent data from ZapMap reveals that around 34% of on-street households in Brent are within 5 minutes' walk of a public charger. **EVCPS** To date across the borough we have: • 5 Rapid Charging Points • 91 Source London Charging Points, with 50 being installed in 2023 • 358 Lamp Column Charging points, with over 290 being installed in 2023 160 (80 dual) free standing chargers to be installed by March 2024 in partnership with Uber

Action ID	Theme	Action	2022 update
7.6	**Cleaner transport**	**Provision of infrastructure to support walking and cycling**	Supporting walking and cycling through public realm improvements and provision of infrastructure is a central tenet across the council's transport policies. The council has embedded the Healthy Streets Approach across all key policies. In addition, the council is in the process of developing an Active Travel Implementation Plan which include details of new/improved cycling and walking links and supporting infrastructure required to improve cyclist/pedestrian safety and accessibility and to encourage more journeys by these modes. There will be a consultation on the draft Active Travel plan in 2023. **<u>Location specific public realm improvement schemes:</u>** • Over 2022, the council has delivered a range of public realm improvement schemes which aim to provide an improved environment for walking and cycling. For example: • improvements at Kensal Rise, providing an improved environment for walking and cycling. As part of this project, Brent's first green roofed cycle parking shelter was installed outside Kensal Rise station, with capacity for fourteen bikes. https://www.brent.gov.uk/business/regeneration/revitalising-our-high-streets/kensal-corridor

Action ID	Theme	Action	2022 update
7.6	**Cleaner transport**	**Provision of infrastructure to support walking and cycling (continued)**	• Wembley High Road and Church End Public Realm Improvement schemes were also completed in Autumn 2022 providing new wider high quality footpaths, safer pedestrian crossings, lighting, street trees and greening as well as cycle parking. ○ Revitalising Wembley High Road | Brent Council ○ https://www.brent.gov.uk/business/regeneration/growth-areas/church-end/church-end-high-street • There are also plans for a public realm improvement scheme at Kilburn High Road (Kilburn Underground Station to Willesden Lane). https://www.brent.gov.uk/business/regeneration/revitalising-our-high-streets/improve-kilburn-high-road • The council continues to work with TfL to implement active transport infrastructure. For example we are working with TfL on the Wembley to Willesden Junction Cycleway (CFR23), more information can be found at: Wembley to Willesden Junction walking and cycling changes | Have Your Say Transport for London (tfl.gov.uk) • We are also in the process of developing 'Green Corridors' within the council's Church End & Roundwood Green Neighbourhoods scheme. Sustrans have been commissioned to undertake an initial feasibility study of active travel routes in the area, prior to the develop of business plans to fund the works via the council's Capital Programme Board. **Walking and cycling initiatives and infrastructure:**

Action ID	Theme	Action	2022 update
7.6	Cleaner transport	Provision of infrastructure to support walking and cycling (continued)	**School Streets** • There are now 28 permanent school street schemes across the borough, with an additional three being trialled for 12 months, bringing the total number of school streets to 31, to be reviewed in July 2023. • Looking into the potential to expand 4 of the schemes to help mitigate parking displacement problems. • From October 2022, school streets began being enforced by CCTV. Cameras are now located at all the permanent school streets. **Brent Healthy Neighbourhoods** • Engagement work led by Living Streets has been completed and analysed. Cabinet approved the recommendation is to remove 4 of the 5 healthy neighbourhoods and to re-engage with the local community to develop new schemes. • The Council are piloting 2 new Green Neighbourhood schemes in the Roundwood and Kingsbury areas. There will be further engagement with the local community on measures to support active travel and the pilot will be used to inform our approach for engagement on future schemes. • Living streets have also been appointed to engage with the community and develop plans in the Kilburn (Dyne Road) area. • The intention is to install ANPR CCTV Cameras at some locations (with exemptions to be agreed) to improve accessibility by the emergency services.

Action ID	Theme	Action	2022 update
7.6	Cleaner transport	Provision of infrastructure to support walking and cycling (continued	• https://www.brent.gov.uk/services-for-residents/transport-and-streets/brent-healthy-neighbourhoods/ **Pop up cycle lane on Harrow Road** • In September 2020, the council implemented a new temporary segregated cycling lane between Wembley Triangle and the A406 North Circular Road (approx. 1.5km). Following a review of how the cycle lane was operating during the trial period, the decision was made to remove the flexible posts and make permanent amendments to operational hours (24/7) and lengths of bus lanes and 20 mph speed limit (between Aldbury Avenue and Point Place). **Cycle parking:** • There are currently 104 bike hangars across the borough, and 45 more planned for installation over the next year. • A review was conducted regarding the cost for residents to rent a bike hangar space, this resulted in a contract with a new supplier and reduced rental costs for all **Other cycling initiatives:** • Brent runs a Try Before You Bike scheme for bikes, e-bikes and cargo bikes. In 2022, 8 residents used this service

Action ID	Theme	Action	2022 update
			https://www.brent.gov.uk/services-for-residents/transport-and-streets/cycling/try-a-bike-for-a-month/ • Free cycling training provided, this was delivered to 231 adults and 869 children in 22/23

3. Planning Update and Other New Sources of Emissions

Table K. Planning requirements met by planning applications in LB Brent in 2022

Condition	Number
Number of planning applications where an air quality impact assessment was reviewed for air quality impacts	141
Number of planning applications required to monitor for construction dust	114
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 developments required to install Ultra-Low NO_x boilers	0
Number of developments where an AQ Neutral building and/or transport assessments undertaken	89
Number of developments where the AQ Neutral building and/or transport assessments not meeting the benchmark and so required to include additional mitigation	2
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
NRMM: Central Activity Zone , Canary Wharf and Opportunity Areas Number of conditions related to NRMM included. Number of developments registered and compliant. Number of audits % of sites unregistered prior to audit Please include confirmation that you have checked that the development has been registered with the GLA through the relevant NRMM website and that all NRMM used on-site is compliant with Stage Stage IV of the Directive and/or exemptions to the policy.	N/A
NRMM: Greater London (excluding Central Activity Zone, Canary Wharf and Opportunity Areas)	14 conditions included

Condition	Number
Number of conditions related to NRMM included. Number of developments registered and compliant. Number of audits % of sites unregistered prior to audit Please include confirmation that you have checked that the development has been registered at www.nrmm.london and that all NRMM used on-site is compliant with Stage IIIB of the Directive and/or exemptions to the policy.	12 registered and compliant 3 unregistered/uncompliant and being chased. 16 audits completed 3/16 (19%) sites unregistered prior to audit

Process for ensuring planning applications are reviewed:

An Environmental Health Officer reviews planning applications to ensure that local air quality management is considered. Each application is reviewed to establish the potential air quality impact of the development as well as considering the impact on any new sensitive receptors brought to the area because of the development. Air quality assessments are requested for applications dependent on the size, location or type of development. The department follows Brent's Local Plan for developments that require an air quality neutral and air quality positive assessments. NRMM conditions are considered appropriate for major developments within the area.

3.1 New or significantly changed industrial or other sources

No new sources identified.

4. Additional Activities to Improve Air Quality

4.1 London Borough of Brent Fleet

Brent's current target in the Climate Emergency is "through the Sustainable Procurement Policy, we will aspire to review and replace our current fleet with low emission models over the next ten years." The majority of Brent's fleet is contracted and so the introduction of the Sustainable Procurement Policy in 2021 is enabling the council to fulfil this target. To date, Brent directly owns five electric/hybrid vehicles and one electric cargo bike, making up 6% of Brent's owned fleet.

LBB have recently commissioned MP Smarter Travel to undertake a comprehensive review of our existing fleet and fleet management processes, with the intention of developing a clear route map of what needs to be undertaken to transition our fleet to low emission vehicles by 2030. This work is expected to complete by Autumn 2023 and will form a key strand of our plan which will enable us to achieve net zero carbon across the council's estate and operations by 2030.

4.2 NRMM Enforcement Project

LBB is continuing to support the NRMM Enforcement project in 2023 – 24.

4.2 Air Quality Alerts

LBB supports *air*TEXT (https://www.airtext.info/) and actively promotes the service to encourage residents to sign up to air pollution alerts.

AirText | Brent Council

Appendix A Details of Monitoring Site Quality QA/QC

A.1 Automatic Monitoring Sites

QA/QC for Brent's automatic monitoring stations is provided by ERG Imperial College London. These stations are calibrated fortnightly by their local site operator (LSO), with annual audits carried out by the National Physics Laboratory.

A.2 Diffusion Tubes

All diffusion tubes are prepared and provided by Gradko International Limited. The tubes are set up and collected by the local site operator 'We Care4 Air' and analysis undertaken by Gradko using UKAS Accredited Methods. Tubes are prepared using the preparation method 20% Tri-ethanolamine (TEA) in de-ionised water.

Factor from Local Co-location Studies

For the 2022 data, annual averages have been bias adjusted using a local Bias Adjustment Factor of 0.92 was used which was calculated using the Defra Diffusion Tube Data Processing Tool v3.0.

Sites BT4 (Ikea) and BT8 (Ark Franklin Primary School) were used in the local co-location study. Both are roadside sites. BT4 has four diffusion tubes co-located (ID 52) and BT8 has three diffusion tubes co-located (ID 79).

Site BT4 (52) had a Bias Adjustment Factor of 0.89 and a diffusion tube mean of 48.5. Site BT8 (79) had a Bias Adjustment Factor of 0.95 and a diffusion tube mean of 29.8.

Discussion of Choice of Factor to Use

A comparison was made between the local and national Bias Adjustment Factors when processing the 2022 annual average diffusion tube data, with the local factor being selected. The national factor was obtained from the national database available on the LAQM website at:

https://laqm.defra.gov.uk/air-quality/air-quality-assessment/national-bias/

The local Bias Adjustment Factor has been used in accordance with paragraphs 4.83 to 4.90 in LAQM TG19. The local factor is representative of a roadside site; this is representative of monitoring sites across Brent, which are mostly categorised as roadside. In addition, the co-location sites were assessed to have “good” precision by Defra Diffusion Tube Data Processing Tool v3.0. The co-location study involved two sites. Firstly, 4 diffusion tubes being located with site BT4, which produces high quality chemiluminescence results, with QA/QC carried out by ERG Imperial College London. Secondly, 3 diffusion tubes being co-located with site BT8.

The local Bias Adjustment Factor is higher (0.92) than the national factor (0.83), hence providing a more precautionary estimate of air quality across the borough, ensuring that concentrations are not being under-estimated. Therefore, it is considered that the local factor is more appropriate for 2022 and has therefore been selected for data processing.

Table L. Bias Adjustment Factor

Year	Local or National	If Local, Version of National Spreadsheet	Adjustment Factor
2019	National	03/20	0.91
	Gradko 20% TEA in water (2029, 27 studies)		
2020	National	03/21	0.81
	Gradko 20% TEA in water (2020, 18 studies)		
2021	National	03/22	0.84
	Gradko 20% TEA in water (2021, 32 studies)		
	Local	03/22	0.91
2022	National water (2021, 27 studies)	03/23	0.83
	Local		**0.92**

A.3 Adjustments to the Ratified Monitoring Data

Short-term to Long-term Data Adjustment

A final measurement data set was produced by ERG Imperial following retrospective ratification of the measurements using procedures which comply with the requirements of LLAQM.TG (19). During ratification, information from regular calibration, 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 data set can be found at www.londonair.org.uk.

Where capture is less than 75% and greater than 33% of a full calendar year (less than 9 months), the mean would be 'annualised' – i.e. adjusted using the methodology outlined in LLAQM.TG (19) before being compared to annual mean objectives.

Distance Adjustment

If an exceedance is measured at a monitoring site which is not representative of public exposure, the procedure specified in LLAQM.TG(19) was used to estimate the concentration at the nearest receptor. Table N contains the results of distance adjustment.

Table M. Short-Term to Long-Term Monitoring Data Adjustment

Diffusion Tube ID	Annualisation Factor London Hillingdon Urban Background (Harlington)	Annualisation Factor London Camden Bloomsbury Urban Background	Annualisation Factor London Westminster Urban Background (Horseferry Road)	Annualisation Factor Site 4 Name	Average Annualisation Factor	Raw Data Simple Annual Mean (µg/m3)	Annualised Data Simple Annual Mean (µg/m3)
BRT57	1.0281	0.9619	1.0053	-	0.9984	54.3	54.3
SZ1	0.9425	0.9214	0.8929	-	0.9189	30.6	28.1
SZ11b	0.9948	1.0412	1.0170	-	1.0177	24.7	25.2
SZ6	0.9609	0.9803	0.9655	-	0.9689	21.6	20.9
PM22D	1.0288	1.0488	1.0699	-	1.0491	46.5	48.8

Table N. NO_2 Fall off With Distance Calculations

Diffusion Tube ID	Distance (m)		NO_2 Annual Mean Concentration ($\mu g/m^3$)			Comment
	Monitoring Site to Kerb	Receptor to Kerb	Bias Adjusted and Annualised	Background	Predicted at Receptor	
7	2.0	19.0	46.7	24.3	34.9	
9	2.0	22.0	39.2	18.8	27.7	*Warning: your receptor is more than 20m further from the kerb than your monitor - treat result with caution.*
17	1.0	5.0	40.4	20.9	34.1	
23	2.0	12.0	53.7	23.5	**41.0**	*Predicted concentration at Receptor above AQS objective.*
41	4.0	7.0	46.7	24.5	**43.3**	*Predicted concentration at Receptor above AQS objective.*
52	1.0	11.0	44.4	23.0	34.0	
53	1.0	16.0	62.4	20.3	*38.9*	*Predicted concentration at Receptor within 10% the AQS objective.*
60	1.0	36.0	42.7	20.3	26.6	*Warning: your receptor is more than 20m further from the kerb than your monitor - treat result with caution.*
61	1.0	41.0	59.0	20.3	30.1	*Warning: your receptor is more than 20m further from the kerb than your monitor - treat result with caution.*
BRT43	2.0	22.0	40.4	24.3	31.4	*Warning: your receptor is more than 20m further from the kerb than your monitor - treat result with caution.*
BRT53	0.5	4.5	65.3	20.8	**48.0**	*Predicted concentration at Receptor above AQS objective.*
BRT55	0.5	3.5	82.2	23.2	**61.9**	*Predicted concentration at Receptor above AQS objective.*
BRT57	0.5	8.5	49.8	25.1	*37.4*	*Predicted concentration at Receptor within 10% the AQS objective.*

Appendix B Full Monthly Diffusion Tube Results for 2022

Table O. NO_2 Diffusion Tube Results

Site ID	Site Name	X OS Grid Reference	Y OS Grid Reference	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Raw Annual Mean (µg/m3)	Bias Adjusted and Annualised Annual Mean (µg/m3)	Distance Corrected Annual Mean (µg/m3)
1	Junction of Kenton Road / Upton Gardens	516929	188560		30.7	31.1	25.4	25.0	25.2	25.6	25.2	29.6	36.7	38.2	40.1	30.2	27.7	
2	Harrow Road, Sudbury Court Drive	515793	186042		32.2	40.4	31.6	28.2	27.8	30.0	30.9	37.0	40.5	39.2	39.1	34.3	31.4	
4	Junction of Shaftesbury Avenue / Woodcock Hill	518240	187747			42.6	34.2	27.2	23.9	27.7	30.8	33.1	37.1	39.3	41.3	33.7	30.9	
7	Bridgewater Road / Ealing Road	517942	183721	59.1	42.3	59.8	42.6	48.1	42.1			57.7	54.6	54.6	48.6	50.9	**46.7**	34.9
9	Junction of East Lane / Wembley Hill Road	518499	186168	56.6	43.3	41.8	33.9			34.4	36.4	36.7	42.8	50.7	50.5	42.7	*39.2*	27.7

Site ID	Site Name	X OS Grid Reference	Y OS Grid Reference	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Raw Annual Mean (µg/m3)	Bias Adjusted and Annualised Annual Mean (µg/m3)	Distance Corrected Annual Mean (µg/m3)
17	Old Church Lane junction with Neasden Lane	520480	186537	59.5		42.0	34.2	33.0	35.8	43.6	41.8	42.9	51.8	52.1	47.8	44.0	**40.4**	34.1
21a	Central Way, Park Royal	520077	182853	39.8	29.9	35.1	32.0	27.4	24.8	25.9	32.9	33.1	38.7	39.7	42.2	33.5	30.7	
22	Junction of Kingsbury Road / Edgware Road	521447	188730		35.2	46.0	37.0	33.8	29.1	37.5	40.5	47.8	39.0	36.8	43.1	38.7	35.5	
23	Junction North Circular Road / Chartley Avenue	521213	186125	83.7	59.7	57.2	45.8	46.4	48.8	49.3	57.6		64.3	64.6	66.4	58.5	**53.7**	**41.0**
26	Dudden Hill Lane junction with High Road	522191	184821	40.3	25.9	50.1	32.1	28.7	27.0	30.2	37.1	38.2	38.0	43.9	43.3	36.2	33.2	
29	Junction Dollis Hill Lane / Cricklewood	523191	186571	41.0	24.7	35.1	31.9	24.9	22.8	28.1	31.9	32.9	32.9	33.8	37.1	31.4	28.8	
30	Chichele Road near Melrose Avenue	523663	185353	43.2	25.0	35.9	30.9	25.4	23.9	29.1	35.2	34.9	34.3	32.1	37.9	32.3	29.6	

Site ID	Site Name	X OS Grid Reference	Y OS Grid Reference	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Raw Annual Mean (µg/m3)	Bias Adjusted and Annualised Annual Mean (µg/m3)	Distance Corrected Annual Mean (µg/m3)
33a	Fryent Country Park	519572	187691		26.4	28.8			27.2	29.5	29.2	34.8	32.3	32.6	32.6	30.4	27.9	
41	R/O 246 Neasden Lane	521455	185920	60.4	49.2	45.7	42.0	42.6	45.4	50.6	52.6	52.4	59.2	57.5	53.6	50.9	**46.7**	**43.3**
48	Kilburn Park Road near junction with Shirland Road	525196	182517	45.1	32.5	40.9	29.5	26.0	24.3	26.1	28.3	30.7	36.2	37.9	38.5	33.0	30.3	
52	IKEA,Hut, North Circular Road (4 tubes)	520874	185173	59.3	43.9	49.3	44.8	40.7		42.7	54.5	52.9	53.5	48.7		48.4	**44.4**	34.0
53	Junction Ealing Road / High Road	518026	185028	84.1	61.2	73.2	55.2	63.9	62.5			70.3	80.0	86.3	43.7	68.0	**62.4**	*38.9*
54	Ealing Road/Riversi de Gardens	518236	183207	40.3	33.9	33.1	27.3	30.1	28.1	29.4	26.3	33.7	37.8	41.2	39.3	33.4	30.6	
60	Junction of Bridge Road/Forty Avenue	519475	186557	47.4	39.3	58.1	37.4	37.6	40.5	49.0		46.8	55.9	46.8	53.6	46.6	**42.7**	26.6
61	Forty Lane, F/O Old Brent Town Hall	519762	186600	64.6	75.6	67.8	52.8	55.9	58.5	53.8	62.5	70.7	62.6	73.6	73.3	64.3	**59.0**	30.1

Site ID	Site Name	X OS Grid Reference	Y OS Grid Reference	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Raw Annual Mean (µg/m3)	Bias Adjusted and Annualised Annual Mean (µg/m3)	Distance Corrected Annual Mean (µg/m3)
62	Junction of Kings Drive/Forty Lane	519667	186604	35.1	33.4	38.1	26.5	28.6	31.3	32.6	30.1	33.5	41.9	42.2	39.3	34.4	31.6	
63	King's Drive, Opposite 37 King's Drive	519703	187007	30.1	20.9	30.5	15.8	14.5	14.6	14.3	15.9	19.4	27.6	29.5	30.7	22.0	20.2	
64	The Paddocks, Opposite 9 The Paddocks	519824	186715	40.1	28.5	36.2	24.5	22.7	23.2	26.0	24.8	31.1	35.5	35.9	37.3	30.5	28.0	
65	Junction of Aybone Road/ NCR, Next to 517 NCR	521313	186529	48.1	32.0	43.1	28.4	28.3	27.0	29.7	32.8	33.3	42.4	40.8	42.8	35.7	32.8	
66	Junction of Heather Road/Tanfield Avenue	521912	186514	48.9	27.9	35.0		23.5	21.5	23.5	26.9	26.9	35.2	35.0	40.8	31.4	28.8	
67	Dawpool Road, F/O 24 Dawpool Road	521651	186611	45.2	26.4	31.5	20.5	18.8		18.1	21.6	24.3	29.3	33.1	39.7	28.0	25.7	
68	Junction of Randall Avenue/NCR, Next to 730 NCR	521448	186626	48.6	35.3	32.7	28.7	28.0	27.1	28.1	30.2	32.0	34.6	33.1	38.5	33.1	30.3	

Site ID	Site Name	X OS Grid Reference	Y OS Grid Reference	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Raw Annual Mean (µg/m3)	Bias Adjusted and Annualised Annual Mean (µg/m3)	Distance Corrected Annual Mean (µg/m3)
69	Wrentham Avenue, F/O 65 Wrentham Avenue	523782	183527	38.0	23.9	29.0	25.7	19.4	18.9	19.6	22.4	24.6	28.4	30.6	32.9	26.1	24.0	
70	Junction of Peploe Road/Chevening Road, F/O 72 Chevening Road	523828	183338	36.7	25.6	31.6	21.2	18.6	15.8		18.7	21.9	24.9	26.0	32.7	24.9	22.8	
71	Queens Park recreational area, On CCTV camera post	524179	183232	41.2	26.4	27.9	20.8	19.2	15.5	14.4	17.7	19.1	27.8	29.6	32.7	24.4	22.4	
72	Harvist Road, F/O 139 Harvist Road	524142	183120	38.9	30.2	38.0	24.2	20.3	17.4	18.8	22.3	25.2	29.8	32.4	34.0	27.6	25.3	
73	Junction of Harvist Road/Salisbury Road, Opposite Kilburn Police Station	524607	183267	39.7	26.6	39.4	28.2	24.6	22.4	24.1	28.5	32.2	33.0	36.2	37.4	31.0	28.5	
74	Junction of Salisbury	524283	183882	40.1	24.0	31.5	24.7	18.6	16.5	19.8	23.3	24.9	26.5	28.2	31.9	25.8	23.7	

Site ID	Site Name	X OS Grid Reference	Y OS Grid Reference	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Raw Annual Mean (µg/m3)	Bias Adjusted and Annualised Annual Mean (µg/m3)	Distance Corrected Annual Mean (µg/m3)
	Road/Chevening Road																	
75	Junction of Woodcock Hill/Woodcock Hill	517499	187778		20.5	31.8	20.8	18.5	15.4	17.3	19.2	22.8	27.7	28.9	32.6	23.2	21.3	
76	Lindsay Drive, near junction with Branksome way	518430	188406		17.8	27.7	16.4	13.3	12.5	13.1	15.2	18.5	23.0	26.7	32.0	19.7	18.0	
77	Beverly Drive, near junction of Sandhurst road	519100	189827		26.5	31.8	21.2	18.9	16.6	20.0	20.2	23.7	31.4	32.6	36.2	25.4	23.3	
78	Harrow Road junction of Watford Road	516721	185478	42.1	29.3	34.7	27.3	29.6	28.8	32.2	30.0	38.2	40.4	42.4	44.3	34.9	32.1	
79	Ark Franklin AQ station	523721	183008	45.6	25.0	36.7	25.5	23.6	20.5	23.8	24.5	33.5	33.9	35.1		29.8	27.3	
BR T42	Police Station, Craven Park	521131	183995	40.6	27.5	40.9	32.5	27.6	25.0	28.5	34.9	33.7	37.6	36.3	38.7	33.7	30.9	
BR T43	Pitfield Way, North Circular	520242	184541	57.6	41.9	43.2	37.7	32.8	36.9	39.7	43.3	43.6	49.8	51.1	50.8	44.0	**40.4**	31.4

Site ID	Site Name	X OS Grid Reference	Y OS Grid Reference	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Raw Annual Mean (µg/m3)	Bias Adjusted and Annualised Annual Mean (µg/m3)	Distance Corrected Annual Mean (µg/m3)
BR T53	High Road Wembley	518303	185181	74.1			57.4	67.0	66.2	73.2	72.5	80.4	76.7	74.2	69.9	71.2	**<u>65.3</u>**	**48.0**
BR T55	High Street, Harlesden	521743	183361	178.1	74.0	77.8	87.5	72.9	72.3	80.7	88.8	83.0	81.5			89.6	**<u>82.2</u>**	**<u>61.9</u>**
BR T56	Chamberlayne Road	523635	183153	37.1	38.4	40.2	35.4	32.0	28.8	30.8			41.1	45.0	46.3	37.5	34.4	
BR T57	Kilburn Bridge	525419	183612	63.2		54.6	46.0	49.5		51.3	53.9	61.8				54.3	**49.8**	*37.4*
BR T58	51 High Road, Willesden	523031	184655	55.9	36.9	46.7	38.7	34.0	32.3	38.6	40.7	40.4	29.7	28.4	43.6	38.8	35.6	

Notes

Concentrations are presented as µg m^{-3}.

Exceedances of the NO_2 annual mean AQO of 40 µg m^{-3} are shown in **bold**.

NO_2 annual means in excess of 60 µg m^{-3}, indicating a potential exceedance of the NO_2 hourly mean AQS objective are shown in **<u>bold and underlined</u>**.

All means have been "annualised" in accordance with LLAQM Technical Guidance if valid data capture for the calendar year is less than 75% and greater than 25%.

(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%).

Appendix C Brent School Streets and Healthy Neighbourhood monitoring results

In 2020, a secondary network of diffusion tubes were deployed for monitoring of School Streets and Low Traffic Neighbourhood schemes. The results of this monitoring for 2021 and 2022 are presented below. The same QA/QC process, as described in Appendix A, has been applied to this set of results.

Table P. School Street NO_2 Diffusion Tube Results

Site ID	Site Name	X OS Grid Reference	Y OS Grid Reference	Data Capture (%)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Raw Annual Mean (µg/m3)	Bias Adjusted and Annualised Annual Mean (µg/m3)
SZ1	Harlesden, Minet Avenue j/w Acton Lane	521103	183408	56.6	42.0						20.8	24.0	27.2	31.3	33.1	35.7	30.6	25.8
SZ2	Wykeham, Annesley Close j/w Aboyne Road	521069	186250	99.2	42.5	29.4	33.0	21.6	21.5	17.3	19.7	19.5	24.6	32.4	34.3	34.3	27.5	25.2
SZ3A	Elsley Primary School, Tokyngton Avenue	518900	184774	92.0	32.9	21.3	28.7	20.7	17.5	12.6	14.8	19.0	21.3	24.7		30.9	22.2	20.4
SZ3B	Esley Primary School Berkhamsted Avenue at Gaddesden Avenue	518913	184670	84.6			28.0	21.8	18.9	14.3	14.3	17.8	20.7	24.5	25.5	28.5	21.4	19.7

Site ID	Site Name	X OS Grid Reference	Y OS Grid Reference	Data Capture (%)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Raw Annual Mean (µg/m3)	Bias Adjusted and Annualised Annual Mean (µg/m3)
SZ4a	John Keble, Crownhill Road Manor Park Road to Harlesden Gardens	521643	183579	99.2	42.0	28.9	35.3	20.5	23.4	20.7	20.8	25.8	26.2	35.5	36.0	37.2	29.4	26.9
SZ4b	Convent Jesus & Mary Language College, Crownhill Road Manor Park Road to Harlesden Gardens	521718	183649	99.2	44.1	30.8	35.6	24.5	23.1	21.0	20.4	22.0	27.7	38.5	39.3	38.9	30.5	28.0
SZ4c	MapleWalk, Crownhill Road Manor Park Road to Harlesden Gardens	521781	183700	99.2	44.7	24.4	30.3	21.4	19.7	16.4	16.7	20.1	23.1	30.3	31.3	33.1	26.0	23.8
SZ5a	St Joseph Primary, Goodson Road j/w Brownlow Road & Leopold Road	521394	184264	91.8		22.2	31.5	21.0	18.8	15.7	17.2	19.4	23.5	28.4	30.2	34.2	23.8	21.9

Site ID	Site Name	X OS Grid Reference	Y OS Grid Reference	Data Capture (%)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Raw Annual Mean (µg/m3)	Bias Adjusted and Annualised Annual Mean (µg/m3)
SZ5b	St Joseph Primary, Leopold Road j/w Goodson Road & Northcote Road	521364	184185	91.8		24.4	32.0	22.6	19.5	16.3	17.5	20.1	24.4	30.1	30.3	36.9	24.9	22.9
SZ6	Preston Park, College Road Glendale Gardens & Thirlmere Gardens	517900	187137	68.7		19.1	26.4	17.1	15.5				15.9	23.8	24.7	30.1	21.6	19.2
SZ7	Mora, Mora Road J/W Temple Road & Wotton Road/St Michael's Road	523119	185933	89.6	35.7	21.7	32.6	22.0	18.1	14.8	17.8	22.3	22.3		27.4	34.6	24.5	22.5
SZ8	St Marys CE Primary, Garnet Road j/w Mayo Road	521314	184712	92.3	42.2	29.9	30.4	24.8	22.8	19.0	18.6		23.2	29.9	31.2	33.8	27.8	25.5
SZ10	Christ church, Clarence Road, Willesden Lane & Torbay Road	524585	184031	99.2	40.0	25.2	32.5	22.8	17.9	14.4	17.1	18.4	21.2	25.1	28.0	33.8	24.7	22.7

Site ID	Site Name	X OS Grid Reference	Y OS Grid Reference	Data Capture (%)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Raw Annual Mean (µg/m3)	Bias Adjusted and Annualised Annual Mean (µg/m3)
SZ11A	Our Lady of Lourdes, Wesley Road at Hillside	520480	183908	76.1	37.2	22.3	27.7	20.2	17.4	15.2				27.2	28.3	32.3	25.3	23.2
SZ11b	Stonebridge Primary, Wesley Road at Hillside	520525	183861	59.1		20.8	32.4	23.0	19.1	15.9					29.5	32.5	24.7	23.1
SZ12	Our Lady of Grace Infants, Dollis Hill Avenue at A5 & Mount Road	523167	186491	92.0	56.5		30.1	22.6	17.1	14.3	19.3	22.7	23.7	27.4	25.3	34.0	26.6	24.4
SZ14A	St Joseph Juniors, Chatsworth Avenue j/w Harrow Road	518837	185102	99.2	33.6	20.8	34.9	24.7	20.5	15.7	15.8	22.4	25.4	27.8	31.0	34.0	25.5	23.4
SZ14B	St Joseph Infants, WAvenuerley Avenue j/w Harrow Road	518835	185012	99.2	35.1	23.0	33.5	18.9	20.6	16.0	18.3	23.2	25.7	30.0	31.4	35.5	25.9	23.8
SZ15	St Mary Magdalens, Linacre at junction with Acland Road	522934	184702	91.5	56.6	23.0	33.2	23.0	20.1	17.2		20.7	22.6	25.3	31.0	34.0	27.9	25.6

Site ID	Site Name	X OS Grid Reference	Y OS Grid Reference	Data Capture (%)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Raw Annual Mean (µg/m3)	Bias Adjusted and Annualised Annual Mean (µg/m3)
SZ16	Convent of J & M Infants, Access Road to school between 19 & 25	523039	184745	99.2	37.5	23.5	32.2	20.6	17.6	14.4	14.7	19.7	21.4	28.2	28.4	32.3	24.2	22.2
SZ17	Northview, Northview Cres j/w Southview	521618	185525	99.2	47.5	32.0	31.1	23.8	21.8	17.4	18.2	20.7	25.1	30.7	33.1	33.7	27.9	25.6
SZ18	Princes Frederica, Purves Road	523224	183045	99.2	43.0	28.2	31.6	24.3	20.8	16.9	19.4	22.7	25.4	28.1	32.0	34.6	27.3	25.0
SZ19	Ark Franklin, Kempe Road between Chamberlayne Road & Peploe Road	523744	183076	99.2	40.8	27.0	28.4	21.5	19.8	16.1	17.3	19.1	22.9	27.8	31.1	33.1	25.4	23.3
SZ20A	Queens Park Community, Aylestone Avenue between Chudleigh Road & Christchurch Avenue	523678	183956	99.2	32.5	17.2	31.1	17.4	14.6	11.9	12.9	15.8	17.6	22.3	24.1	29.7	20.6	18.9

Site ID	Site Name	X OS Grid Reference	Y OS Grid Reference	Data Capture (%)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Raw Annual Mean (µg/m3)	Bias Adjusted and Annualised Annual Mean (µg/m3)
SZ20B	Malorees I & J, Christchurch Avenue between Aylestone Avenue & Brondesbury Park	524003	183995	99.2	33.5	20.7	27.6	18.3	15.3	13.6	14.7	16.6	19.9	24.6	24.6	31.0	21.7	19.9
SZ22	Kingsbury High, Bacon Lane from school to Roe Lane	519883	189197	91.8		18.4	26.9	16.4	12.9	11.7	13.6	15.7	19.0	21.7	23.4	30.0	19.1	17.5
SZ23	Kingsbury Green, Old Kenton Lane	520065	188673	91.8		20.3	30.7	19.3	16.7	14.2	16.5	18.2	22.5	25.4	23.9	27.4	21.4	19.6
SZ231	Slough Lane (St Robert Southwell Primary School)	520211	188478	84.6			28.2	18.7	14.9	13.1	15.2	17.5	21.3	25.4	27.4	30.2	21.2	19.4
SZ24	Mount Stewart I & J, Mount Stewart Avenue between Abercorn Gardens and Manning Gardens	517739	187912	91.8		15.4	26.8	16.1	13.0	10.9	12.8	13.9	17.4	22.1	25.4	28.9	18.4	16.9

Site ID	Site Name	X OS Grid Reference	Y OS Grid Reference	Data Capture (%)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Raw Annual Mean (µg/m3)	Bias Adjusted and Annualised Annual Mean (µg/m3)
SZ25A	Claremont High School	518243	188627	99.2	39.4	17.9	24.9	15.1	14.5	12.6	14.1	13.7	18.9	22.7	24.8	30.2	20.7	19.0
SZ25B	Uxendon School	518184	188539	99.2	40.8	15.7	24.6	15.0	12.4	11.4	12.8	13.7	18.1	21.0	23.2	28.3	19.8	18.1
SZ26	Sudbury Primary School	516559	185913	91.8		21.4	29.8	18.8	17.4	14.1	17.1	18.5	21.5	27.1	30.1	32.0	22.5	20.7
SZ27	Oakington Manor School	519913	185066	99.2	36.3	21.6	30.0	21.3	18.6	15.1	17.4	20.4	25.4	29.4	30.3	35.4	25.1	23.0
SZ41	Leopold, Hawkeshead Road j/w Oldfield Road & Roundwood Road	521624	184275	90.7	38.5	22.4	28.3	20.2	15.8	12.6	15.3	17.8		27.1	28.1	31.5	23.4	21.5
SZ63	Preston Manor Upper School, Hollycroft Avenue J/W Highfield Avenue	518603	186544	79.9	33.3	21.1	26.3	17.3		13.3	13.7	15.5	19.0		27.9	30.5	21.8	20.0
SZ81	Brentfield Primary, Meadow Garth by	520512	184580	99.2	40.3	24.7	26.8	24.0	17.7	16.3	17.2	20.3	25.6	26.7	29.0	32.2	25.1	23.0

Site ID	Site Name	X OS Grid Reference	Y OS Grid Reference	Data Capture (%)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Raw Annual Mean (µg/m3)	Bias Adjusted and Annualised Annual Mean (µg/m3)
	Homefield Close																	

Table Q. Brent Healthy Neighbourhoods NO_2 Diffusion Tube Results

Site ID	Site Name	X OS Grid Reference	Y OS Grid Reference	Data Capture (%)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Raw Annual Mean (µg/m3)	Bias Adjusted and Annualised Annual Mean (µg/m3)
PM14A	Lawrence Avenue	520763	183700	91.5	42.4	26.7	33.3	23.4	20.8	16.1		20.6	23.7	31.7	29.4	33.8	27.4	25.2
PM14b	Craven Park	521049	183874	99.2	42.7	36.7	46.0	34.6	34.3	31.3	34.0	37.4	36.2	46.0	43.7	45.2	39.0	35.8
PM14C	Nicoll Road	521401	183542	90.4	42.1	23.2	33.2		17.8	17.3	18.5	20.7	23.8	30.8	34.9	34.5	27.0	24.8
PM14D	Connaught Road	521321	183478	99.2	43.9	25.5	35.6	21.9	20.9	16.6	18.8	19.8	24.4	29.9	35.0	37.1	27.5	25.2
PM16a	Fortunegate Road	521348	183912	99.2	56.5	25.7	31.8	25.9	20.8	17.0	18.3	22.7	27.1	32.7	33.0	39.3	29.2	26.8
PM16b	Roundwood Road	521741	184243	99.2	35.9	22.4	30.3	20.9	19.4	16.0	17.6	19.5	22.7	25.6	26.9	29.5	23.9	21.9
PM19a	Chamberlayne road (Manor School)	523453	183500	99.2	51.8	32.8	40.8	26.0	27.3	26.2	30.0	29.0	35.6	39.7	42.3	42.3	35.3	32.4
PM19b	Tiverton Road	523931	183500	99.2	35.4	24.3	29.9	23.9	19.1	18.1	18.5	20.8	23.2	27.8	30.1	32.3	25.3	23.2

Site ID	Site Name	X OS Grid Reference	Y OS Grid Reference	Data Capture (%)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Raw Annual Mean (µg/m3)	Bias Adjusted and Annualised Annual Mean (µg/m3)
PM19c	Salusbury road (Salusbury primary school)	524520	183495	99.2	40.9	28.9	32.1	25.9	23.4	22.9	25.0	27.2	30.5	34.1	33.8	37.3	30.2	27.7
PM20c	Kilburn High Road	524907	184274	80.2	52.4	37.3	43.4	36.7	37.7	31.2	35.9	37.9	40.2		45.2		39.8	36.5
PM22A	Walm Lane	523854	185249	99.2	40.6	26.6	29.7	23.4	20.0	18.7	20.2	21.2	24.6	27.8	31.8	32.9	26.5	24.3
PM22B	Lydford Road	523770	185086	99.2	37.5	23.3	28.7	21.9	19.0	17.2	19.2	20.8	24.0	27.4	29.2	31.7	25.0	22.9
PM22C	Exeter Road	524333	184827	99.2	39.6	20.4	30.9	20.8	17.6	15.2	16.2	19.8	22.3	27.1	27.9	32.8	24.2	22.2
PM22D	Shoot-up Hill	524486	184877	64.8	61.9	44.1	51.7	42.5	39.3	37.1	47.0				48.1		46.5	44.7
PM22E	Dartmouth Road	523846	184875	99.2	35.9	21.1	26.5	20.0	17.2	14.5	17.0	18.1	21.3	25.0	26.1	30.8	22.8	20.9
PM23A	Chapter Road	522708	184973	99.2	46.6	27.7	32.2	25.7	21.7	17.8	20.0	23.5	26.3	29.2	32.3	34.3	28.1	25.8
PM23B	Acland Road	522970	184812	99.2	40.3	22.1	33.2	23.7	19.7	16.9	18.1	21.0	23.4	28.1	29.9	35.2	26.0	23.8
PM25a	Agave Road	523246	185765	99.2	34.0	23.4	34.4	25.6	16.6	16.4	19.1	23.0	23.7	28.1	28.2	34.2	25.6	23.4

Site ID	Site Name	X OS Grid Reference	Y OS Grid Reference	Data Capture (%)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Raw Annual Mean (µg/m3)	Bias Adjusted and Annualised Annual Mean (µg/m3)
PM25b	Ashford Road	523581	185671	81.0	39.8	22.3	28.9	19.5	18.0	15.9	18.2	22.1			28.8	36.6	25.0	23.0
PM25c	Anson Road	523560	185395	99.2	41.4	25.5	32.6	24.8	19.9	19.0	22.4	24.3	27.7	27.3	30.4	36.3	27.6	25.4
PM26a	Gladstone Park Gardens	522941	186263	99.2	39.7	24.7	30.9	22.2	19.0	14.7	17.4	21.1	22.5	28.4	30.7	32.6	25.3	23.2
PM26b	Dollis Hill Lane (Our Lady of Grace School)	522563	186233	91.5	36.9	26.5	30.8	21.7	17.4	15.3		19.7	22.5	28.6	30.1	35.1	25.9	23.7
PM28A	East Lane	517811	186252	91.8		37.1	47.9	42.5	37.4	36.3	38.0	42.6	43.4	41.9	48.9	47.0	42.1	38.6
PM28B	Clarendon Gardens	518367	185872	83.5	33.0		29.6	18.3	16.5	13.7	16.2	18.0		26.7	28.6	30.3	23.1	21.2
PM28C	Castleton Avenue	518172	186004	99.2	40.9	26.8	30.8	21.7	18.7	16.0	18.1	19.8	23.2	29.5	33.4	33.6	26.0	23.9
PM28D	St John's Road	518076	185421	99.2	37.7	24.1	33.6	21.7	19.9	17.4	18.8	20.9	25.0	30.0	31.1	34.4	26.2	24.0
PM28E	Meadow Way	517952	185913	99.2	33.3	21.5	28.6	19.4	16.2	14.7	16.3	17.4	21.2	26.6	29.2	31.8	23.0	21.1

Site ID	Site Name	X OS Grid Reference	Y OS Grid Reference	Data Capture (%)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Raw Annual Mean (µg/m3)	Bias Adjusted and Annualised Annual Mean (µg/m3)
PM29a	Carlton Avenue East	517896	186958	99.2	38.0	24.9	30.9	22.2	19.3	15.3	15.6	16.9	22.3	27.1	31.1	33.2	24.7	22.7
PM29b	Grasmere Avenue	518008	187311	99.2	31.1	19.2	28.7	18.0	15.1	15.1	15.9	16.6	19.9	26.2	28.1	30.8	22.1	20.2
PM29c	Preston Road	518280	187411	90.7	46.4	34.4		31.0	30.5	30.9	30.4	31.3	36.1	38.9	38.3	43.8	35.6	32.7
PM32a	Princes Avenue	519588	189311	82.1		20.9	28.7	18.8	18.5	15.4	17.0	17.9	22.6		32.0	34.0	22.6	20.7
PM32b	Brampton Road	519432	188972	83.0		22.0	29.3		16.9	15.6	17.1	18.1	23.1	27.7	28.5	33.1	23.1	21.2
PM32c	Berkeley Road	519913	185066	91.8		23.2	30.6	17.3	17.1	14.8	17.2	18.1	23.7	28.3	31.1	36.0	23.4	21.5
PM36A	Cecil Avenue	524951	183606	90.7	41.5	25.5		27.0	25.8	21.1	24.1	27.3	31.4	33.6	33.4	38.7	30.0	27.5
PM36B	Harrow Road	525002	183499	99.2	43.1	29.8	38.4	27.6	26.6	23.2	25.9	30.0	33.2	36.5	38.0	40.5	32.7	30.0