

Lambeth Air Quality Annual Status Report for 2019

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This report provides a detailed overview of air quality in Lambeth during 2019. It has been produced to meet the requirements of the London Local Air Quality Management statutory process¹.

For more information regarding this report, please contact sustainability@lambeth.gov.uk.

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

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Abbreviations

AQAP	Air Quality Action Plan
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AQAPSG	Air Quality Action Plan Steering Group
AQMA	Air Quality Management Area
AQO	Air Quality Objective
BEB	Buildings Emission Benchmark
CAB	Cleaner Air Borough
CAZ	Central Activity Zone
CEMP	Construction Environmental Management Plan
EV	Electric Vehicle
GLA	Greater London Authority
JSNA	Joint Strategic Needs Assessment
LAEI	London Atmospheric Emissions Inventory
LAQM	Local Air Quality Management
LEL	Low Emission Logistics
LCAW	Lambeth Clean Air Week
LLAQM	London Local Air Quality Management
MAQF2	Mayor's Air Quality Fund Round 2
MAQF3	Mayor's Air Quality Fund Round 3
NRMM	Non-Road Mobile Machinery
PM ₁₀	Particulate matter less than 10 micron in diameter
PM _{2.5}	Particulate matter less than 2.5 micron in diameter
TEB	Transport Emissions Benchmark
TfL	Transport for London

Table A. Summary of National Air Quality Standards and Objectives

Pollutant	Objective (UK)	Averaging Period	Date¹
Nitrogen dioxide - NO ₂	200 µg m ⁻³ not to be exceeded more than 18 times a year	1-hour mean	31 Dec 2005
	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
	40 µg m ⁻³	Annual mean	31 Dec 2004
Particles - PM _{2.5}	25 µg m ⁻³	Annual mean	2020
	Target of 15% reduction in concentration at urban background locations	3 year mean	Between 2010 and 2020
Sulphur Dioxide (SO ₂)	266 µg m ⁻³ not to be exceeded more than 35 times a year	15 minute mean	31 Dec 2005
	350 µg m ⁻³ not to be exceeded more than 24 times a year	1 hour mean	31 Dec 2004
	125 µg m ⁻³ not to be exceeded more than 3 times a year	24 hour mean	31 Dec 2004

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

1. Air Quality Monitoring

1.1 Locations

Table B. Details of Automatic Monitoring Sites for 2019

Site ID	Site Name	X (m)	Y (m)	Site Type	In AQMA?	Distance from monitoring site to relevant exposure (m)	Distance to kerb of nearest road (N/A if not applicable) (m)	Inlet height (m)	Pollutants monitored	Monitoring technique
LB4	Brixton Road	531070	175593	Kerbside	Y	0.5	0.1	2	NO ₂ , PM ₁₀	BAM1020, NO _x Analyser
LB5	Vauxhall Bondway Interchange	530317	177952	Industrial	Y	5	3	2	NO ₂ , PM ₁₀ , SO ₂	BAM1020, NO _x Analyser, SO ₂ Analyser
LB6	Streatham Green	529971	171570	Background	Y	15	6	2	NO ₂ , PM ₁₀	BAM1020, NO _x Analyser

Table C. Details of Non-Automatic Monitoring Sites for 2019

In 2017 Lambeth started diffusion tube monitoring around the borough; at the end of 2019 we had 51 diffusion tubes on street. For a map of the diffusion tubes in Lambeth please visit: <https://drive.google.com/open?id=1QYFGBTNqyz-r0-eshZczO2A-IGOogmvX&usp=sharing>

Site ID	Site Name	X (m)	Y (m)	Site Type	In AQMA?	Distance from monitoring site to relevant exposure (m)	Distance to kerb of nearest road (N/A if not applicable) (m)	Inlet height (m)	Pollutants monitored	Tube co-located with an automatic monitor? (Y/N)
DT1	Brixton AQ Monitoring Station - co-located	531070	175593	Roadside	Y	0.5	0.1	2	NO ₂	Y
DT2	Brixton AQ Monitoring Station - co-located	531070	175593	Roadside	Y	0.5	0.1	2	NO ₂	Y

DT3	Brixton AQ Monitoring Station - co-located	531070	175593	Roadside	Y	0.5	0.1	2	NO ₂	Y
DT4	Waterloo Rd / Exton Street	531139	180048	Roadside	Y	1	0.5	2.2	NO ₂	N
DT5	Waterloo Rd / Holmes Terrace	531214	179907	Roadside	Y	2	0.5	2.2	NO ₂	N
DT6	98 The Cut	531494	179951	Roadside	Y	1	0.5	2.2	NO ₂	N
DT7	278-282 Kennington Lane (between St. Oswald's Place and Vauxhall St)	530817	178122	Roadside	Y	0.5	0.5	2.2	NO ₂	N
DT8	Archbishop Tennyson School, 55 Kennington Oval	530868	177740	Roadside	Y	0.3	0.5	2.2	NO ₂	N
DT9	Alverstone House, Kennington Park Road	531196	177653	Roadside	Y	0.5	0.5	2.2	NO ₂	N
DT10	Brixton Road/Prima Road	531250	177464	Roadside	Y	0.5	0.5	2.2	NO ₂	N
DT11	13 Clapham Road outside Belgrave Hotel	531093	177419	Roadside	Y	0.5	0.5	2.2	NO ₂	N
DT12	223 Clapham Road outside Richardsdon Court and Costcutter	530404	176321	Roadside	Y	0.2	0.5	2.2	NO ₂	N
DT13	Clapham Road, close to Grantham Road	530363	176269	Roadside	Y	0.3	0.5	2.2	NO ₂	N
DT14	378 Clapham Road (by Savoy Mews)	530105	175956	Roadside	Y	0.3	0.5	2.2	NO ₂	N
DT15	Clapham Road, outside Roy Ridley House	530009	175719	Roadside	Y	0.5	0.5	2.2	NO ₂	N
DT16	Clapham Common tube station, outside Joe Public Café	529413	175284	Roadside	Y	1	2	2.2	NO ₂	N

DT17	8 Stockwell Park Walk	530916	175784	Roadside	Y	0.5	0.5	2.2	NO ₂	N
DT18	Stockwell Road/Bellefields Road	531020	175699	Roadside	Y	0.5	0.5	2.2	NO ₂	N
DT19	Brixton Road bus stop Q (outside KFC)	531027	175320	Roadside	Y	0.3	0.5	2.2	NO ₂	N
DT20	Effra Road/Kellett Road	531038	175092	Roadside	Y	0.5	0.5	2.2	NO ₂	N
DT21	22 Brixton Water Lane	531231	174607	Roadside	Y	0.3	0.5	2.2	NO ₂	N
DT22	St. Matthew's Estate, outside 6 Hicken Road	530928	174849	Roadside	Y	0.3	0.5	2.2	NO ₂	N
DT23	Brixton Hill/Horsford Road (Corpus Christi RC School)	530781	174682	Roadside	Y	0.5	0.5	2.2	NO ₂	N
DT24	Brixton Hill/New Park Road	530150	173680	Roadside	Y	0.3	0.5	2.2	NO ₂	N
DT25	Christchurch House, Christchurch Road (South Circular)	530461	173470	Roadside	Y	0.3	0.5	2.2	NO ₂	N
DT26	Streatham Hill/Wavertree Road	530452	173105	Roadside	Y	0.5	0.5	2.2	NO ₂	N
DT27	Streatham Hill Station/opposite 10 Streatham High Road	530255	172632	Roadside	Y	0.5	0.5	2.2	NO ₂	N
DT28	Streatham High Road/Leigham Avenue	530217	172353	Roadside	Y	0.5	0.5	2.2	NO ₂	N
DT29	Streatham High Road/Becmead Avenue	530130	172013	Roadside	Y	0.5	0.5	2.2.	NO ₂	N
DT30	Public space outside 316	530015	171489	Roadside	Y	0.5	0.5	2.2	NO ₂	N

	Streatham High Road (opp Stanthorpe Road)									
DT31	243A Streatham Hill (bus stop opposite Streatham Station)	530101	171148	Roadside	Y	0.3	0.5	2.2	NO ₂	N
DT32	Clapham High Street (Clapham Library)	529730	175446	Roadside	Y	0.3	0.5	2.2	NO ₂	N
DT33	Clapham, Old Town	529217	175648	Roadside	Y	0.5	0.5	2.2	NO ₂	N
DT34	South Circular - past bus stop	529130	174288	Roadside	Y	0.3	0.5	2.2	NO ₂	N
DT35	South Circular - Oaklands Estate, outside Hawkesworth House	529263	174190	Roadside	Y	0.5	0.5	2.2	NO ₂	N
DT36	South Circular - Poynders Court	529420	173996	Roadside	Y	0.5	0.5	2.2	NO ₂	N
DT37	South Circular - Christchurch Road/Roupell Road	530821	173309	Roadside	Y	0.5	0.5	2.2	NO ₂	N
DT38	South Circular - Fenstanton Primary	531160	173103	Roadside	Y	1	1	2.2	NO ₂	N
DT39	South Circular - Tulse Hill/Norwood Road	531731	173026	Roadside	Y	0.5	0.5	2.2	NO ₂	N
DT40	South Circular - Lords Close	532341	172918	Roadside	Y	0.5	0.5	2.2	NO ₂	N
DT41	Norwood Road/York Hill	531839	172552	Roadside	Y	0.5	0.5	2.2	NO ₂	N
DT42	380 Norwood Road (O'Girasol)	531923	172225	Roadside	Y	0.5	0.5	2.2	NO ₂	N
DT43	West Norwood Bus Station	531936	171795	Roadside	Y	2	2	2.2	NO ₂	N
DT44	223-225 Gipsy Road	533016	171534	Roadside	Y	0.5	0.5	2.2	NO ₂	N

DT45	Gipsy Hill Station	533328	171264	Roadside	Y	0.5	0.5	2.2	NO ₂	N
DT46	Herne Hill 1	531989	174329	Roadside	Y	3	3	2.2	NO ₂	N
DT47	Herne Hill 2	531860	174353	Roadside	Y	0.3	0.1	2.2	NO ₂	N
DT48	Loughborough Junction 1	531972	175331	Roadside	Y	0.3	0.5	2.2	NO ₂	N
DT49	Loughborough Junction 2	531856	175680	Roadside	Y	0.3	0.5	2.2	NO ₂	N
DT50	Acre Lane	530657	175133	Roadside	Y	0.5	0.5	2.2	NO ₂	N
DT51	Crown lane school next to bus stop	531513	171051	Roadside	Y	1	0.5	2.2	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, the details of which are described in Appendix A. Lambeth did not carry out diffusion tube monitoring prior to 2018, so only results from 2018 and 2019 are provided below.

Table D. Annual Mean NO₂ Ratified and Bias-adjusted Monitoring Results (µg m⁻³)

Site ID	Site type	Valid data capture for monitoring period % ^a	Valid data capture 2019 % ^b	Annual Mean Concentration (µg m ⁻³)						
				2013 ^c	2014 ^c	2015 ^c	2016 ^c	2017 ^c	2018 ^c	2019 ^c
LB4 (Brixton Road)	Automatic	N/A	78%	<u>112</u>	<u>149</u>	<u>129</u>	<u>92 (118)^d</u>	<u>75 (95)^d</u>	<u>74.2 (95)^d</u>	<u>60.1 (75)^d</u>
LB5 (Vauxhall Bondway Interchange)	Automatic	N/A	99%	<u>62 (64.9)</u>	<u>71</u>	<u>75</u>	<u>65 (69)^d</u>	<u>61 (65)^d</u>	<u>51.1 (54)^d</u>	<u>45.6 (48)^d</u>

Site ID	Site type	Valid data capture for monitoring period % ^a	Valid data capture 2019 % ^b	Annual Mean Concentration ($\mu\text{g m}^{-3}$)						
				2013 ^c	2014 ^c	2015 ^c	2016 ^c	2017 ^c	2018 ^c	2019 ^c
LB6 (Streatham Green)	Automatic	N/A	98%	43 (44.9)	37 (38.1)	29	33 (34) ^d	28.8(29) ^d	33.8 (34) ^d	31.8 (32) ^d
DT1	Diffusion	N/A	81.82%	N/A	N/A	N/A	N/A	N/A	<u>75.09</u>	<u>72.47</u>
DT2	Diffusion	N/A	90.91%	N/A	N/A	N/A	N/A	N/A	<u>76.79</u>	<u>73.98</u>
DT3	Diffusion	N/A	81.82%	N/A	N/A	N/A	N/A	N/A	<u>76.15</u>	<u>72.81</u>
DT4	Diffusion	N/A	81.82%	N/A	N/A	N/A	N/A	N/A	36.78	36.39
DT5	Diffusion	N/A	54.55%	N/A	N/A	N/A	N/A	N/A	<u>61.38</u>	50.33
DT6	Diffusion	N/A	100.00%	N/A	N/A	N/A	N/A	N/A	45.41	39.43
DT7	Diffusion	N/A	100.00%	N/A	N/A	N/A	N/A	N/A	46.70	42.92
DT8	Diffusion	N/A	90.91%	N/A	N/A	N/A	N/A	N/A	51.35	48.03
DT9	Diffusion	N/A	72.73%	N/A	N/A	N/A	N/A	N/A	54.29	55.28
DT10	Diffusion	N/A	90.91%	N/A	N/A	N/A	N/A	N/A	33.61	33.45
DT11	Diffusion	N/A	100.00%	N/A	N/A	N/A	N/A	N/A	50.60	47.65
DT12	Diffusion	N/A	81.82%	N/A	N/A	N/A	N/A	N/A	51.66	48.84
DT13	Diffusion	N/A	100.00%	N/A	N/A	N/A	N/A	N/A	52.40	48.97

Site ID	Site type	Valid data capture for monitoring period % ^a	Valid data capture 2019 % ^b	Annual Mean Concentration ($\mu\text{g m}^{-3}$)						
				2013 ^c	2014 ^c	2015 ^c	2016 ^c	2017 ^c	2018 ^c	2019 ^c
DT14	Diffusion	N/A	90.91%	N/A	N/A	N/A	N/A	N/A	51.84	50.84
DT15	Diffusion	N/A	100.00%	N/A	N/A	N/A	N/A	N/A	52.05	53.78
DT16	Diffusion	N/A	54.55%	N/A	N/A	N/A	N/A	N/A	43.90	44.09
DT17	Diffusion	N/A	90.91%	N/A	N/A	N/A	N/A	N/A	42.27	46.58
DT18	Diffusion	N/A	100.00%	N/A	N/A	N/A	N/A	N/A	52.17	50.50
DT19	Diffusion	N/A	54.55%	N/A	N/A	N/A	N/A	N/A	75.15	<u>62.02</u>
DT20	Diffusion	N/A	100.00%	N/A	N/A	N/A	N/A	N/A	39.37	35.68
DT21	Diffusion	N/A	90.91%	N/A	N/A	N/A	N/A	N/A	31.58	34.88
DT22	Diffusion	N/A	100.00%	N/A	N/A	N/A	N/A	N/A	25.85	28.49
DT23	Diffusion	N/A	81.82%	N/A	N/A	N/A	N/A	N/A	39.92	29.38
DT24	Diffusion	N/A	100.00%	N/A	N/A	N/A	N/A	N/A	36.51	33.39
DT25	Diffusion	N/A	100.00%	N/A	N/A	N/A	N/A	N/A	46.38	51.71
DT26	Diffusion	N/A	100.00%	N/A	N/A	N/A	N/A	N/A	34.98	34.03
DT27	Diffusion	N/A	90.91%	N/A	N/A	N/A	N/A	N/A	<u>67.44</u>	<u>67.26</u>
DT28	Diffusion	N/A	100.00%	N/A	N/A	N/A	N/A	N/A	52.60	55.59

Site ID	Site type	Valid data capture for monitoring period % ^a	Valid data capture 2019 % ^b	Annual Mean Concentration (µg m ⁻³)						
				2013 ^c	2014 ^c	2015 ^c	2016 ^c	2017 ^c	2018 ^c	2019 ^c
DT29	Diffusion	N/A	90.91%	N/A	N/A	N/A	N/A	N/A	<u>66.95</u>	<u>66.98</u>
DT30	Diffusion	N/A	90.91%	N/A	N/A	N/A	N/A	N/A	42.75	55.63
DT31	Diffusion	N/A	100.00%	N/A	N/A	N/A	N/A	N/A	<u>72.90</u>	<u>65.55</u>
DT32	Diffusion	N/A	81.82%	N/A	N/A	N/A	N/A	N/A	36.00	37.30
DT33	Diffusion	N/A	100.00%	N/A	N/A	N/A	N/A	N/A	36.33	32.25
DT34	Diffusion	N/A	90.91%	N/A	N/A	N/A	N/A	N/A	51.82	52.97
DT35	Diffusion	N/A	81.82%	N/A	N/A	N/A	N/A	N/A	48.02	41.95
DT36	Diffusion	N/A	100.00%	N/A	N/A	N/A	N/A	N/A	55.19	51.18
DT37	Diffusion	N/A	100.00%	N/A	N/A	N/A	N/A	N/A	47.54	40.48
DT38	Diffusion	N/A	100.00%	N/A	N/A	N/A	N/A	N/A	56.90	50.53
DT39	Diffusion	N/A	81.82%	N/A	N/A	N/A	N/A	N/A	52.59	46.78
DT40	Diffusion	N/A	100.00%	N/A	N/A	N/A	N/A	N/A	53.95	49.07
DT41	Diffusion	N/A	90.91%	N/A	N/A	N/A	N/A	N/A	51.60	43.28
DT42	Diffusion	N/A	90.91%	N/A	N/A	N/A	N/A	N/A	55.19	52.45
DT43	Diffusion	N/A	90.91%	N/A	N/A	N/A	N/A	N/A	40.87	39.31

Site ID	Site type	Valid data capture for monitoring period % ^a	Valid data capture 2019 % ^b	Annual Mean Concentration ($\mu\text{g m}^{-3}$)						
				2013 ^c	2014 ^c	2015 ^c	2016 ^c	2017 ^c	2018 ^c	2019 ^c
DT44	Diffusion	N/A	100.00%	N/A	N/A	N/A	N/A	N/A	35.32	35.38
DT45	Diffusion	N/A	90.91%	N/A	N/A	N/A	N/A	N/A	31.17	28.02
DT46	Diffusion	N/A	90.91%	N/A	N/A	N/A	N/A	N/A	44.75	35.95
DT47	Diffusion	N/A	72.73%	N/A	N/A	N/A	N/A	N/A	37.69	45.19
DT48	Diffusion	N/A	100.00%	N/A	N/A	N/A	N/A	N/A	48.00	50.18
DT49	Diffusion	N/A	100.00%	N/A	N/A	N/A	N/A	N/A	40.08	28.97
DT50	Diffusion	N/A	100.00%	N/A	N/A	N/A	N/A	N/A	47.36	44.05
DT51	Diffusion	100.00%	45.45%	N/A	N/A	N/A	N/A	N/A		35.97

Notes: Exceedance of the NO₂ annual mean AQO of 40 $\mu\text{g m}^{-3}$ are shown in **bold**.

NO₂ annual means in excess of 60 $\mu\text{g m}^{-3}$, indicating a potential exceedance of the NO₂ hourly mean AQS objective are shown in bold and underlined.

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

^b data capture for the full calendar year (e.g. if monitoring was carried out for six months the maximum data capture for the full calendar year would be 50%)

^c Means should be “annualised” in accordance with LLAQM Technical Guidance, if valid data capture is less than 75%.

^d Means results have been adjusted for distance to a location of relevant public exposure in accordance with LLAQM Technical Guidance. For comparison, values in brackets show actual annual mean readings at each monitoring station.

The LB4 kerbside site at Brixton Road significantly exceeded the objective in 2019, despite a decrease from previous years. It has exceeded the objective for all years reported and consistently monitored some of the highest concentrations in London. NO₂ concentration levels are a concern at this site as several people live and work in the area. Due to damage from water ingress, LB4 at Brixton Road was unfortunately offline from August 2018 until March 2019.

The LB5 industrial site at Vauxhall Bondway Interchange exceeded the objective in 2019 but with a lower result than in 2018. This is the first time the site has come within 20% of the objective. This site is located close to the busy Vauxhall gyratory and a major bus station. The nearest receptors at this site are

people using the bus interchange. The Vauxhall bus station will be redeveloped in the coming years and the air quality monitoring station will have to be relocated to accommodate the new bus station layout.

The background site at Streatham Green (LB6) did not exceed the annual mean objective of $40 \mu\text{g m}^{-3}$ for 2019.

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

Site ID	Valid data capture for monitoring period % ^a	Valid data capture 2019 % ^b	Number of Hourly Means > 200 µg m ⁻³						
			2013 ^c	2014 ^c	2015 ^c	2016 ^c	2017 ^c	2018 ^c	2019 ^c
LB4 (Brixton Road)	N/A	78%	250	1732	883	539	75	83 (247.87)	11 (196)
LB5 (Vauxhall Bondway Interchange)	N/A	99%	0 (161)	3	4	1	0	0	0
LB6 (Streatham Green)	N/A	98%	2 (143)	0 (135)	0	0 (0)	0	0	0

Notes: Exceedance of the NO₂ short term AQO of 200 µg m⁻³ over the permitted 18 days per year are shown in **bold**.

Where the period of valid data is less than 85% of a full year, the 99.8th percentile is shown in brackets after the number of exceedances.

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

^b data capture for the full calendar year (e.g. if monitoring was carried out for six months the maximum data capture for the full calendar year would be 50%)

^c Means should be “annualised” in accordance with LLAQM Technical Guidance, if valid data capture is less than 75%.

Due to damage from water ingress, LB4 at Brixton Road was unfortunately offline from August 2018 until March 2019. As such, we had no data from the site during this period. This has had a significant impact on reporting of the NO₂ short term AQO objective as most exceedances have historically occurred earlier in the year. This has resulted in a possible underrepresentation of exceedances in 2019.

Both LB5 Vauxhall Bondway Interchange and LB6 Streatham Green met the objective.

Table F. Annual Mean PM₁₀ Automatic Monitoring Results (µg m⁻³)

Site ID	Valid data capture for monitoring period % ^a	Valid data capture 2019 % ^b	Annual Mean Concentration (µg m ⁻³)						
			2013 ^c	2014 ^c	2015 ^c	2016 ^c	2017 ^c	2018 ^c	2019 ^c
LB4 (Brixton Road)	NA	76%	32 (32.3)	30 (29.8)	28 (26.9)	40	35	30 (29)	25
LB5 (Vauxhall Bondway Interchange)	NA	99%	38 (39.2)	40	43	39 (38)	37	34	38
LB6 (Streatham Green)	NA	97%	17 (17.6)	24 (22.8)	18.2 (19)	20 (22)	28 (26)	20	19

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

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

^b data capture for the full calendar year (e.g. if monitoring was carried out for six months the maximum data capture for the full calendar year would be 50%)

^c Means should be “annualised” in accordance with LLAQM Technical Guidance, if valid data capture is less than 75%. Value before annualisation is shown in brackets. See Appendix A.3 for further details.

At Brixton Road LB4 kerbside monitoring station the annual mean PM₁₀ objective was met. However, it should be noted that data capture was 76% in 2019 due to delays replacing the monitoring station enclosure following water ingress in 2018. Therefore, it cannot be guaranteed that this is an accurate representation.

The results from Vauxhall Bondway Interchange LB5 industrial site increased slightly when compared to 2018. The result is still close to the objective level and the site remains a concern due to borderline results in previous years. The area has seen significant construction activity continuing in recent years with a number of large developments in close proximity to the site. In early 2019, several PM₁₀ pollution spikes were recorded. Lambeth commissioned KCL to investigate the source of this additional air pollution. KCL confirmed the additional air pollution was most likely due to nearby construction work. KCL recommended actions to resolve this issue, which Lambeth put into practice and air pollution in the area has now been reduced. In late 2019, Vauxhall

recorded high air pollution readings again. Lambeth is in touch with KCL and TfL, as it is believed that these high readings are due to contamination from a nearby tube vent. The investigation into the tube contamination continues.

At Streatham Green LB6 urban background monitoring station the annual mean PM₁₀ objective was met and fell back to levels seen in 2015-2016 after an increase in 2017. There does not appear to be a significant trend in results over the past 7 years with mean concentrations that range between 17 and 28 µg m⁻³.

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

Site ID	Valid data capture for monitoring period % ^a	Valid data capture 2019 % ^b	Number of Daily Means > 50 µg m ⁻³						
			2013 ^c	2014 ^c	2015 ^c	2016 ^c	2017 ^c	2018 ^c	2019 ^c
LB4 (Brixton Road)	NA	76%	13 (46.6)	12 (43.7)	11 (39.5)	57	27	13 (46)	10 (38.1)
LB5 (Vauxhall Bondway Interchange)	NA	99%	22 (53.8)	62	73 (60.6)	43 (62.7)	64	45	74
LB6 (Streatham Green)	NA	97%	4 (27.4)	10 (40.44)	1 (34.5)	2 (33.8)	11 (10)	3	5

Notes: Exceedance of the PM₁₀ short term AQO of 50 µg m⁻³ over the permitted 35 days per year or where the 90.4th percentile exceeds 50 µg m⁻³ are shown in **bold**. Where the period of valid data is less than 85% of a full year, the 90.4th percentile is shown in brackets after the number of exceedances.

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

^b data capture for the full calendar year (e.g. if monitoring was carried out for six months the maximum data capture for the full calendar year would be 50%)

^c Means should be “annualised” in accordance with LLAQM Technical Guidance, if valid data capture is less than 75%.

Based on the percentile figure, the number of exceedances at LB4 breached the air quality objective in 2019, but with a lower percentile figure than recorded in 2018. However, due to limited data capture, it cannot be guaranteed this is an accurate representation.

Vauxhall Bondway Interchange LB5 has recorded a breach with the highest number of exceedances recorded since 2013. In early 2019, several PM₁₀ pollution spikes were recorded. Lambeth commissioned KCL to investigate the source of this additional air pollution. KCL confirmed the additional air pollution was most likely due to nearby construction work. KCL recommended actions to resolve this issue, which Lambeth put into practice and air pollution in the area has now been reduced. In late 2019, Vauxhall recorded high air pollution readings again. Lambeth is in touch with KCL and TfL, as it is believed that these high readings are due to contamination from a nearby tube vent. The investigation into the tube contamination continues.

Streatham Green LB6 met the objective.

Table H. SO₂ Automatic Monitor Results: Comparison with Objectives

Site ID	Valid data capture for monitoring period % ^a	Valid data capture 2019 % ^b	Number of: ^c		
			15-minute means > 266 µg m ⁻³	1-hour mean > 350 µg m ⁻³	24-hour mean > 125 µg m ⁻³
LB5 (Vauxhall Cross Interchange)	NA	99%	0	0	0

Exceedances of the SO₂ AQOs are shown in **bold** (15-min mean = 35 allowed a year, 1-hour mean = 24 allowed a year, 24-hour mean = 3 allowed / year)

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

^b data capture for the full calendar year (e.g. if monitoring was carried out for six months the maximum data capture for the full calendar year would be 50%)

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

There were no exceedances of SO₂ concentrations which is in line with previous years’ results.

2. Action to Improve Air Quality

2.1 Air Quality Action Plan Progress

Table I provides a brief summary of Lambeth progress against the Air Quality Action Plan, showing progress made this year. New projects which commenced in 2019 are shown at the bottom of the table.

Table I. Delivery of Air Quality Action Plan Measures

Ref	Action	Responsible	Deadline	Update
1.1	Include a policy on air quality as part of the Local Plan review	Director of Planning, Transportation and Sustainability	Early 2021	<ul style="list-style-type: none">For an update, please see this report presented to Cabinet on 13 January 2020 and to Council on 22 January 2020.Regarding air pollution, the Draft Revised Lambeth Local Plan Proposed Submission Version 2020 states that Lambeth will apply London Plan policy SI1 Improving Air Quality to all development proposals in the borough, along with associated Mayoral guidance on Air Quality Neutral and Air Quality Positive standards and on ways to reduce construction and demolition impacts.For more information, please see here and here.The deadline for this action has changed to reflect the dates in the Cabinet and Council report.
1.2	Work with neighbourhood planning forums on area-specific air quality policies in	Director of Planning, Transportation	Throughout Plan	<ul style="list-style-type: none">The South Bank and Waterloo Neighbourhood Plan was made by Lambeth in December 2019 and contains air quality policies.The Council will work with any local community that wants to write a Neighbourhood Plan to develop policies to improve air quality for local citizens.

	emerging neighbourhood plans	and Sustainability		
1.3	<p>Explore the potential for allocation of funds from s106 planning obligations aimed at offsetting air quality impacts from a development.</p> <p>Explore potential to add an Air Quality Fund should Lambeth CIL Charging Schedule be reviewed</p>	Director of Planning, Transportation and Sustainability	Throughout Plan	<ul style="list-style-type: none"> For an update, please see this report presented to Cabinet on 13 January 2020 Further to last year's ASR, Lambeth has continued to use CIL to fund our electric ice cream van project During 2019/20, Neighbourhood CIL for air quality work was awarded as: <ul style="list-style-type: none"> Planting workshops at the community hub of Reay School (£2,500) Bee Urban community planting workshops in Oval (£2,500) De-paving and Greening in West Norwood (£5,000)
1.4	Identify and manage the impact of growth and regeneration on waste management and industrial processes regulated under the Environmental Permitting Regulations	Director of Planning, Transportation and Sustainability	Throughout Plan	<ul style="list-style-type: none"> Our Air Quality Guidance Note requires Air Quality Assessments submitted with planning applications to consider the impact of industrial processes regulated under the Environmental Permitting Regulations (EPR). Lambeth Sustainability are also responsible for managing industrial processes under the LAPPC regime and are also consulted on all air quality aspects of major planning applications and applications affecting sensitive receptors, such as schools. Lambeth publishes a map of Part B industrial processes regulated under LAPPC on our website, alongside the LAPPC public register, to inform Air Quality Assessments as well as decisions taken by Council officers. Lambeth has no Part A installations

				<ul style="list-style-type: none"> Whenever a planning application is received by Lambeth Sustainability, it is checked to see whether any waste management processes are nearby
2.1	<i>Educate and raise awareness amongst developers of Non-Road Mobile Machinery (NRMM) and enforce NRMM policies</i>		Complete	<i>As explained in our 2018 ASR, this action is now complete</i>
2.2	Develop internal processes to continue to educate and raise awareness amongst developers of NRMM; and enforce NRMM policies after funding expires in March 2019	Director of Planning, Transportation and Sustainability	Throughout Plan	<ul style="list-style-type: none"> Further to our 2018 ASR, our application to Round 2 of the Mayor's Air Quality Fund led by Merton along with other London boroughs was successful. We therefore have funding until March 2022 to continue to educate and raise awareness amongst developers of NRMM and enforce NRMM policies.
2.3	<i>Continue to research pollution mitigation measures as part of London Low Emission Construction Partnership (LLECP); promote LLECP scheme, findings and recommendations among developers operating in the borough</i>		Complete	<i>As explained in our 2018 ASR, this action is now complete</i>
2.4	Continue work and legacy of LLECP after funding expires in March 2019	Director of Planning, Transportation	March 2022	<ul style="list-style-type: none"> Further to our 2018 ASR, our application to Round 3 of the Mayor's Air Quality Fund led by Merton along with other London boroughs was successful. We therefore have funding

		and Sustainability		until March 2022 to continue to educate and raise awareness amongst developers of NRMM, and enforce NRMM policies.
2.5	<i>Carry out an investigation into whether a Construction Impact Monitoring Officer(s) should be recruited to monitor and enforce against dust from construction</i>			<ul style="list-style-type: none"> • <i>The Construction Compliance Officer employed in October 2018 is still in post.</i> • <i>Further to our 2018 ASR, at present there are no plans to employ a second Construction Compliance Officer.</i> • <i>This action is now marked as completed.</i>
3	CHP and biomass air quality policies	Director of Planning, Transportation and Sustainability	Throughout Plan	<ul style="list-style-type: none"> • Our Air Quality Guidance Note includes our policies and guidelines on CHP, biomass plant and ultra-low NOx boilers • Lambeth Sustainability is consulted on all air quality aspects of major planning applications and applications affecting sensitive receptors such as schools. This includes review of emissions from proposed energy centres. Relevant emissions standards in line with the Sustainable Design and Construction SPG are secured by planning condition
4	Implementing London Plan Air Quality Neutral Policy	Director of Planning, Transportation and Sustainability	Throughout Plan	<ul style="list-style-type: none"> • As per action 1.1, the Draft Revised Lambeth Local Plan Proposed Submission Version 2020 states that Lambeth will implement Mayoral guidance on Air Quality Neutral and Air Quality Positive standards.
5	Ensuring adequate, appropriate, and well-located green space and infrastructure	Director of Planning, Transportation	Throughout Plan	<ul style="list-style-type: none"> • Lambeth Sustainability is consulted on all air quality aspects of major planning applications and applications affecting sensitive receptors such as schools. As part of their recommendations they suggest opportunities for more green infrastructure and green spaces in general and in locations where they will protect

	is included and protected in developments	and Sustainability		future residents from air pollution, such as between developments and busy roads or railway lines. More green infrastructure and green spaces may be requested if more mitigation is needed where a proposed development does not meet Air Quality Neutral benchmarks for buildings and/or transport or as an additional protection measure even if the benchmarks have been met.
6	Ensuring emissions from construction are minimised	Director of Planning, Transportation and Sustainability	Throughout Plan	<ul style="list-style-type: none"> • Our Air Quality Guidance Note includes information regarding minimising emissions during construction. Sustainability officers also review Construction Environmental Management Plans, Method Statements and Construction Logistics Plans submitted by developers for air quality impacts during construction. • Lambeth Sustainability and Planning Enforcements investigate and if necessary, enforce whenever poor air quality is reported and is suspected to be due to construction. • As per Action Point 2.5, our Construction Site Compliance Officer is still in post.
7	Ensuring that Smoke Control Zones are appropriately identified and fully promoted and enforced	Director of Planning, Transportation and Sustainability	March 2021	<ul style="list-style-type: none"> • When this action was originally added to the AQAP, it was intended to take a report to Cabinet recommending to replace the existing Smoke Control Orders with one Smoke Control Order which would cover the whole of the borough (instead of individual notices). The deadline to complete this action was March 2020. But at the AQAP Steering Group meeting on 21 August 2019, it was agreed to delay this action while we waited for the Environment Bill 2020 to be published. We will now look at taking a report to Cabinet in 2020/21. • Our residents can report a breach of a Smoke Control Order by completing our online form.
8.1	Lambeth Housing to make full use of funding available under RE:NEW scheme and to	Director of Housing	Throughout Plan	<ul style="list-style-type: none"> • Between August 2018 and July 2019, we replaced 634 boilers in Lambeth housing stock

	replace at least 250 boilers each year			
8.2	Promoting RE:NEW scheme to individual households, social and private landlords to increase uptake of the scheme in the borough	Director of Planning, Transportation and Sustainability	Throughout Plan	<ul style="list-style-type: none"> Sustainability Officers held a series of workshops for residents to advise how to reduce energy and save money, including on: 4 November 2019, 25 February 2020 and 12 March 2020 For more information, please see: https://twitter.com/lambeth_council/status/1235252931206799361 and https://www.eventbrite.co.uk/e/energy-efficiency-at-home-residents-drop-in-session-tickets-76784453367?aff=ebdssbdestsearch#
8.3	Explore opportunities for Lambeth to make full use of the RE:FIT information support scheme to retrofit all remaining public buildings including schools, libraries and leisure centres	Director of Planning, Transportation and Sustainability	Throughout Plan	<ul style="list-style-type: none"> In early 2020 we started work at retrofitting through the RE:FIT programme Richard Atkins Primary and Jubilee Primary. In order to achieve carbon neutrality, we published in July 2019 our Corporate Carbon Reduction Plan. In this plan, we committed to rolling out RE:FIT (now called Retrofit Accelerator) across all council buildings in Lambeth.
9	Review and enforce emissions management control techniques at facilities the Council regulates under the Environmental Regulations	Director of Planning, Transportation and Sustainability	Throughout Plan	<ul style="list-style-type: none"> Having completed a comprehensive review of all environmental permits and all installations regulated by Lambeth under the LAPPC regime in 2017, we continue to ensure full compliance of all industrial processes in Lambeth with emission limits and all other legal requirements. All operators are given detailed inspection reports highlighting any issues. We continue to provide direct support and guidance to existing and prospective permit holders on all our requirements We publish a map of Part B industrial processes regulated under Environmental Permitting Regulations alongside the LAPPC public register Lambeth has no Part A installations

10	Director of Public Health is fully briefed on the scale of the problem, what is being done and what is needed	Director of Planning, Transportation and Sustainability	Throughout Plan	<ul style="list-style-type: none"> Lambeth Public Health and Sustainability Officers meet regularly to discuss air quality. The 2019 Annual Public Health Report to be published later in 2020 is focussing on air quality and climate change.
11	Public Health teams support engagement with local stakeholders (businesses, schools, community groups and healthcare providers) and are asked for their support	Director of Public Health	Throughout Plan	<ul style="list-style-type: none"> An officer from Public Health continues to attend meetings of the Air Quality Action Plan Steering Group. Officers from Public Health participated in Lambeth Clean Air Week 2019; such as answering questions during the Twitter Takeover on Tuesday 18 June. In early 2019 high levels of PM₁₀ were recorded at Vauxhall Air Quality Monitoring Station. The Public Health Team at Lambeth paid from their budget for King's College London to investigate the source of the air pollution and to recommend measures to improve local air quality. Public Health funded and organised participative theatre sessions with council staff as well as residents of all ages, with the objective to engage them about air quality, raise awareness and get feedback on what can be done including feasibility of interventions suggested based on evidence.
12.1	JSNA includes air quality as a key theme and has up to date information on air quality impacts	Director of Public Health	Throughout Plan	<ul style="list-style-type: none"> Our current JSNA is available online. Due to the website being updated, unfortunately it's not been possible yet to upload our amended JSNA. The 2019 Annual Public Health Report to be published later in 2020 is focussing on air quality and climate change.
12.2	Communications campaign highlighting health impacts of poor air quality	Director of Planning, Transportation	Throughout Plan	<ul style="list-style-type: none"> During the summer, Sustainability Officers attended Estate Fun Days to raise awareness regarding air pollution and climate change. We raised awareness regarding air quality work on our webpage.

		and Sustainability		<ul style="list-style-type: none"> We advertised that Lambeth Citizens can receive air pollution updates through AirTEXT. We relaunched our air quality webpage.
13	Strengthening co-ordination with Public Health by ensuring that at least one consultant grade public health specialist within the borough has air quality responsibilities outlined in their job profile	Director of Public Health	Throughout Plan	<ul style="list-style-type: none"> Lambeth has two officers in Public Health who have air quality responsibilities In 2019 a National Management Trainee in Public Health and a Trainee Registrar worked on the Annual Public Health Report, which looked at air quality. Public health provided technical input to equality analysis of the proposal for enforcement against Idling offence within London Borough of Lambeth
14	Ensure that the lead officer for Transport has been fully briefed on the Public Health duties and the fact that all directors (not just Director of Public Health) are responsible for delivering them, as well as on air quality opportunities and risks related to transport in the borough	Director of Planning, Transportation and Sustainability	Throughout Plan	<ul style="list-style-type: none"> On 2 October 2019, our Transport & Public Realm Strategy Manager attended the AQAP Steering Group to give an update regarding Brixton Liveable Neighbourhood and transport actions in our AQAP. Officers in Transport are also working on three Low Traffic Neighbourhoods in the borough, which will help to lower emissions.
15.1	Prepare information pack for businesses on how to help improve air quality and reduce exposure for employees and customers	Director of Planning, Transportation and Sustainability	Throughout Plan	<ul style="list-style-type: none"> The pack continues to be available for businesses in Lambeth, which they can adapt for their needs. For example, the pack is being used by Station to Station BID in West Norwood: https://stationtostation.london/wp-content/uploads/2019/11/Air-quality-Pack-for-Businesses-FINAL-1.pdf. Working with Brixton BID and InStreatham BID, we successfully submitted in partnership with CRP, Lewisham and other London

				boroughs, an application to Defra for funding for Clean Air Villages 2 , which included our Brixton Electric Van project.
15.2	Annual business engagement event to educate and raise awareness regarding air quality; and to find joint working opportunities	Director of Planning, Transportation and Sustainability	Throughout Plan	<ul style="list-style-type: none"> Wednesday 19 June during Lambeth Clean Air Week, we held an event for local businesses to swap ideas regarding best practice to improve air quality.
16.1	Promote and build on the work of airTEXT to alert sensitive receptors and other vulnerable citizens of high pollution days	Director of Planning, Transportation and Sustainability	Throughout Plan	<ul style="list-style-type: none"> We continue to financially contribute towards and to advertise AirTEXT to our citizens. We also financially contribute to www.londonair.org.uk to ensure air quality data from our monitoring stations is available to our citizens.
16.2	Increase promotion of cycling and walking websites and apps, such as walkit.com	Director of Planning, Transportation and Sustainability	Throughout Plan	<ul style="list-style-type: none"> In 2019 we relaunched our air quality webpage, which included additional information regarding clean air walking routes. At awareness raising events, such as Estate Fun Days, we advertised clean air walking routes.
17.1	Continue to actively engage with all schools in the STARS programme	Director of Environment and Streetscene	Throughout Plan	<ul style="list-style-type: none"> Lambeth continues to engage with all schools regarding STARS. In 2019, a Healthy Streets Officer, funded through TfL, joined Lambeth who has helped with promoting STARS. Working with Sustrans and Living Streets to provide training, raised awareness and increased sustainable travel to school
17.2	Continue to support schools to implement travel plans moving from bronze to silver to gold	Director of Environment and Streetscene	Throughout Plan	<ul style="list-style-type: none"> In 2019, 20 schools achieved gold, 8 schools achieved silver and 25 schools achieved bronze

17.3	Engage with Nurseries	Director of Planning, Transportation and Sustainability	Throughout Plan	<ul style="list-style-type: none"> During 2019 officers visited schools and nurseries to create our green screen programme. In 2020 we will be formally announcing at which schools and nurseries in the borough we will be building green screens. Two nurseries in Lambeth took part in the Mayor's Air Quality Audits: Ethelred Nursery and Triangle Nursery. Lambeth worked with the nurseries and WSP in 2019 to carry out the audits and the recommendations were published in early 2020. We will now work at delivering the actions from these recommendations.
17.4	Travel Plans Poster campaign for under 5s: link between active travel and air quality	Director of Planning, Transportation and Sustainability	Completed	<ul style="list-style-type: none"> This action has now been completed, as the posters have been designed. We have created four posters (one for each season), which will be displayed throughout the year. In April 2020 we have been advertising our Spring poster: https://twitter.com/Lambethsustrans/status/124747775138766853
18	Air quality at schools and other educational institutions	Director of Planning, Transportation and Sustainability	Throughout Plan	<ul style="list-style-type: none"> During 2019 officers visited schools and nurseries to create our green screen programme. In 2020 we will be formally announcing at which schools and nurseries in the borough we will be building green screens. In addition to the above, in 2019 we built green screens at St John's the Divine Primary and at Oasis Academy Johanna. We implemented school streets at Immanuel & St Andrew's Primary and at Jessop Primary. We offered air quality grants to schools, colleges and universities in Lambeth to improve air quality. Please see our Love Lambeth story for more information regarding air quality and schools work in 2019.
19.1	Air Quality to be considered when making decisions	Management Board	Throughout Plan	<ul style="list-style-type: none"> When writing a report in Lambeth, officers must use a template. In Section 9.1 the instructions say: "Improving air quality is a priority for Lambeth and the Council has

				declared a Climate Emergency, so please ensure that you have considered air quality, carbon emissions and the impact on climate change in writing this report”.
19.2	Air quality awareness increased amongst Lambeth officers	Director of HR and Organisational Development	Throughout Plan	<ul style="list-style-type: none"> During Lambeth Clean Air Week, on 20 June we organised a staff walk to raise awareness regarding air quality. On 13 May, as part of Mental Health Awareness Week, we held our <i>Time to Walk</i> event for colleagues linking the benefits of using clean air walking routes on mental health. At an event during our staff conference in September 2019, we showcased all the work we are doing to improve air quality in the borough to raise awareness with colleagues.
20	Work with Lambeth Youth Council to raise awareness	Director of Planning, Transportation and Sustainability	Throughout Plan	<ul style="list-style-type: none"> As part of Brixton Liveable Neighbourhood, we worked with WeRise to create a social media campaign and 16 local young people have been working to produce a strategy and content to increase engagement in the project.
21.1	Work closely with colleagues in Adult Social Care and Housing to identify vulnerable citizens	Director of Planning, Transportation and Sustainability	Throughout Plan	<ul style="list-style-type: none"> Our new Adult and Social Care webpages were launched, which included links to our air quality JSNA and information to encourage citizens to be more active. At Estate Fun Days and at Lambeth Country Show, we raised awareness with residents regarding air pollution.
21.2	Work closely with Age UK and other relevant organisations to produce tailored leaflets for older citizens and to visit future events aimed specifically at older citizens	Director of Planning, Transportation and Sustainability	Complete	<ul style="list-style-type: none"> Our air quality guide for older citizens was published in 2018, so this action is now being marked as complete. But we continue to make this guide available on our website and at events, such as Estate Fun Days and Lambeth Country Show.

22	Engagement with black and other minority ethnic citizens	Director of Public Health	Throughout Plan	<ul style="list-style-type: none"> In our Schools Air Quality Grant project, we prioritised schools with high numbers of students from BAME backgrounds and/or living in areas of high index of multiple deprivation. In March 2019 we held an anti-idling event at Igra Primary School.
23	Annual Residents' Air Quality Conference	Director of Planning, Transportation and Sustainability	Throughout Plan	<ul style="list-style-type: none"> We held this event on 20 June, as part of Lambeth Clean Air Week 2019.
24.1	Procurement policy to include a requirement for suppliers providing services over £100,000 to have attained silver Fleet Operator Recognition Scheme (FORS) accreditation	Director of Finance and Property	Completed	<ul style="list-style-type: none"> This action has been completed. It is now a requirement in our Responsible Procurement Policy (please see Number 4 on page 10) for all contracts with a significant transport element.
24.2	Update procurement policy to give preferential scoring to bidders delivering goods and services with zero or low emission vehicles when there is a heavy transport element to the tender	Director of Finance and Property	Completed	<ul style="list-style-type: none"> This action has been completed. It is now a requirement in our Responsible Procurement Policy (please see Number 4 on page 10).

25	Consolidation (Low Emission Logistics)	Director of Planning, Transportation and Sustainability	Throughout	<ul style="list-style-type: none"> The deadline for this action has changed to 'throughout', as even though our Low Emission Logistics project has finished, we are still working with our citizens to consolidate. We launched our Brixton Electric Van project to encourage local businesses to use a joint vehicle and share deliveries. From December 2019 to March 2020 we trialled a bike courier for local businesses in West Norwood.
26	Introduce Virtual Loading Bays (VLB) allowing the user to book kerb space online for loading and unloading at a particular time and place; and priority for ultra-low emission delivery vehicles	Director of Planning, Transportation and Sustainability	Completed	<ul style="list-style-type: none"> As written in our 2018 ASR, we are looking at including Virtual Loading Bays in Brixton Liveable Neighbourhood. In the AQAP we have now created Action 50 to monitor the development of the Brixton Liveable Neighbourhood. This action is therefore marked as complete, as it has been superseded by Action 50.
27	Obtain Fleet Operator Recognition Scheme (FORS) Gold accreditation for Lambeth's own fleet	Director of HR and Organisational Development	March 2022	<ul style="list-style-type: none"> Lambeth continues to progress its plan to achieve Gold status. The plan needs to be reviewed as it is behind schedule, and this will be done when staff can return to normal duties from Covid-19.
28	Increase the number of hydrogen, electric, hybrid, bio-methane and cleaner vehicles in the borough's fleet and accelerate uptake of new Euro VI/6 vehicles	Director of Environment and Streetscene	March 2022	<ul style="list-style-type: none"> Previously the leasing of council vehicles and the distribution of staff parking permits had been managed by different teams. In 2019/20 both these functions became the responsibility of the Parking and Enforcement Team to ensure a joined-up approach. During 2019/20 the terms and conditions of our staff essential car use policy were revised. In 2019/20, we replaced 24 fossil fuel vehicles with electric cars and vans.

29	Smarter Driver Training for Lambeth fleet drivers to increase fuel efficient driving	Director of HR and Organisational Development	Throughout Plan	<ul style="list-style-type: none"> We continue to offer smarter driver training to officers in line with the Fleet and Road Risk management policy.
30	Conduct feasibility study for introducing regenerative street sweepers into Lambeth's street cleansing fleet	Director of Environment and Streetscene	March 2022	<ul style="list-style-type: none"> The feasibility study was completed in March 2018. But we are not marking this action as complete, instead the date has been changed to monitor our MAQF street sweeper project. In Round 3 of the Mayor's Air Quality Fund, we submitted an application in partnership with Southwark to investigate street sweeping techniques on air quality. Our application was successful, and King's College London has been appointed to lead on research. Funding for the project is until March 2022.
31	Review of car users to determine whether the number of Lambeth officers driving vehicles for work could be reduced	Director of Environment and Streetscene	Complete	<ul style="list-style-type: none"> This action is now marked as complete. As per Action 28, the terms and conditions of our staff essential car use policy have been revised.
32	Green Infrastructure	Director of Planning, Transportation and Sustainability	Throughout Plan	<ul style="list-style-type: none"> In 2019 Green screens were built at Oasis Academy Johanna and St John the Divine. During 2019 officers visited schools and nurseries to create our green screen programme. In 2020 we will be formally announcing at which schools and nurseries in the borough we will be building green screens. Green infrastructure continues to be added in to schemes whenever possible, such as the road safety project at Kempshot Road which was approved in 2019. Furthermore, at Westminster Bridge Road Regeneration Project, we added a

				SuDS gardens, planted 20 new trees and transplanted 3 mature trees.
33	Investigate other measures, such as building a Low Emission Neighbourhood (LEN)	Director of Planning, Transportation and Sustainability	Throughout Plan	<ul style="list-style-type: none"> Unfortunately, our application to Round 3 of the Mayor's Air Quality Fund to build a LEN was unsuccessful. But our application for a Liveable Neighbourhood did receive funding; please see Action 50 for more information. Furthermore, Lambeth has committed to building 3 Low Traffic Neighbourhoods.
34	Investigate whether to install Santander bikes or other bike schemes outside Brixton Underground station, along Brixton Hill, Streatham Hill and Streatham	Director of Planning, Transportation and Sustainability	March 2022	<ul style="list-style-type: none"> We published a report in October 2019 to create a pan-London Byelaw to regulate the use of dockless bikes in the borough.
35	Lambeth is already part of the Central London Air Quality Cluster Group, which includes Southwark. Increase joint working with other neighbouring boroughs (Wandsworth, Merton, Croydon, Bromley and Lewisham) to tackle air pollution	Director of Planning, Transportation and Sustainability	Throughout Plan	<ul style="list-style-type: none"> Lambeth and Southwark were successful in our joint bid to Round 3 of the Mayor's Air Quality Fund to research the effect of street sweeping techniques on air quality. Our application led by Croydon to Round 3 of the Mayor's Air Quality Fund for a Construction Consolidation Centre was successful. We remain a member of the London Air Quality Network to monitor air pollution across London Lambeth worked with Lewisham and Wandsworth on the Defra funded Clean Air Villages 2 project.
36	Continue project to reduce pollution at Waterloo station from idling taxis	Director of Planning, Transportation	March 2022	<ul style="list-style-type: none"> Lambeth Sustainability Officers have been in touch with Network Rail to discuss ideas to reduce idling at Waterloo. During 2019 we worked on a project to introduce an anti-idling fine in the borough:

		and Sustainability		https://moderngov.lambeth.gov.uk/documents/s117074/ODDR%20Anti-Idling.pdf
37	Building green screens at Schools	Director of Planning, Transportation and Sustainability	March 2022	<ul style="list-style-type: none"> In 2019 Green screens were built at Oasis Academy Johanna and St John the Divine. During 2019 officers visited schools and nurseries to create our green screen programme. In 2020 we will be formally announcing at which schools and nurseries in the borough we will be building green screens.
38	Recruit citizens to help form a Steering Group to monitor our Air Quality Action Plan	Director of Planning, Transportation and Sustainability	Throughout Plan	<ul style="list-style-type: none"> During 2019, the Lambeth Air Quality Action Plan Steering Group met 6 March, 19 June and 2 October. The group continues to meet and anyone interested in joining should email sustainability@lambeth.gov.uk.
39	Get sign-off for report and implement Tree Wardens scheme	Director of Environment and Streetscene	Complete	<ul style="list-style-type: none"> This action is now complete (<i>I'll change the line to grey</i>). Lambeth welcomes working with citizens to maintain trees and we continue to do this: for example, it is easy for citizens to report damaged trees; residents helped water young trees during Summer 2019, etc.
40.1	Joint anti-idling project with other London Boroughs	Director of Planning, Transportation and Sustainability	Complete	<ul style="list-style-type: none"> As per our 2018 ASR, this action is now complete, as it was funded through Round 2 of the Mayor's Air Quality Fund.
40.2	Continue to build on anti-idling work from MAQF project (Action Point 40.1)	Director of Planning, Transportation	March 2022	<ul style="list-style-type: none"> Our application to Round 3 of the Mayor's Air Quality Fund, with the City of London and Camden as lead boroughs, was successful. Therefore, Lambeth remains a member of Idling Action until March 2022 when funding expires.

		and Sustainability		<ul style="list-style-type: none"> • In 2019 we worked with a number of schools to raise awareness regarding idling; for more information please see: https://love.lambeth.gov.uk/schools-lambeth-air-quality/ • During 2019 we worked on a project to introduce an anti-idling fine in the borough: https://moderngov.lambeth.gov.uk/documents/s117074/ODDR%20Anti-Idling.pdf
41	Work with car clubs to increase amount of electric, hydrogen and ultra-low emission vehicles in their fleet	Director of Planning, Transportation and Sustainability	Throughout Plan	<ul style="list-style-type: none"> • In December 2019 we launched our Electric Van project in partnership with ZipCar. • Our Transport Strategy was adopted in 2019. Regarding Low emission car clubs our Transport Strategy Implementation Plan says: “Legal advice precludes the borough from providing dedicated chargepoints for the car club sector on a large scale because of the risk of breaking state aid rules. The borough will investigate ways of encouraging and facilitating the car club sector to invest in the infrastructure required to electrify cars in dedicated bays”. • The date for the Action has been changed to monitor progress of delivering the Transport Strategy Implementation Plan.
42.1	Increase amount of citizens cycling outside the 18-38 age group	Director of Environment and Streetscene	March 2022	<ul style="list-style-type: none"> • In 2019 we built 27 cycle hangars. • We were at Lambeth Country Show in July 2019 to encourage all Lambeth citizens to cycle and answer any questions they had. • Throughout 2019, we retendered our contract to commission a supplier to provide cycle training services in the borough. • In 2019 we adopted our new Transport Strategy, which prioritises walking, cycling and public transport. • Our Try Before You Bike offer encourages new or returning cyclists to try a bike and facilitates their ownership of it. The offer includes a session of cycle training.

				<ul style="list-style-type: none"> In 2019 we trained around 1500 people outside of the 18-38 age group in training sessions with professional cycle instructors.
42.2	Very Important Pedestrian Days	Director of Environment and Streetscene	Throughout Plan	<ul style="list-style-type: none"> Lambeth celebrated Car Free Day in 2019 by working with residents to close 27 roads around the borough. Our application to Round 3 of the Mayor's Air Quality Fund in partnership with CRP and other London boroughs for our Healthy Streets Everyday project was successful.
43	Parking	Director of Environment and Streetscene	Throughout Plan	<ul style="list-style-type: none"> We continue with our Controlled Parking Zone programme. Work in 2019 included: <ul style="list-style-type: none"> Streatham Hill consultation St Leonard's and Streatham Vale West consultation Zone H Extension and amendments Croxted Road consultation
44	Installation of more residential electric charging points	Director of Environment and Streetscene	March 2022	<ul style="list-style-type: none"> During 2019/20 118 new residential electric charging points have been installed across Lambeth For a map showing available charging points in Lambeth, please see https://www.zap-map.com/live/
45	Installation of rapid chargers to help enable the take up of electric taxis, cabs and commercial vehicles (in partnership with TfL and/or OLEV	Director of Planning, Transportation and Sustainability	Throughout Plan	<ul style="list-style-type: none"> In 2019/20 in partnership with TfL, we installed X rapid chargers in the borough (figure to be inserted when officer responsible returns to role, as currently redeployed in response to Covid-19).
46	Reprioritisation of road space; reducing parking at some destinations and/or restricting	Director of Planning, Transportation	Throughout Plan	<ul style="list-style-type: none"> In 2019 we adopted our new Transport Strategy, which prioritises walking, cycling and public transport. Projects to reprioritise road space included:

	parking on congested high streets and A roads to improve bus journey times, cycling experience, and reduce emissions caused by congested traffic	and Sustainability		<ul style="list-style-type: none"> - Signing-off a report to add a one-way point closure for general traffic entering Pathfield Road from Estreham Road with exemption for cyclists. - Signing-off a report to allow two-way cycling in four one-way streets in the borough, including Bromell's Road. - In 2019 we announced the creation of 3 Low Traffic Neighbourhoods and in early 2020 started public engagement on the first. - Public engagement on proposals to create a Healthy Route for walking and cycling along Rosendale Road.
47.1	Campaign for low-emission buses to serve all routes in Lambeth	Director of Planning, Transportation and Sustainability	Throughout Plan	<ul style="list-style-type: none"> • Cllr Holland, Deputy Leader (Sustainable Transport, Environment and Clean Air) at every opportunity continues to campaign to the Mayor and TfL for Lambeth to be at the forefront to reduce emissions in the borough.
47.2	Continue to request extension of ULEZ to south of the borough	Director of Planning, Transportation and Sustainability	Throughout Plan	<ul style="list-style-type: none"> • Lambeth continues to deliver projects in the south of the borough to improve, such as: <ul style="list-style-type: none"> - Our first School Street was at Immanuel & St Andrew's Primary - Working with TfL, Sustrans and Station-to Station BID, we delivered a cycle courier between December 2019 to March 2020.
48	Link air quality to road closures for street parties and the Play Streets scheme	Director of Environment and Streetscene	Throughout Plan	<ul style="list-style-type: none"> • Previously for Car Free Day, the Council had organised one large road closure. But in 2019, we encouraged residents to apply for a play street to organise their own Car Free Day and 27 roads around the borough were closed.
49	Read through Lambeth Transport Plan 2011-31, the Cycling Strategy and also the Transport Strategy and add	Director of Planning, Transportation	Completed	<ul style="list-style-type: none"> • This Action is now marked as completed. In 2019 we adopted our Transport Strategy, which priorities walking, cycling and public transport. The new strategy strongly links with our

	any relevant actions in to AQAP	and Sustainability		priorities to improve air quality and be a carbon neutral borough.
50	Brixton Liveable Neighbourhood	Director of Planning, Transportation and Sustainability	Throughout Plan	<ul style="list-style-type: none"> For an update regarding work completed in 2019 for Brixton Liveable Neighbourhood, please see: https://love.lambeth.gov.uk/liveable-naighbourhood/

3. Planning Update and Other New Sources of Emissions

Table J. Planning requirements met by planning applications in Lambeth in 2019

Action	Number	Notes
a) Number of planning applications where an air quality impact assessment was reviewed for air quality impacts	53	By checking planning applications, we ensure that effects of poor air quality are reduced on existing nearby and future residents. For more information, please see Note A page 37
b) Number of planning applications required to monitor for construction dust	22	For more information, please see Note B page 37
c) Number of CHPs/Biomass boilers refused on air quality grounds	0	For more information, please see Note C page 37
d) Number of CHPs/Biomass boilers subject to GLA emissions limits and/or other restrictions to reduce emissions	4	For more information, please see Note D page 37
e) Number of developments required to install Ultra-Low NO _x boilers	5	For more information, please see Note E page 38
f) Number of developments where an AQ Neutral building and/or transport assessments undertaken	19	17 building, 19 transport For more information, please see Note F page 38
g) Number of developments where the AQ Neutral building and/or transport assessments not meeting the benchmark and so required to include additional mitigation	4	2 building and transport, 1 building, 1 transport For more information, please see Note G page 38

h) Number of planning applications with S106 agreements including other requirements to improve air quality	0	For more information, please see Note H page 38
Number of planning applications with CIL payments that include a contribution to improve air quality	0	But CIL payments have been used to maintain power points in parks which reduces idling from vendors and helps to improve air quality.
i) NRMM: Central Activity Zone and Canary Wharf Number of conditions related to NRMM included. Number of developments registered and compliant. 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.	13 conditions included 7 registered 8 compliant 0 uncompliant	During April 2019-2020 NRMM Conditions were applied at all developments; 13 NRMM conditions were added to developments within the CAZ LB Merton undertook 8 Site Audits in the CAZ, 5 sites achieved Self-Compliant status, 3 sites worked towards and achieved Compliance. All 7 registered sites were compliant, 1 site which wasn't registered prior to auditing was self-compliant. No sites failed to achieve Compliance. Lambeth achieved a Total Compliance status of 75%. Lambeth is taking part in the MAQF3 pan-London NRMM project led by Merton. Lambeth have employed a construction site compliance officer who has been carrying out regular site inspections in the Vauxhall area. Sustainability Officers have carried out NRMM inspections with colleagues from Merton and the construction site compliance officer. For more information, please see Note I page 38

NRMM: Greater London (excluding Central Activity Zone and Canary Wharf) Number of conditions related to NRMM included. Number of developments registered and compliant. 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 IIIA of the Directive and/or exemptions to the policy.	29 conditions included 10 registered 6 compliant 1 uncompliant	During April 2019-2020 NRMM Conditions were applied at all major developments; 29 NRMM conditions were added to developments outside the CAZ in 2019. LB Merton undertook 11 Site Audits outside the CAZ, 5 Sites achieved Self-Compliant status, 1 site worked towards and achieved Compliance and 1 Site failed to achieve Compliance. 4 sites had no NRMM, 1 of which wasn't registered prior to auditing. Lambeth achieved a Total Compliance status of 75%.
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Notes on the table:

- a. The purpose of this row is to identify whether all applications that are submitted with an air quality assessment or EIA are checked by the air quality officer/team. The requirement to submit an assessment is subject to local validation criteria, however the new London Plan specifies that all major developments should be accompanied by an assessment, so this should equal at least the number of major applications received once the new London Plan is finalised.
- b. The purpose of this row is to understand how widely active dust monitoring is used on construction sites. Dust monitoring is recommended in the GLA Control of Dust and Emissions during Construction and Demolition SPG for some high-risk sites. This number should include all sites where monitoring is required by condition or secured as part of a construction management plan or similar.
- c. This purpose of this row is to understand how far air quality policies are influencing the design or choice of communal heating systems. For the purposes of recording, "refused" should include applications where air quality impacts from the heating system are included in the reasons for formal refusal and applications where the energy strategy has been revised post-submission to remove CHP or biomass as a result of air quality concerns raised during the decision-making process.
- d. The purpose of this row is to ensure that the emissions limits for CHP and Biomass set out in Appendix 7 of the GLA Sustainable Design and Construction SPG are implemented. You should only count instances where compliance with these limits (or tighter limits, if required) have been secured by condition. You may want to note instances where conditions have not been imposed in the notes column.

- e. This row should record the number of planning permissions where use of ultra-low NO_x boilers were required as a direct condition or as a condition securing conformity with submitted documents, not the total number of boilers. Where standard conditions are used it is sufficient to say all developments, or all developments that meet a particular threshold (or however the decision to use standard conditions is done.)
- f. The purpose of this row is to identify how well applicants are implementing the requirement to undertake an air quality neutral assessment as part of the overall air quality assessment for developments.
- g. This row is intended to identify how challenging it is for developers to meet air quality neutral and should count the number of applications where the initial air quality neutral calculation showed the benchmarks were not met and additional on-site mitigation measures were agreed with the developer prior to grant of consent.
- h. These rows should be used to record the number of developments where payments of off-site measures were secured from the developments. This could be measures in lieu of meeting Air Quality Neutral on-site or other actions and payments relating to local policies or needs. It is not necessary to provide the amount of financial contributions.
- i. These rows should record the number of planning permissions where compliance with the NRMM LEZ is required as a direct condition or as a condition securing conformity a code of practice or a CMS requiring compliance. Where standard conditions are used it is sufficient to say all developments, or all developments that meet a particular threshold (or however the decision to use standard conditions is done.)

Process to ensure relevant planning applications are reviewed:

- Lambeth Planning team forward to Sustainability any planning applications where comments on air quality are required. At present Sustainability receive requests for comment on all major applications and other applications where there is a risk of impact on existing sensitive receptors such as schools, nurseries or care homes and/or where the development would introduce additional sensitive receptors into an area of concern, such as Air Quality Focus Areas. Sustainability Officers also comment on applications to discharge conditions on previously granted planning permissions whenever relevant to air quality, including Construction (Environmental) Management Plans.
- Sustainability have been developing air quality workshops that will be presented to planning officers in 2020. Guidance will be given on what is expected from an Air Quality Assessment including guidance on Air Quality Positive requirements, Urban Greening factors and what we expect to see in an Energy Strategy. Officers work closely with the Planning team and offer advice on whether a detailed comment is required.

Process to ensure air quality conditions including NRMM are enforced:

- Lambeth are part of the pan-London Merton led MAQF3 NRMM project. Every quarter the Lambeth Planning Enforcement team and Sustainability send the compliance inspector at Merton updated information on newly permitted, imminent developments with NRMM conditions. Sustainability officers are in regular contact with the NRMM inspector from Merton to exchange information on compliance and on ongoing developments which require a compliance visit
- NRMM compliance is included as a condition for all major developments in Lambeth outside the Central Activities Zone and all developments in the Central Activities Zone. In addition, when commenting on planning applications for air quality, Sustainability officers include an NRMM condition in their recommendations and ensure that NRMM emission standards are correctly referenced in Construction (Environmental) Management Plans submitted by developers for approval. This anticipates the change in policy coming into effect as of 2020 which will require NRMM at all developments in London to comply with emissions standards
- Lambeth's Construction Sites Compliance Officer has continued to visit sites in the Vauxhall area and ensuring NRMM and CEMP requirements are fulfilled.
- Lambeth are part of the MAQF Round 3 NRMM project led by Merton.
- The Sustainability team keep records of sites requiring additional monitoring for dust, and receive and assess monitoring data from ongoing developments

3.1 *New or significantly changed industrial or other sources*

In 2019, we did not receive any new applications from dry cleaning processes (Part B Authorised Process Dry Cleaners PG6/46 (04)). One permitted dry-cleaning process ceased to operate, and the permit was revoked. No other new sources were identified. We publish [a map of Part B industrial processes](#) regulated under Environmental Permitting Regulations on our website, alongside the [LAPPC public register](#).

Appendix A Details of Monitoring Site QA/QC

A.1 Automatic Monitoring Sites

Routine calibrations of equipment and periodic site audits were carried out by Enviro Technology, and King's College London Environmental Research Group (KCL). Routine calibrations are scheduled for every two weeks.

- **Brixton Road LB4 data capture 76%.** On 29/8/18 an ET engineer attended LB4 and found significant water ingress into the cabin from the rain earlier that morning. Water was found on the NOx analyser, BAM and cabin's electrical intake, the engineer therefore switched everything off for safety reasons. The NOx analyser was removed and taken to the workshop as the screen suffered water damage. A PO was raised 18/09/18 for a new cabin enclosure when it was discovered the existing enclosure could not be repaired. Significant issues with suppliers delayed the arrival of the new enclosure and subsequent fit out by ET. In order to remove the old enclosure and install the new one, the power had to be isolated. There was some confusion with UKPN who originally stated they were unable to temporarily isolate the power so we had to fill in an application do to a full disconnection and then a full reconnection. This process was delayed due to UKPN engineer availability over the Christmas period. On 11/01/19 Sustainability officers spoke with a UKPN highway asset manager who prioritised the reconnection works. A feeder pillar was installed 08/02/19 with UKPN reconnecting the power on 10/02/19. A new meter was then installed 11/03/19 and ET re-commissioned the station on 12/03/19.

PM₁₀ Monitoring Adjustment

The correction of 1/1.2 is applied to raw PM10 BAM data at an hourly basis so the fully ratified PM10 data is reference equivalent. This is done by KCL as we are part of the London Air Quality Network.

A.2 Diffusion Tube Quality Assurance / Quality Control

Analysis was performed by the Gradko International Laboratory in accordance documented in-house Laboratory Method GLM7. Tubes are analysed by U.V Spectrophotometry. Tubes were prepared 20% TEA / Water. A national bias adjustment factor of 0.93 has been used (Gradko bias adjustment factor for 20% TEA in Water in 2019). Co-located diffusion tubes are set up at LB4 Brixton Road but only 8 calendar months of data was recorded as the station was offline at the start of the year so we could not complete the National Bias Adjustment for NO2 Co-Location Study questionnaire.

Due to a laboratory error, we lost all diffusion tube data from 4 December 2019 to 8 January 2020. Please see Appendix C for letter from Gradko.

A.3 Adjustments to the Ratified Monitoring Data

Annualisation for non-continuous data

Where data capture is less than 75% of a full calendar year, the diffusion tube results were annualised following the methodology outlined in LLAQM.TG(16). This was done for 5 diffusion tubes, using data from LB6 urban background automatic monitoring station to derive the ratios shown below, the average of which was used as a factor to adjust the data from the relevant 5 non-continuous sites.

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

Diffusion tube	Missing periods	Site	Annual mean (µg/m³)	Period mean (µg/m³)	Ratio (annual mean:period mean)
5	January-April, July	LB6 Streatham Green	32.02	29.58	1.08
9	June, August, October			34.49	0.93
16	May-September			38.38	0.83
19	February, June, September			32.24	0.99
47	February, September-October			32.36	0.99
Average					0.97

Distance Adjustment for continuous monitoring data

NO₂ annual mean results have been adjusted for distance to the point of relative public exposure as per Table B using Defra NO₂ fall-off tool. For comparison purposes values in brackets in Table D show actual annual mean readings at each monitoring station.

Appendix B Full Monthly Diffusion Tube Results for 2019

Table L. NO₂ Diffusion Tube Results

Data were collected for the whole year, from January to December 2019. However, due to a fault within Gradko's internal systems, only data from January to November 2019 were correctly recorded and processed (Appendix C). Data capture is therefore presented in monitoring period instead of entire year.

A bias adjustment factor of 0.93 has been used (Gradko bias adjustment factor for 20% TEA in Water in 2019).

Exceedances of the NO₂ annual mean AQ of 40 µg m⁻³ are shown in **bold**. Unreliable results and months when tubes were missing are highlighted in **red** and were not included in the annual mean calculations.

DT 5, 9, 16, 19 and 47 were annualised following LLAQM technical guidance set out in Box 4.9 as data capture was less than 75%. Streatham Green was used as the background site (98% data capture rate). DT51 was installed in July 2019, therefore only 4 months' worth of data were recorded for that location.

Code	Valid data captured for monitoring period % ^a	Valid data capture for 2019 ^b	January	February	March	April	May	June	July	August	September	October	November	Annual mean raw data ^c	Annual mean bias adjusted ^c
DT1	N/A	81.82%	112.45	86.29	83.34	87.76	63.95	75.53	75.27	81.76	79.88	67.59	tube missing	77.93	72.47
DT2	N/A	90.91%	102.40	86.96	85.51	87.51	78.36	74.66	79.55	83.37	81.36	64.88	73.37	79.55	73.98
DT3	N/A	81.82%	107.45	98.16	81.87	80.64	74.17	79.54	tube missing	73.05	81.59	62.39	73.23	78.29	72.81
DT4	N/A	81.82%	57.65	38.26	40.68	34.37	31.46	tube missing	32.51	39.56	tube missing	35.49	42.18	39.13	36.39
DT5	N/A	54.55%	tube missing	Tube missing	tube missing	tube missing	48.23	50.28	tube missing	58.41	59.18	54.94	65.23	57.46	50.33
DT6	N/A	100.00%	57.36	50.93	40.96	48.31	37.65	30.37	33.99	38.50	41.54	39.07	47.77	42.40	39.43
DT7	N/A	100.00%	60.27	49.11	41.47	51.73	38.65	42.79	44.09	43.16	43.23	41.06	52.12	46.15	42.92

DT8	N/A	90.91%	69.29	58.33	46.56	64.90	45.45	46.03	0.51	47.30	45.04	37.16	56.43	51.65	48.03
DT9	N/A	72.73%	77.53	66.93	60.94	69.85	54.89	tube missing	43.90	tube missing	54.98	tube missing	63.37	52.70	55.28
DT10	N/A	90.91%	52.99	44.83	35.06	43.25	30.51	29.29	29.09	28.79	34.47	31.37	tube missing	35.96	33.45
DT11	N/A	100.00%	59.61	58.74	47.22	64.76	44.75	48.34	43.72	47.24	49.50	43.98	55.69	51.23	47.65
DT12	N/A	81.82%	tube missing	63.20	47.47	60.23	45.29	47.35	52.37	49.29	55.86	tube missing	51.62	52.52	48.84
DT13	N/A	100.00%	56.19	58.60	44.84	74.83	44.82	50.02	48.55	46.38	52.68	42.60	59.65	52.65	48.97
DT14	N/A	90.91%	69.37	66.75	60.25	58.04	39.03	47.49	52.05	tube missing	55.92	46.51	51.20	54.66	50.84
DT15	N/A	100.00%	81.53	69.53	53.40	55.36	54.20	46.91	56.84	53.58	61.60	51.93	51.22	57.83	53.78
DT16	N/A	54.55%	53.38	51.20	42.74	62.84	tube missing	tube missing	tube missing	tube missing	tube missing	34.11	50.31	42.21	44.09
DT17	N/A	90.91%	64.35	52.56	48.80	tube missing	66.37	45.63	40.95	40.24	48.45	40.13	53.36	50.08	46.58
DT18	N/A	100.00%	68.16	63.57	52.71	56.48	42.67	56.04	46.26	54.93	54.59	44.54	57.40	54.31	50.50
DT19	N/A	54.55%	73.65	Tube missing	65.83	103.57	0.48	tube missing	64.45	56.28	tube missing	65.85	88.25	68.71	62.02
DT20	N/A	100.00%	48.57	37.59	40.95	42.42	31.54	33.53	35.74	37.76	32.08	35.43	46.42	38.37	35.68
DT21	N/A	90.91%	48.59	53.93	31.12	392.01	49.84	30.57	24.83	26.23	33.37	31.10	45.45	37.50	34.88
DT22	N/A	100.00%	48.38	39.33	32.33	33.43	18.74	23.09	20.46	22.16	28.51	30.85	39.73	30.64	28.49
DT23	N/A	81.82%	tube missing	43.29	31.84	tube missing	27.21	28.85	10.22	27.25	33.80	32.87	48.98	31.59	29.38
DT24	N/A	100.00%	48.96	46.38	27.46	42.67	35.22	33.94	30.70	14.80	36.23	30.92	47.72	35.91	33.39
DT25	N/A	100.00%	69.37	62.02	49.89	74.08	53.66	54.46	48.88	45.56	45.97	45.09	62.60	55.60	51.71
DT26	N/A	100.00%	49.69	43.67	37.38	38.62	29.57	32.43	30.06	26.92	36.17	33.78	44.26	36.60	34.03
DT27	N/A	90.91%	tube missing	78.89	73.49	59.25	64.95	68.52	80.13	76.47	87.15	65.22	69.12	72.32	67.26
DT28	N/A	100.00%	66.13	67.59	55.12	58.08	42.80	61.90	58.28	56.57	60.93	66.24	63.88	59.78	55.59
DT29	N/A	90.91%	tube missing	73.22	65.76	79.57	61.76	74.51	68.17	67.44	77.15	71.12	81.47	72.02	66.98
DT30	N/A	90.91%	74.43	72.46	61.45	496.11	47.63	59.95	57.08	47.81	60.03	49.61	67.73	59.82	55.63

DT31	N/A	100.00%	65.64	69.49	64.92	84.37	59.16	69.78	73.66	65.86	79.13	62.59	80.69	70.48	65.55
DT32	N/A	81.82%	tube missing	Tube missing	43.87	50.93	32.28	33.66	32.55	37.41	41.22	35.04	53.99	40.10	37.30
DT33	N/A	100.00%	43.86	44.79	38.35	35.48	24.04	29.64	26.19	28.38	34.13	31.44	45.12	34.67	32.25
DT34	N/A	90.91%	66.60	61.90	61.50	76.81	59.55	tube missing	48.50	36.13	52.06	42.75	63.81	56.96	52.97
DT35	N/A	81.82%	61.03	46.77	45.05	55.74	tube missing	tube missing	26.34	36.50	41.36	34.52	58.71	45.11	41.95
DT36	N/A	100.00%	72.12	59.85	57.56	51.09	53.17	51.65	47.89	43.25	61.24	47.36	60.12	55.03	51.18
DT37	N/A	100.00%	51.27	50.59	42.53	58.52	34.95	44.56	38.03	32.17	43.39	36.19	46.55	43.52	40.48
DT38	N/A	100.00%	70.29	60.30	52.74	56.70	45.60	54.28	50.70	42.88	55.75	47.94	60.53	54.34	50.53
DT39	N/A	81.82%	tube missing	62.90	51.47	47.64	40.65	49.83	45.78	51.63	56.90	45.92	tube missing	50.30	46.78
DT40	N/A	100.00%	59.25	66.07	59.85	55.25	42.07	46.80	50.14	48.12	55.34	42.49	54.95	52.76	49.07
DT41	N/A	90.91%	tube missing	62.57	44.29	55.82	40.14	45.04	38.56	37.82	45.13	43.45	52.58	46.54	43.28
DT42	N/A	90.91%	64.23	67.24	53.56	tube missing	72.94	51.25	51.35	51.37	52.23	44.11	55.75	56.40	52.45
DT43	N/A	90.91%	46.17	56.45	tube missing	42.71	32.94	37.72	33.48	42.38	42.67	34.63	53.50	42.27	39.31
DT44	N/A	100.00%	47.41	42.39	47.82	41.73	32.42	32.12	30.96	29.79	36.38	33.41	44.00	38.04	35.38
DT45	N/A	90.91%	41.04	32.89	26.28	29.61	23.60	24.63	23.52	tube missing	28.38	31.65	39.68	30.13	28.02
DT46	N/A	90.91%	48.60	46.37	44.09	43.11	23.55	31.06	33.96	35.37	tube missing	34.86	45.64	38.66	35.95
DT47	N/A	72.73%	55.65	Tube missing	51.46	61.14	45.43	48.86	46.96	40.08	tube missing	tube missing	52.92	49.80	45.19
DT48	N/A	100.00%	63.02	65.86	57.14	51.38	49.36	50.04	48.39	49.21	55.76	44.37	59.00	53.96	50.18
DT49	N/A	100.00%	44.30	38.67	35.06	35.90	18.99	25.57	25.39	22.02	29.82	26.36	40.58	31.15	28.97
DT50	N/A	100.00%	52.04	51.78	56.88	48.45	42.84	44.30	43.55	42.26	45.39	37.73	55.84	47.37	44.05
DT51	100.00%	45.45%	NA	NA	NA	NA	NA	NA	34.82	33.98	37.94	29.71	56.94	38.68	35.97

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

^b Data capture for the full calendar year (e.g. if monitoring was carried out for six months the maximum data capture for the full calendar year would be 50%)

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

Appendix C Gradko letter explaining Laboratory error



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Dear Matthew,

Due to a computer error in our laboratory the data for report O00777R has been lost and Gradko International Ltd is unable to report any results for this set of diffusion tubes.

These diffusion tubes were exposed from the beginning of December 2019 until the beginning of January 2020 and the data for all sixty-five tubes received has been lost.

Gradko International Ltd is conducting a full investigation in to the cause of this loss and will implement any measures and staff training required to prevent this occurring again.

I would like to offer a full credit for this report and a set of replacement samplers to be added on to end of your standing order 1000007823-0.

Please accept my apologies for this error and don't hesitate to contact me with any queries.

Kind regards,

Andrew Poole

Quality Manager

quality@gradkolab.com