# Southwark Air Quality Annual Status Report 2019

May 2020

This report provides an overview of air quality in Southwark during 2019 and lists progress on the Air Quality Action Plan 2017 - 2022. It has been produced to meet the requirements of the London Local Air Quality Management Framework statutory process[1].

## Contact details

Environmental Protection Team
Regulatory Services
Environment and Leisure Services
Floor 3 Hub 1
London Borough of Southwark
160 Tooley Street
London
SE1 2QH

Telephone 020 7525 4261
Email environmental.protection@southwark.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 |
| **AQMA** | Air Quality Management Area |
| **AQO** | Air Quality Objective |
| **BAM** | Beta-Attenuation Particulate Monitor (a type of particulate monitor) |
| **BEB** | Buildings Emission Benchmark |
| **CAB** | Cleaner Air Borough |
| **CAZ** | Central Activity Zone |
| **EV** | Electric Vehicle |
| **GLA** | Greater London Authority |
| **LAEI** | London Atmospheric Emissions Inventory |
| **LAQM** | Local Air Quality Management |
| **LLAQMF** | London Local Air Quality Management Framework |
| **$NO_2$** | Nitrogen Dioxide |
| **NOx** | Oxides of Nitrogen |
| **NRMM** | Non-Road Mobile Machinery |
| **$PM_{10}$** | Particulate Matter less than 10 microns in diameter |
| **$PM_{2.5}$** | Particulate Matter less than 2.5 microns in diameter |
| **$SO_2$** | Sulphur Dioxide |
| **TEB** | Transport Emission Benchmark |
| **TEOM** | Tapered Element Oscillating Micro-balance (a type of particulate monitor) |
| **TfL** | Transport for London |

# National Air Quality Standards

**Table A National Air Quality Standards and Objectives – Summary**

| Pollutant | Objective (UK) | Averaging Period | Date Enacted[2] |
|---|---|---|---|
| $NO_2$ | 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 |
| $PM_{10}$ | 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 |
| $PM_{2.5}$ | 25 µg.m$^{-3}$ | Annual mean | 2020 |
| | 15% reduction in concentration at urban background locations | 3 year mean | Between 2010 and 2020 |
| $SO_2$ | 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 |

[2] Note: Date by which to be achieved by and then maintained thereafter.

# 1. Air Quality Monitoring

Southwark currently has 3 automatic air quality monitoring stations and 88 $NO_2$ diffusion tubes at 83 sites across Southwark[3]. Figure 1 on page 8 shows the 3 existing and 3 proposed locations of Southwark's air quality monitoring stations. Figure 2 shows the locations of the $NO_2$ diffusion tubes monitoring sites.

## 1.1 Locations

**Table B Details of Automatic Monitoring Sites operational in 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 (m) | Inlet height (m) | Pollutants monitored | Monitoring technique |
|---|---|---|---|---|---|---|---|---|---|---|
| SWK 5 | Old Kent Road | 534844 | 177515 | Roadside | Yes | 1 | 5 | 2.0 | $NO_x$, $NO_2$ & $PM_{10}$ | Chemiluminescence and BAM |
| SWK 6 | Elephant & Castle | 531884 | 178835 | Urban Background | Yes | 10 | 35 | 3.5 | $NO_x$, $NO_2$, $O_3$ & $PM_{10}$ | Chemiluminescence, UV Absorption & TEOM |
| SWK 8 | Tower Bridge Road | 533488 | 179804 | Roadside | Yes | 7 | 4m | 1.7 | $NO_x$, $NO_2$ | Chemiluminescence |

[3] There are 2 AQMS sites in the Borough with 3 co-located $NO_2$ tubes: Elephant & Castle and Old Kent Road. The remaining diffusion tube is used as a Travel Blank necessary for accurate analysis.

During 2020 Southwark will be installing $PM_{10}$ & $PM_{2.5}$ monitoring at the 3 existing air quality monitoring stations and installing 3 new automatic air quality monitoring stations, measuring $NO_x$, $NO_2$, $PM_{10}$ & $PM_{2.5}$, at the following locations:

- South Circular Road
- Vicarage Grove Camberwell
- Lower Road

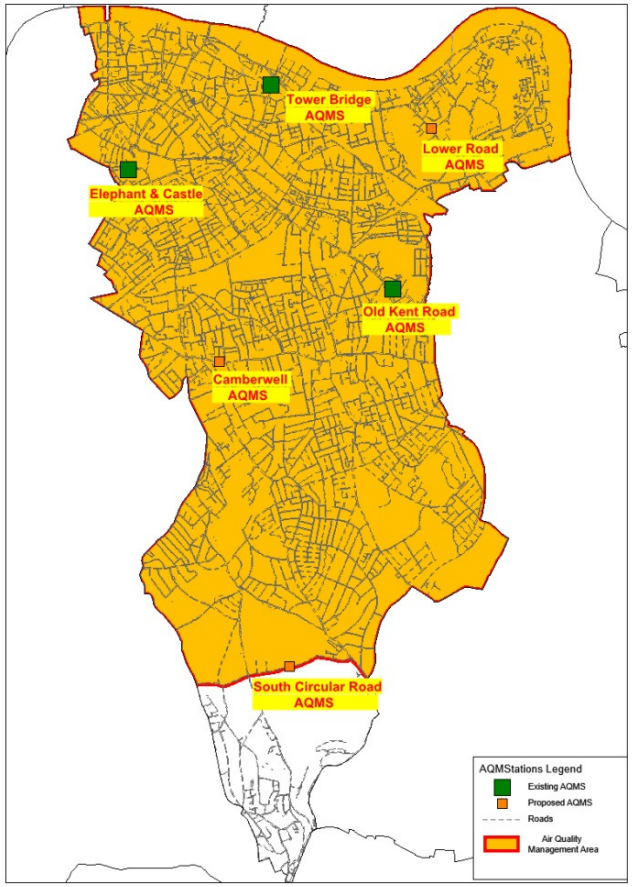


**Figure 1** **Southwark's existing & proposed automatic Air Quality Monitoring Stations**

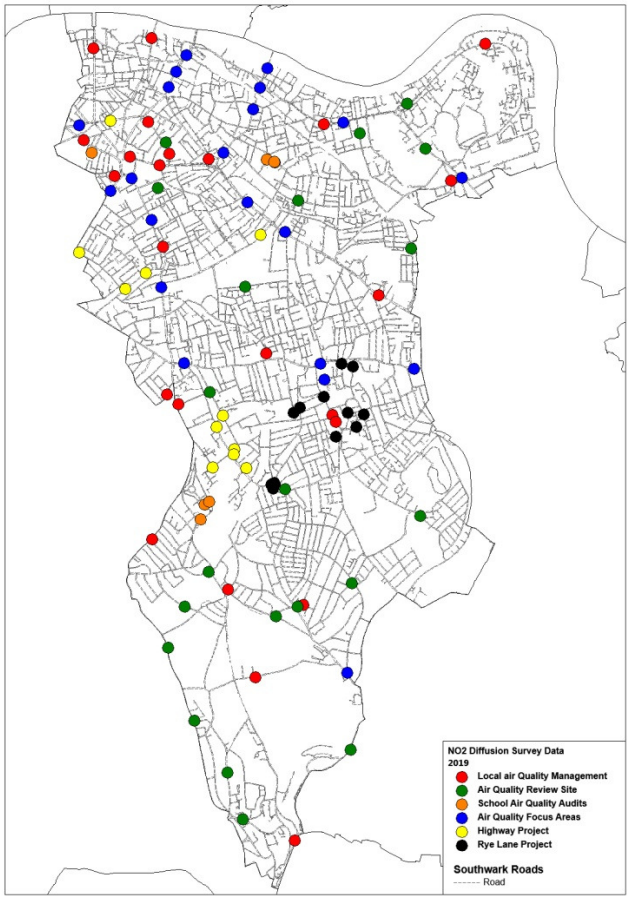


**Figure 2** **Southwark's $NO_2$ diffusion tube monitoring locations**

## Table C Details of Non-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 (m) | Affixed height (m) | Pollutants monitored | Tube co-located with an automatic monitor? |
|---|---|---|---|---|---|---|---|---|---|---|
| SDT 1 | AQMS Old Kent Road - Tube 1 | 534849 | 177512 | Roadside | Yes | 1.0 | 5 | 2.5 | $NO_2$ | Yes |
| SDT 2 | AQMS Old Kent Road - Tube 2 | 534849 | 177512 | Roadside | Yes | 1.0 | 5 | 2.5 | $NO_2$ | Yes |
| SDT 3 | AQMS Old Kent Road - Tube 3 | 534849 | 177512 | Roadside | Yes | 1.0 | 5 | 2.5 | $NO_2$ | Yes |
| SDT 4 | Rotherhithe Old Road | 535675 | 178796 | Kerbside | Yes | 2.0 | 0.5 | 2.5 | $NO_2$ | No |
| SDT 5 | Drummond Road | 534640 | 179336 | Kerbside | Yes | 6.0 | 0.5 | 2.5 | $NO_2$ | No |
| SDT 6 | Adjacent to 168 Queens Road | 535253 | 176679 | Kerbside | Yes | 14.0 | 0.5 | 2.5 | $NO_2$ | No |
| SDT 7 | Adjacent to 167A Rye Lane | 534333 | 176155 | Kerbside | Yes | 2.0 | 0.5 | 2.5 | $NO_2$ | No |
| SDT 8 | Dunstan's Road | 534553 | 174263 | Kerbside | Yes | 8.0 | 0.5 | 2.5 | $NO_2$ | No |
| SDT 9 | Dulwich Common | 533470 | 173204 | Kerbside | Yes | 3.0 | 0.5 | 2.5 | $NO_2$ | No |
| SDT 10 | Adjacent to 2 Village Way | 532940 | 174392 | Kerbside | Yes | 13.0 | 0.5 | 2.5 | $NO_2$ | No |
| SDT 11 | Adjacent to 11 Camberwell Church Street | 532663 | 176740 | Kerbside | Yes | 2.0 | 0.5 | 2.5 | $NO_2$ | No |
| SDT 12 | AQMS Elephant & Castle - Tube 1 | 531893 | 1788464 | Urban background | Yes | 10.0 | 35 | 2.5 | $NO_2$ | Yes |
| SDT 13 | AQMS Elephant & Castle - Tube 2 | 531893 | 1788464 | Urban background | Yes | 10.0 | 35 | 2.5 | $NO_2$ | Yes |
| SDT 14 | AQMS Elephant & Castle - Tube 3 | 531893 | 1788464 | Urban background | Yes | 10.0 | 35 | 2.5 | $NO_2$ | Yes |
| SDT 15 | Blackfriars Road | 531641 | 180290 | Kerbside | Yes | 3.0 | 0.5 | 2.5 | $NO_2$ | No |
| SDT 18 | Tower Bridge Approach Tower Bridge Road | 533599 | 180062 | Roadside | Yes | 3.0 | 0.5 | 2.5 | $NO_2$ | No |
| SDT 20 | Tower Bridge School Tower Bridge Road | 533520 | 179849 | Kerbside | Yes | 0.5 | 2.5 | 2.5 | $NO_2$ | No |

| Site ID | Site Name | X (m) | Y (m) | Site Type | In AQMA | Distance from monitoring site to relevant exposure (m) | Distance to kerb of nearest road (m) | Affixed height (m) | Pollutants monitored | Tube co-located with an automatic monitor? |
|---|---|---|---|---|---|---|---|---|---|---|
| SDT 24 | Opposite Papa John's Tower Bridge Road | 533444 | 179620 | Kerbside | Yes | 3.0 | 0.5 | 2.5 | $NO_2$ | No |
| SDT 29 | Opposite Haddon Hall Tower Bridge Road | 533105 | 179117 | Kerbside | Yes | 2.0 | 0.5 | 2.5 | $NO_2$ | No |
| SDT 31 | Bricklayers Arms West | 532937 | 179043 | Kerbside | Yes | 10.0 | 0.5 | 2.5 | $NO_2$ | No |
| SDT 37 | Lamppost 1068/09 Wansey Street | 532340 | 178711 | Kerbside | Yes | 10.0 | 0.5 | 2.5 | $NO_2$ | No |
| SDT 38 | Walworth Road opposite junction to Elephant Road | 532074 | 178825 | Kerbside | Yes | 2.0 | 0.5 | 2.5 | $NO_2$ | No |
| SDT 39 | Lamppost 3 New Kent Road north (Metro Central) | 532053 | 179070 | Kerbside | Yes | 10.0 | 0.5 | 2.5 | $NO_2$ | No |
| SDT 41 | Lamppost 29 New Kent Road north side (Rodney Place) | 532390 | 178974 | Kerbside | Yes | 20.0 | 0.5 | 2.5 | $NO_2$ | No |
| SDT 42 | St Peters Hills Primary School | 536047 | 180343 | Kerbside | Yes | 10.0 | 0.5 | 2.5 | $NO_2$ | No |
| SDT 48 | Adjacent to Beechwood Court 3 Crystal Palace Parade | 535514 | 178708 | Kerbside | No | 20.0 | 0.5 | 2.5 | $NO_2$ | No |
| SDT 49 | Lamppost 129/08 Lynton Road west | 533873 | 178592 | Kerbside | Yes | 10.0 | 0.5 | 2.5 | $NO_2$ | No |
| SDT 52 | Kingsdale Foundation School Alleyn Park | 533150 | 172123 | Kerbside | No | 10.0 | 0.5 | 2.5 | NO2 | No |
| SDT 54 | Camberwell Grove | 532951 | 176417 | Kerbside | Yes | 10.0 | 0.5 | 2.5 | $NO_2$ | No |
| SDT 55 | Lamppost 11A St Georges Way South | 533350 | 177603 | Kerbside | Yes | 3.0 | 0.5 | 2.5 | $NO_2$ | No |
| SDT 57 | Notre Dame School | 531531 | 179256 | Kerbside | Yes | 5.0 | 0.5 | 2.5 | $NO_2$ | No |
| SDT 61 | Junction of Brunel Road and Rupack Street | 535176 | 179665 | Kerbside | Yes | 3.0 | 0.5 | 2.5 | $NO_2$ | No |
| SDT 66 | Adjacent to Prince of Orange Lower Road | 535384 | 179161 | Kerbside | Yes | 3.0 | 0.5 | 2.5 | $NO_2$ | No |

| Site ID | Site Name | X (m) | Y (m) | Site Type | In AQMA | Distance from monitoring site to relevant exposure (m) | Distance to kerb of nearest road (m) | Affixed height (m) | Pollutants monitored | Tube co-located with an automatic monitor? |
|---|---|---|---|---|---|---|---|---|---|---|
| SDT 77 | Adjacent to steps to Park St Southwark Bridge Rd | 532294 | 180406 | Kerbside | Yes | 10.0 | 0.5 | 2.5 | $NO_2$ | No |
| SDT 81 | Lamppost 02 Borough High Street | 532690 | 180212 | Kerbside | Yes | 3.0 | 0.5 | 2.5 | NO2 | No |
| SDT 82 | Lamppost 01 Adjacent to 125 Borough High St | 532572 | 180029 | Kerbside | Yes | 3.0 | 0.5 | 2.5 | $NO_2$ | No |
| SDT 84 | Lamppost 8 Little Dorritt Park Entrance | 532487 | 179850 | Kerbside | Yes | 5.0 | 0.5 | 2.5 | $NO_2$ | No |
| SDT 87 | Lamppost 0139/43 188A Lower Road | 535795 | 178828 | Kerbside | Yes | 3.0 | 0.5 | 2.5 | $NO_2$ | No |
| SDT 88 | Lamppost 52 Jamaica Road | 534457 | 179454 | Kerbside | Yes | 5.0 | 0.5 | 2.5 | $NO_2$ | No |
| SDT 89 | St James' CoE Primary School Jamaica Road | 534241 | 179435 | Roadside | Yes | 0.5 | 2 | 2.5 | $NO_2$ | No |
| SDT 90 | Lamppost Adjacent to 375 Old Kent Road | 533800 | 178220 | Kerbside | Yes | 5.0 | 0.5 | 2.5 | $NO_2$ | No |
| SDT 91 | Lamppost adjacent to 221 Old Kent Road | 533379 | 178556 | Kerbside | Yes | 3.0 | 0.5 | 2.5 | $NO_2$ | No |
| SDT 92 | Ilderton Primary School Ilderton Road | 535222 | 178032 | Roadside | Yes | 0.5 | 2 | 2.5 | $NO_2$ | No |
| SDT 93 | Lamppost 9 adjacent to 14 Hanover Park | 534243 | 176558 | Roadside | Yes | 2.0 | 0.5 | 2.5 | $NO_2$ | No |
| SDT 94 | Post adjacent to 88A Peckham High Street | 534200 | 176736 | Roadside | Yes | 2.0 | 0.5 | 2.5 | $NO_2$ | No |
| SDT 95 | Court Lane | 533700 | 173892 | Kerbside | Yes | 2.0 | 0.5 | 2.5 | $NO_2$ | No |
| SDT 96 | Lamppost adjacent to 201 Rye Lane | 534371 | 176079 | Kerbside | Yes | 2.0 | 0.5 | 2.5 | $NO_2$ | No |
| SDT 97 | Barry Road | 533940 | 173998 | Kerbside | Yes | 5.0 | 0.5 | 2.5 | $NO_2$ | No |
| SDT 98 | Junction with Underhill Road South Circular Road | 534503 | 173251 | Kerbside | No | 9.0 | 0.5 | 2.5 | $NO_2$ | No |
| SDT 99 | Etherow Street | 534010 | 174018 | Kerbside | Yes | 10.0 | 0.5 | 2.5 | $NO_2$ | No |
| SDT 100 | Post adjacent to 1d Calton Avenue | 533159 | 174191 | Kerbside | Yes | 2.0 | 0.5 | 2.5 | $NO_2$ | No |

| Site ID | Site Name | X (m) | Y (m) | Site Type | In AQMA | Distance from monitoring site to relevant exposure (m) | Distance to kerb of nearest road (m) | Affixed height (m) | Pollutants monitored | Tube co-located with an automatic monitor? |
|---|---|---|---|---|---|---|---|---|---|---|
| SDT 101 | Lamppost 307/19 Adjacent to 91 Herne Hill | 532303 | 174756 | Kerbside | Yes | 5.0 | 0.5 | 2.5 | $NO_2$ | No |
| SDT 102 | Lamppost 1 De Crespigny Park | 532599 | 176277 | Kerbside | Yes | 5.0 | 0.5 | 2.5 | $NO_2$ | No |
| SDT 103 | Lamppost 369/7 Coldharbour Lane | 532471 | 176388 | Kerbside | Yes | 15.0 | 0.5 | 2.5 | $NO_2$ | No |
| SDT 104 | Lamppost 08 Newington Causeway | 531835 | 178686 | Kerbside | Yes | 15.0 | 0.5 | 2.5 | $NO_2$ | No |
| SDT 105 | Lamppost adjacent to Oliver Goldsmith School entrance Southampton Way | 533592 | 176851 | Kerbside | Yes | 0.5 | 0.5 | 2.5 | $NO_2$ | No |
| SDT 106 | Post adjacent to 80 Camberwell Road | 532409 | 177597 | Kerbside | Yes | 18.0 | 0.5 | 2.5 | $NO_2$ | No |
| SDT 107 | Lamppost 1045/45 adjacent to 351 Walworth Road | 532426 | 178051 | Kerbside | Yes | 10.0 | 0.5 | 2.5 | $NO_2$ | No |
| SDT 111 | Lamppost 31A/239 Walworth Road | 532294 | 178354 | Kerbside | Yes | 5.0 | 0.5 | 2.5 | $NO_2$ | No |
| SDT 112 | Parking Sign Adjacent to 3 West Square | 531621 | 179112 | Kerbside | Yes | 3.0 | 0.5 | 2.5 | $NO_2$ | No |
| SDT 113 | Lamppost adjacent to 43 Westminster Bridge Road | 531481 | 179421 | Kerbside | Yes | 7.0 | 0.5 | 2.5 | $NO_2$ | No |
| SDT 114 | Lamppost 1 Goose Green / East Dulwich Road | 533799 | 175324 | Kerbside | Yes | 10.0 | 0.5 | 2.5 | $NO_2$ | No |
| SDT 115 | Lamppost 2110/04 Nairne Grove | 533966 | 176238 | Kerbside | Yes | 10.0 | 0.5 | 2.5 | $NO_2$ | No |
| SDT 116 | Lamppost 2111/03 Woodfarrs | 533101 | 176152 | Kerbside | Yes | 15.0 | 0.5 | 2.5 | $NO_2$ | No |
| SDT 117 | Lamppost 2290/04 Dylways | 533681 | 179010 | Kerbside | Yes | 9.0 | 0.5 | 2.5 | $NO_2$ | No |
| SDT 118 | Lamppost 2655L28 Bellenden Road | 533966 | 176238 | Kerbside | Yes | 10.0 | 0.5 | 2.5 | $NO_2$ | No |
| SDT 119 | Lamppost 21 Camberwell Grove | 533101 | 176152 | Kerbside | Yes | 10.0 | 0.5 | 2.5 | $NO_2$ | No |
| SDT 120 | Adjacent to Boucher CoE Primary School Grange Road | 533681 | 179010 | Kerbside | Yes | 0.0 | 4 | 2.5 | $NO_2$ | No |

| Site ID | Site Name | X (m) | Y (m) | Site Type | In AQMA | Distance from monitoring site to relevant exposure (m) | Distance to kerb of nearest road (m) | Affixed height (m) | Pollutants monitored | Tube co-located with an automatic monitor? |
|---|---|---|---|---|---|---|---|---|---|---|
| SDT 121 | Front Playground Boucher CoE Primary School | 533683 | 179004 | Background | Yes | 0.0 | 6 | 2.5 | $NO_2$ | No |
| SDT 122 | Rear entrance Boucher CoE Primary School | 533598 | 179036 | Kerbside | Yes | 0.0 | 1 | 2.5 | $NO_2$ | No |
| SDT 128 | Lamppost adjacent to 1 Consort Road | 533682 | 175378 | Kerbside | Yes | 6.0 | 0.5 | 2.5 | $NO_2$ | No |
| SDT129 | Lamppost 2465/31 Adjacent to St. Mary Magdalene Primary School | 534677 | 176703 | Kerbside | Yes | 7.0 | 0.5 | 2.5 | $NO_2$ | No |
| SDT 130 | Lamppost 2493/11 Heaton Road | 534606 | 176023 | Kerbside | Yes | 12.0 | 0.5 | 2.5 | $NO_2$ | No |
| SDT 131 | Lamppost 2744/11 50 Copeland Road | 534508 | 176184 | Kerbside | Yes | 8.0 | 0.5 | 2.5 | $NO_2$ | No |
| SDT 132 | Lamppost 2732/01 adjacent to 117-125 Rye Lane | 534237 | 176363 | Kerbside | Yes | 5.0 | 0.5 | 2.5 | $NO_2$ | No |
| SDT 133 | Lamppost opposite 65 Lyndhurst Way | 533895 | 176186 | Kerbside | Yes | 5.0 | 0.5 | 2.5 | $NO_2$ | No |
| SDT 134 | Lamppost 2736/09 Nigel Road | 534372 | 175911 | Kerbside | Yes | 9.0 | 0.5 | 2.5 | $NO_2$ | No |
| SDT 135 | Lamppost 2791/02 opposite Prince of Peckham 1-3 Clayton Road | 534438 | 176736 | Kerbside | Yes | 14.0 | 0.5 | 2.5 | $NO_2$ | No |
| SDT 136 | Lamppost 2160/12 adjacent to Dog Kennel Hill School | 533232 | 175775 | Kerbside | Yes | 10.0 | 0.5 | 2.5 | $NO_2$ | No |
| SDT 137 | Lamppost 2136/18 at the junction adjacent to Champion Hill | 532987 | 175568 | Kerbside | Yes | 10.0 | 0.5 | 2.5 | $NO_2$ | No |
| SDT 138 | Lamppost 2127 11 Pytchley Road | 533364 | 175561 | Kerbside | Yes | 8.0 | 0.5 | 2.5 | $NO_2$ | No |
| SDT 139 | Lamppost 2139 29 Grove Lane | 533030 | 176022 | Kerbside | Yes | 4.5 | 0.5 | 2.5 | $NO_2$ | No |
| SDT 140 | Post near Dog Kennel Hill School entrance Dog Kennel Hill | 533221 | 175715 | Kerbside | Yes | 3.0 | 0.5 | 2.5 | $NO_2$ | No |
| SDT 141 | ConnectKerb site Borough Road | 531835 | 179473 | Kerbside | Yes | 8.0 | 0.5 | 2.5 | $NO_2$ | No |

| Site ID | Site Name | X (m) | Y (m) | Site Type | In AQMA | Distance from monitoring site to relevant exposure (m) | Distance to kerb of nearest road (m) | Affixed height (m) | Pollutants monitored | Tube co-located with an automatic monitor? |
|---|---|---|---|---|---|---|---|---|---|---|
| SDT 142 | Lamppost 2640L05 Cheltenham Road | 535321 | 175023 | Kerbside | Yes | 11.0 | 0.5 | 2.5 | $NO_2$ | No |
| SDT 143 | Lamppost Sydenham Hill | 534537 | 172386 | Kerbside | No | 26.0 | 0.5 | 2.5 | $NO_2$ | No |
| SDT 144 | Lamppost 2087L04 Dulwich Wood Park | 533328 | 171601 | Kerbside | No | 27.0 | 0.5 | 2.5 | $NO_2$ | No |
| SDT 145 | Lamppost 2544L08 Croxted Road | 532777 | 172711 | Kerbside | No | 16.0 | 0.5 | 2.5 | $NO_2$ | No |
| SDT 146 | Lamppost 423-23 Croxted Road | 532486 | 173535 | Kerbside | Yes | 5.5 | 0.5 | 2.5 | $NO_2$ | No |
| SDT 147 | Lamppost 1515 13 John Ruskin Street | 532230 | 177756 | Kerbside | Yes | 7.0 | 0.5 | 2.5 | $NO_2$ | No |
| SDT 148 | Lamppost 1515 – 34 John Ruskin Street | 532002 | 177578 | Kerbside | Yes | 21.0 | 0.5 | 2.5 | $NO_2$ | No |
| SDT 149 | Lamppost 1436L03 Kennington Park Place | 531479 | 177990 | Kerbside | Yes | 21.5 | 0.5 | 2.5 | $NO_2$ | No |
| SDT 150 | Lamppost 2302L 14 Albany Road | 533522 | 178187 | Kerbside | Yes | 36.0 | 0.5 | 2.5 | $NO_2$ | No |
| SDT 151 | Lamppost 2300 - L01 Junction of Townley Road & Lordship Lane | 533660 | 174480 | Kerbside | Yes | 5.0 | 0.5 | 2.5 | $NO_2$ | No |
| SDT 152 | Lamppost 2300 - L19 Townley Road | 533245 | 174655 | Kerbside | Yes | 14.0 | 0.5 | 2.5 | $NO_2$ | No |
| SDT 153 | Lamppost 2292 - L27 Dulwich Village | 533123 | 173780 | Kerbside | Yes | 2.8 | 0.5 | 2.5 | $NO_2$ | No |
| SDT 154 | Lamppost (1125 - L37) at the junction of Portland Street / Albany Road | 532836 | 177844 | Kerbside | Yes | 5.0 | 0.5 | 2.5 | $NO_2$ | No |
| SDT 155 | Junction of East Street / Portland Street | 532597 | 178433 | Kerbside | Yes | 7.5 | 0.5 | 2.5 | $NO_2$ | No |
| SDT 156 | Lamppost (1107 - L07)Junction of Stead Street / Flint Street | 532643 | 178677 | Kerbside | Yes | 5.0 | 0.5 | 2.5 | $NO_2$ | No |
| SDT 157 | Lamppost (1027 - L03) adjacent to Braganza Street | 531648 | 178257 | Kerbside | Yes | 3.0 | 0.5 | 2.5 | $NO_2$ | No |

## 1.2 Comparison of Monitoring Results with Air Quality Objectives

The results are presented following adjustment for both 'annualisation' and 'distance to a location of relevant public exposure'. The details of the adjustments applied can be seen in Appendix A.

**Table D** **Annual Mean $NO_2$ Results ($\mu g.m^{-3}$)**

| Site ID | Site type | Valid data capture for monitoring period | Valid data capture 2019 | Annual Mean Concentration ($\mu g.m^{-3}$) | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 |
| SWK5 | Roadside | 98% | 98% | **55** (>90%) | 38 (32%) | **42** (69%) | **53** (80%) | **42 (97%)** | **41(85%)** | 35 |
| SWK6 | Urban Background | 97% | 97% | **42** (85%) | 37 (84%) | **41**(80%) | 39 (90%) | 34 (97%) | 32(>90%) | 30 |
| SWK8 | Roadside | | 47% | | | | | | | 39 |

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

The data in Table D shows that at the Old Kent Road site (SWK5), the annual mean concentration has exceeded the objective of 40$\mu g.m^{-3}$ every year since its installation in 2011 to 2018, except in 2014. This site has met this objective in 2019 and is now compliant with the $NO_2$ objective.

Table D also shows that the annual mean concentration at the Elephant & Castle site (SWK6) remains under the $NO_2$ objective in 2019. There have been several re-development projects and the road layout has changed around the monitoring site in recent years. The introduction of the Mayor's of London's Low Emission Zone and Ultra-Low Emission Zone are helping to deliver a reduction in pollutant concentrations at this site. The Elephant & Castle site remains compliant with the $NO_2$ objective.

During 2019, Southwark re-commissioned an air quality monitoring station on Tower Bridge Road. This site was operational from June 2019. It is premature to make comment in respect of the annual mean at this location, due to the incomplete dataset from this station and the marginal annual mean concentration measured in 6 months.

In 2019, none of the sites breached 60 µg.m$^{-3}$, the level that indicates a potential exceedances of the $NO_2$ hourly mean objective limit. Figure 3 below shows the historic data trends from Southwark automatic air quality monitoring stations, indicating a gradual improvement in Southwark's air quality since 2003.

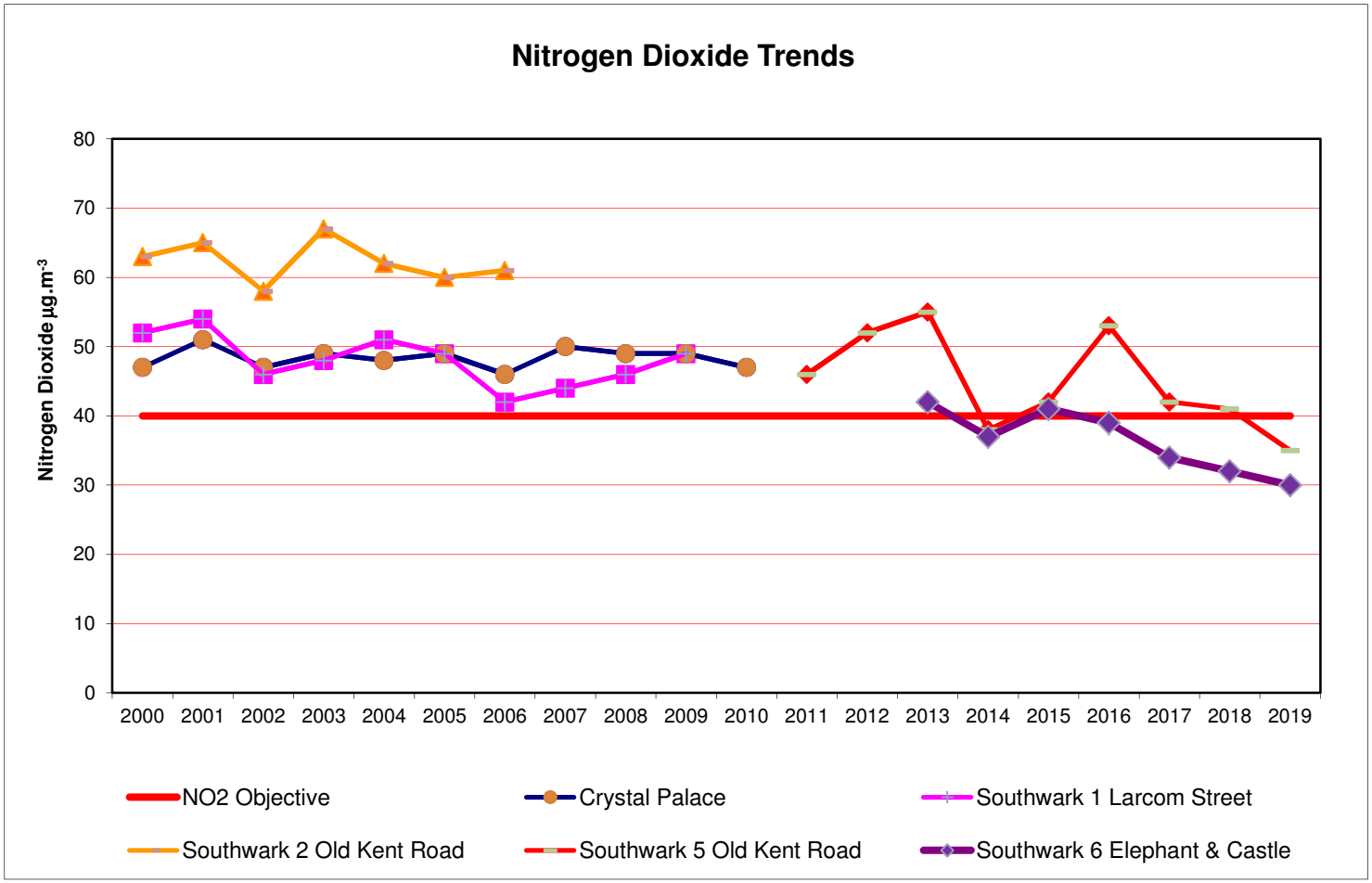


**Figure 3 Trend in annual mean $NO_2$ concentrations at Southwark's air quality monitoring stations**

Figure 4 shows the average monthly mean results from all roadside and background monitoring stations within the London Air Quality Network[4].

The trend for background sites shows a gradual reduction to meet the objective. However, the trend for roadside locations is not noticeably reducing and almost universally exceeds the $NO_2$ objective.

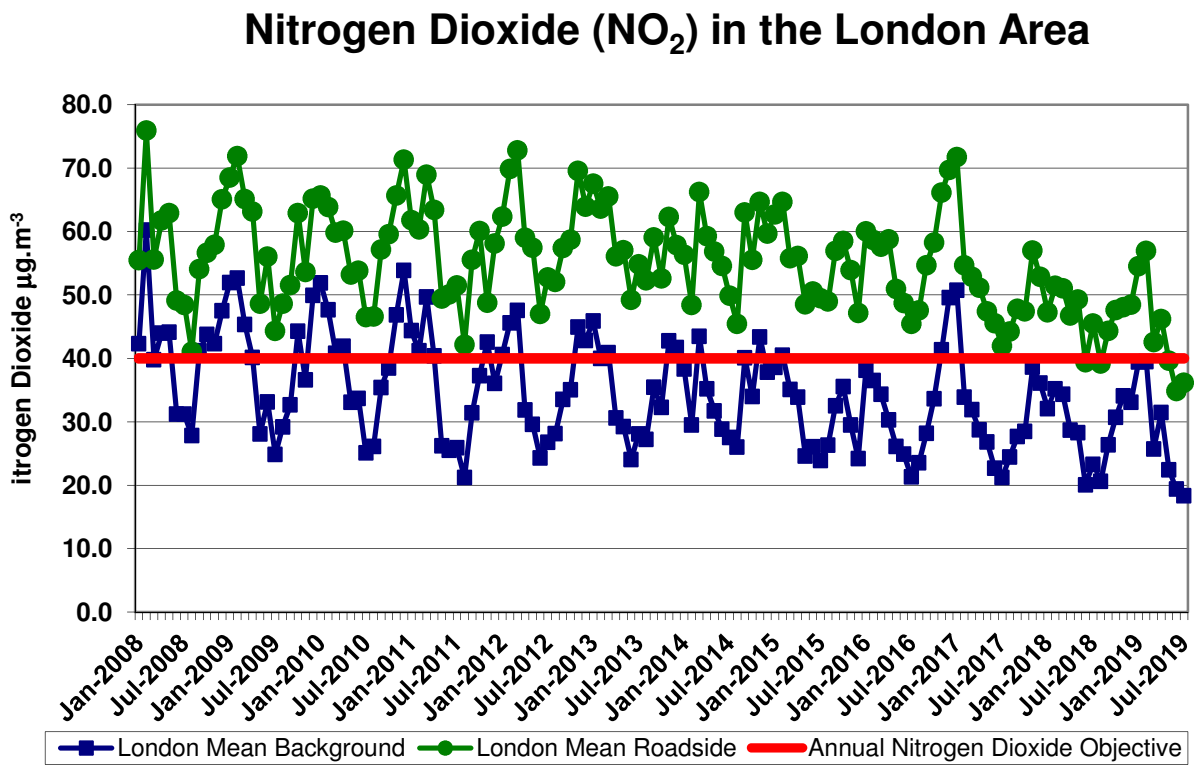


**Figure 4 Monthly mean trend of $NO_2$ concentrations at London roadside and background sites**

Source GLA accessed at http://data.london.gov.uk/dataset/london-average-air-quality-levels (Accessed April 2020)

[4] London Datastore - London Average Air Quality Levels accessed at http://data.london.gov.uk/dataset/london-average-air-quality-levels

**Table E $NO_2$ Automatic Monitor Results: Comparison with 1 hour objective**

| Site ID | Valid data capture for monitoring period | Valid data capture 2019 | Number of hourly means measured > 200 µg.m$^{-3}$ | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 |
| SWK5 | 98% | 98% | 4 (>90%) | 1 (32%) | 1 (69%) | 1 (80%) | 0 (97%) | 0 (85%) | 0 |
| SWK6 | 97% | 97% | 0 (85%) | 0 (84%) | 0 (80%) | 0 (90%) | 0 (97%) | 0 (>90%) | 0 |
| SWK8 | | 47% | | | | | | | 0 |

Any exceedance of the $NO_2$ short term objective of 200µg.m$^{-3}$ (over the 18 days per year permitted) would be shown in **bold**.

In Southwark in 2019, there were fewer than 18 exceedances of the hourly mean >200µg.m$^{-3}$ as permitted by the objective, thus the $NO_2$ short term objective was met.

Since 2012 there has been a noticeable reduction in the number of exceedances recorded at roadside, attributable to reductions in vehicle fleet emissions.

**Table F Long term $NO_2$ Diffusion Tube Results ($\mu g.m^{-3}$)**

| Site ID | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 |
|---|---|---|---|---|---|---|---|---|
| SDT 1 - 3 | **50.0** | **56.7** | **57.6** | **48.1** | **47.0** | **42.0** | 38.0 | 36.0 |
| SDT 4 | **52.3** | **61.9** | **63.5** | **57.2** | **54.6** | **47.6** | **42.5** | **40.4** |
| SDT 5 | 35.6 | 38.4 | 38.2 | 35.8 | 34.1 | 29.3 | 30.7[5] | 31.75[5] |
| SDT 6 | **48.6** | **51.6** | **54.3** | **49.7** | **42.9** | **42.0** | 39.4 | 36.7 |
| SDT 7 | **51.3** | **57.0** | **61.5** | **52.5** | **44.3** | **41.7** | 35.6 | 30.4 |
| SDT 8 | 32.6 | 37.0 | 33.8 | 31.6 | 31.1 | 27.9 | 26.0 | 25.2 |
| SDT 9 | **45.6** | **50.5** | **54.0** | **47.0** | **44.8** | **41.2** | 37.3 | 34.9 |
| SDT 10 | 33.6 | 36.6 | 34.9 | 33.7 | 30.1 | 28.0 | 28.3 | 25.6 |
| SDT 11 | **72.0** | **80.1** | **78.1** | **70.4** | **60.0** | **55.1** | **50.8** | **45.9** |
| SDT 12 - 14 | **50.7** | **66.3** | **70.6** | **65.7** | **58.9** | **44.7** | 35.0 | 33.3 |
| SDT 15 | **57.2** | **66.0** | **66.4** | **57.3** | **63.5** | **53.0** | **47.1** | **42.2** |
| SDT 18 | No Data | No Data | **71.8** | **65.1** | **62.5** | **61.6** | **54.1** | **55.0** |
| SDT 20 | | | **72.1** | **62.2** | **63.9** | **61.4** | **52.7** | **45.1** |
| SDT 24 | | | **72.2** | **67.5** | **67.6** | **69.6** | **53.5** | **51.7** |
| SDT 29 | | | **72.1** | **68.4** | **72.2** | **75.4** | **57.0** | **50.4** |
| SDT 31 | | | **54.2** | **49.7** | **49.0** | **47.1** | **40.6** | 38.1 |
| SDT 38 | | | **82.6** | **80.8** | **65.2** | **64.6** | **45.0** | **40.7** |
| SDT 39 | | | **57.1** | **53.9** | **47.5** | **46.7** | 39.2 | 35.1 |
| SDT 41 | | | **58.4** | **53.3** | **47.2** | **45.9** | 39.3 | 37.4 |

The results in **bold** are where exceedances of the $NO_2$ annual mean AQD of $40\mu g.m^{-3}$ have been monitored. The results in **bold and underlined** are where $NO_2$ annual means in excess of $60\mu g.m^{-3}$ have been monitored, indicating potential exceedance of the $NO_2$ hourly mean objective limit.

[5] This result is lower than the background concentration in the Defra Background Maps, therefore it cannot be corrected for distance to a point of relevant exposure.

Table F, page 20, contains the results from the monitoring locations in Southwark where there are results for at least 5 years. The data has been corrected for distance to a point of relevant exposure, using the method in the LLAQM Technical Guidance TG (19).

The results at each site have varied due to weather and local conditions. However, the overall assessment is that there is a noticeable reduction in the number of locations that have exceeded the objective values. Compared to previous years there are more locations below the objective, as overall measured pollutant levels continue to slowly reduce.

Over recent years the $NO_2$ diffusion tube survey has been significantly extended to increase the spatial distribution of monitoring locations across the borough and for air quality improvement project evaluation. The survey now ensures all the GLA Air Quality Focus Areas in Southwark are monitored.

The full results of the all $NO_2$ diffusion tubes are presented in Appendix B. There are numerous sites showing the annual mean objective is being exceeded and a few sites indicating that the hourly objective may be being exceeded. However, higher than average readings would be reasonably expected from locations in the GLA Air Quality Focus Areas.

**Table G Annual Mean $PM_{10}$ Automatic Monitoring Results ($\mu g.m^{-3}$)**

| Site ID | Valid data capture for monitoring period | Valid data capture 2019 | Annual Mean Concentration ($\mu g.m^{-3}$) | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 |
| SWK5 | 89% | 89% | 30 (85%) | 23 (32%) | 21 (60%) | 24 (94%) | 22 | 22 (80%) | 24 |
| SWK6 | 86% | 86% | 23 (80%) | 19 (>90%) | 20 (77%) | 26 (79%) | 19 | 20 (>90%) | 17 |

Any exceedance of the $PM_{10}$ annual mean AQO of 40$\mu gm^{-3}$ would be shown in **bold**.

The data collection from the $PM_{10}$ monitor at Old Kent Road (SWK5) did not achieve the 90% target due to a persistent issue with the HEPA filter and nozzle not sitting correctly on the tape in the BAM during August 2019. The data collection target at Elephant & Castle (SWK6) was affected by a faulty flow control board and/or flow sensor in the TEOM. Both are mature pieces of equipment that will be replaced in 2020/21.

The $PM_{10}$ annual mean concentrations measured meet the national air quality objective. The downward trend in concentrations has continued at Southwark 6, but there has been an increase at Southwark 5 as can be seen in Figure 5 this site is in an opportunity area that is seeing significant construction projects in the A2 corridor. Southwark 6 has been adjacent to construction sites for a few years, but the developments are now completed and the urban background site is now further away from the A3, on the edge of a park with completed residential blocks and a leisure centre behind it. Both sites currently are well below the air quality objective.

The trends for the London Air Quality Network roadside and background monitoring stations can be seen in Figure 6. These show that current $PM_{10}$ concentrations are well below the objective limit at both roadside and background monitoring locations.

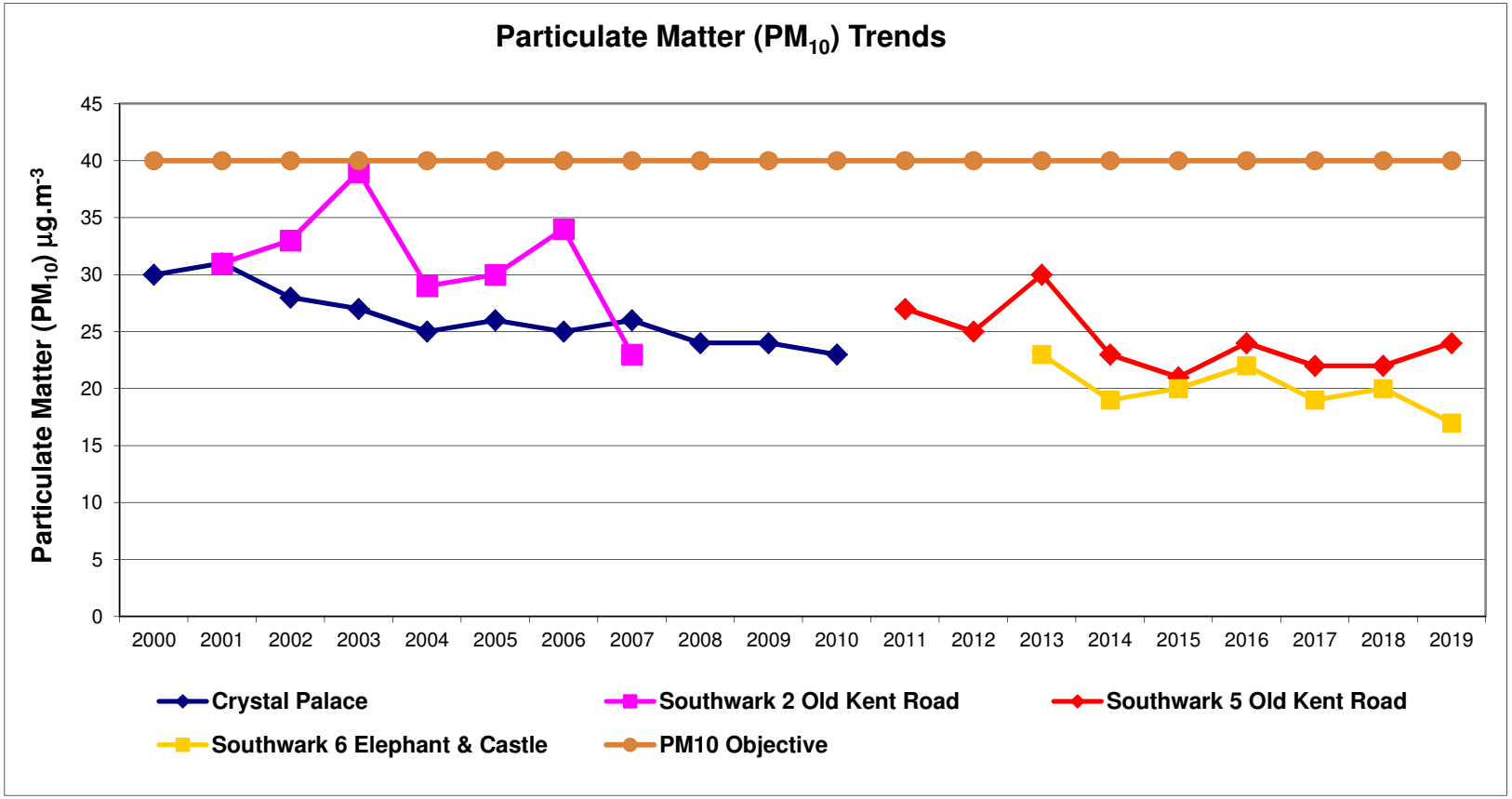


**Figure 5** **Trend for the Annual Mean $PM_{10}$ Concentrations of the Authority's $PM_{10}$ monitoring stations**

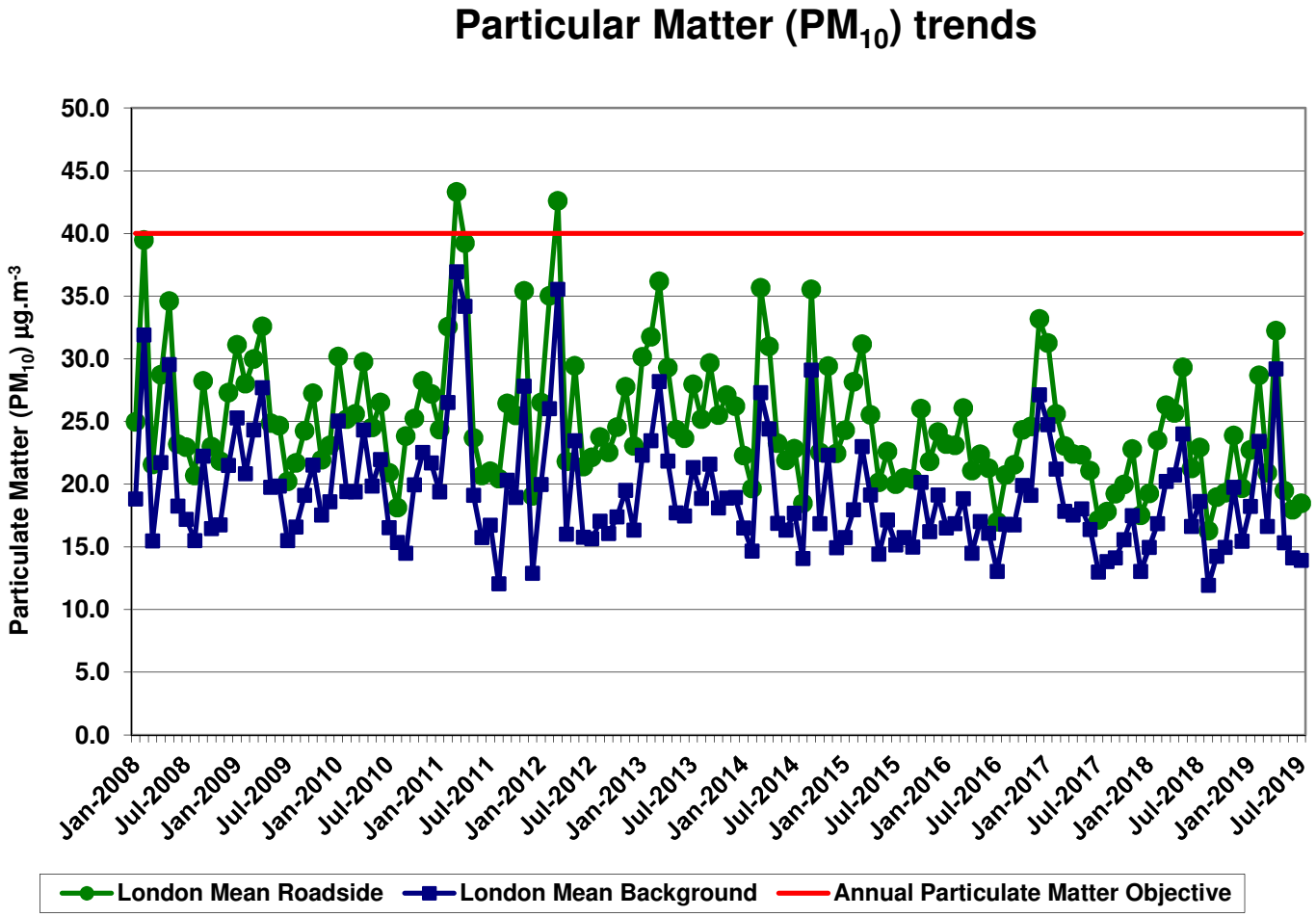


**Figure 6** **Trend for the Monthly Mean $PM_{10}$ concentrations at roadside and background sites in the London area**
Source GLA accessed at http://data.london.gov.uk/dataset/london-average-air-quality-levels (Accessed April 2020)

**Table H $PM_{10}$ Automatic Monitoring Results: Comparison with 24-Hour Mean Objective**

| Site ID | Valid data capture for monitoring period | Valid data capture 2019 | Number of Daily Means > 50 µg.m$^{-3}$ | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 |
| SWK5 | 89% | 89% | 30(85%) | 10 (32%) | 4 (60%) | 18 (94%) | 19 (91%) | 8 (93%) | 2 |
| SWK6 | 86% | 86% | 3 (80%) | 0 (>90%) | 1 (77%) | 21 (79%) | 1 (99%) | 2 (99%) | 14 |

Exceedance of the $PM_{10}$ short term limit of 50µg.m$^{-3}$ (over the permitted 35 days per year or where the 90.4th percentile exceeds 50µg.m$^{-3}$) would be shown in **bold**.

There has been no exceedance of the short-term objective limit for $PM_{10}$ in Southwark in 2019.

## Particulate Matter ($PM_{2.5}$)

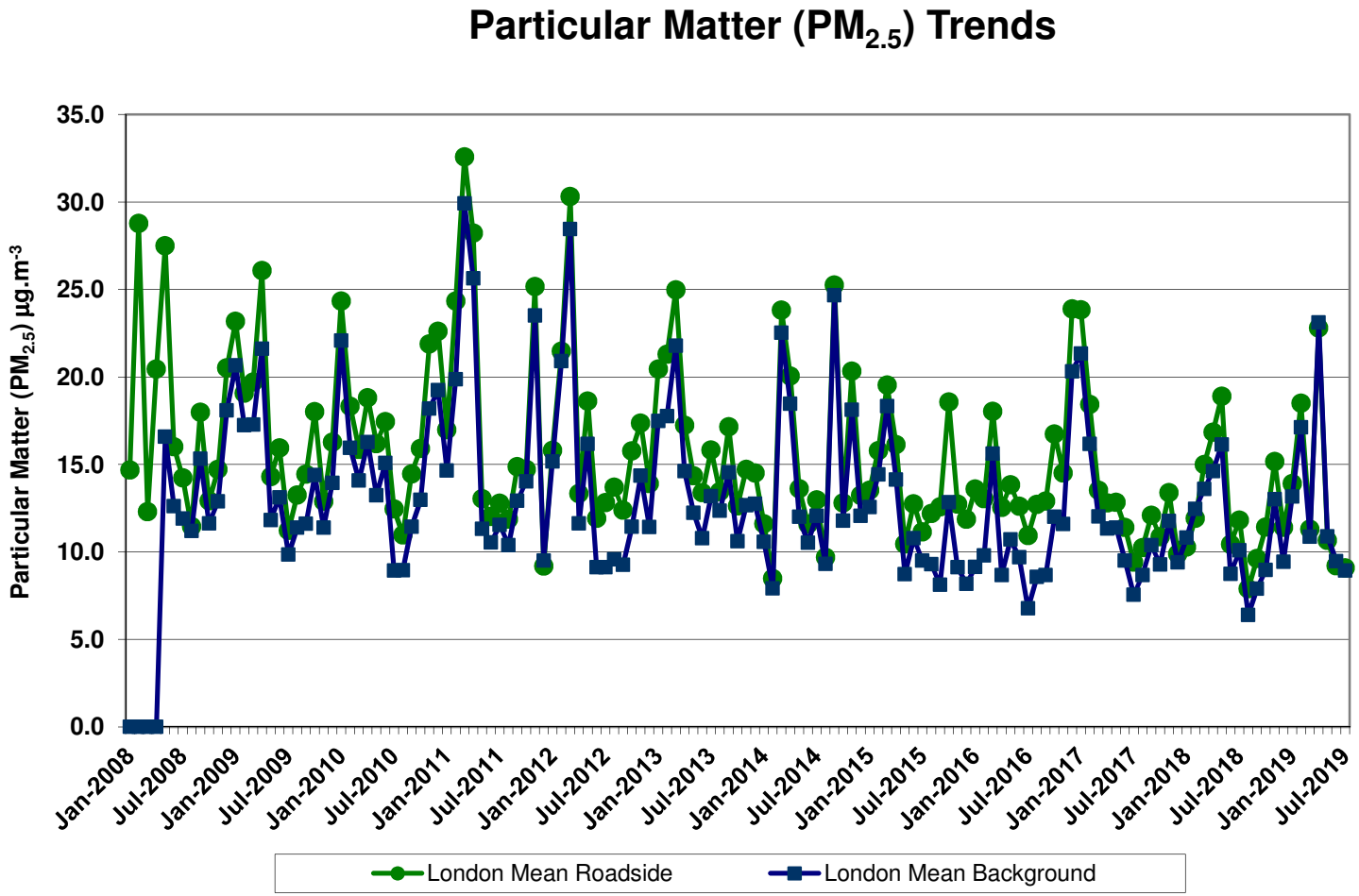


**Figure 7** **Trend of the monthly mean $PM_{2.5}$ concentrations at London roadside and background sites**
Source GLA accessed at http://data.london.gov.uk/dataset/london-average-air-quality-levels (Accessed April 2020)

Southwark does not currently monitor $PM_{2.5}$, however, in 2020 Southwark will be introducing $PM_{2.5}$ monitoring at the entire planned expanded network of 6 monitoring stations in the Borough. Figure 7 above shows the average concentrations of all the $PM_{2.5}$ roadside and background monitors in the London Air Quality Network. The Air Quality Objective for $PM_{2.5}$ is 25µg.m$^{-3}$ by 2020. As can be seen from the graph above, the average $PM_{2.5}$ is presently below the objective for London and has continued in a slow downward trend since 2011. The Mayor of London has made a commitment in the London Environment Strategy and as part of the Breathe London campaign, to meet the World Health Organisation target for $PM_{2.5}$ by 2030.

A recent report for the GLA by Kings College London "$PM_{2.5}$ in London: Roadmap to meeting World Health Organization guidelines by 2030"[6] concluded that unless The Mayor of London and local authorities are given further powers to control $PM_{2.5}$ this target level will not be met by 2030.

[6] https://www.london.gov.uk/sites/default/files/pm2.5_in_london_october19.pdf accessed February 2020

## Sulphur Dioxide ($SO_2$)

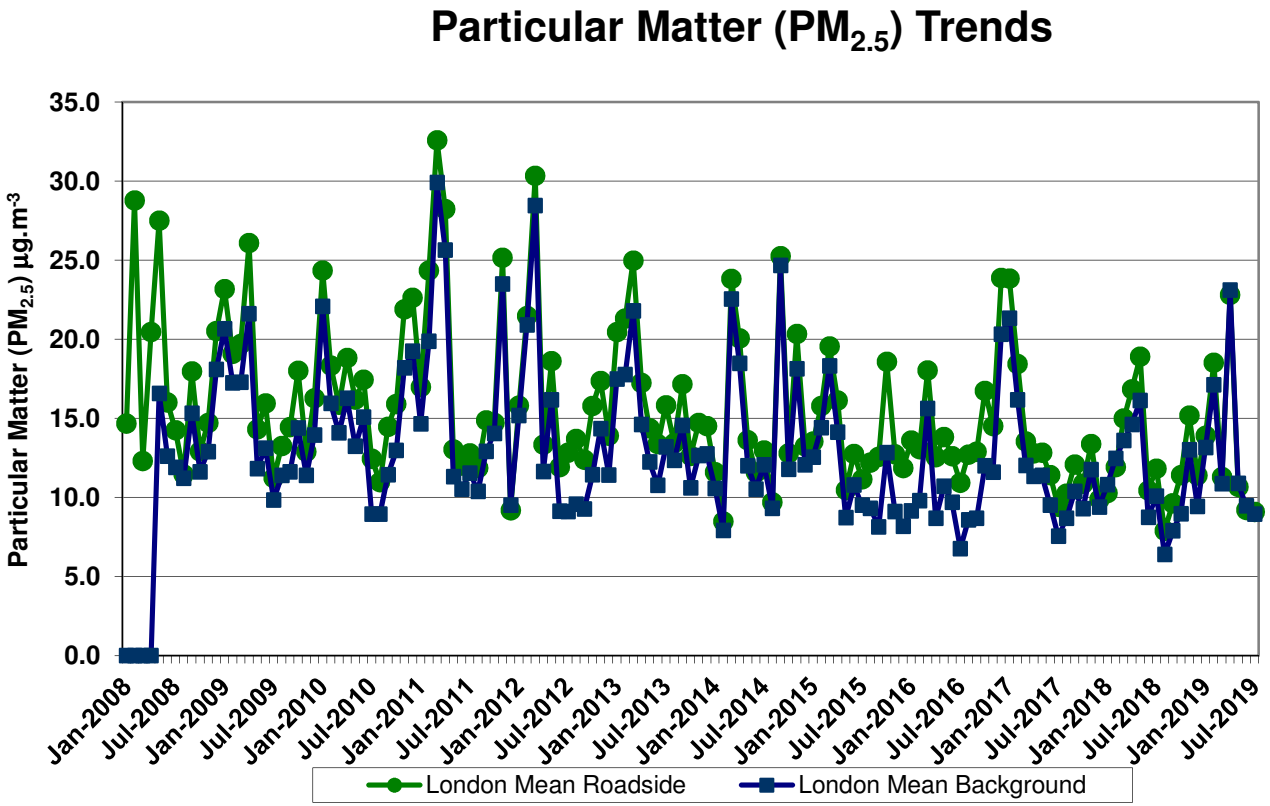


**Figure 8** **Trend of the monthly mean $SO_2$ concentrations at London roadside and background sites**
(Source GLA at http://data.london.gov.uk/dataset/london-average-air-quality-levels) (Accessed April 2020)

Southwark does not monitor for $SO_2$. Figure 6 shows the average concentrations of all the $SO_2$ roadside and background monitors in the London Air Quality Network. The concentrations are well below the various objective limits. The 24-hour mean objective, not to be exceeded more than 3 times a year, is 125µg.m$^{-3}$. This is well off the scale of the graph above.

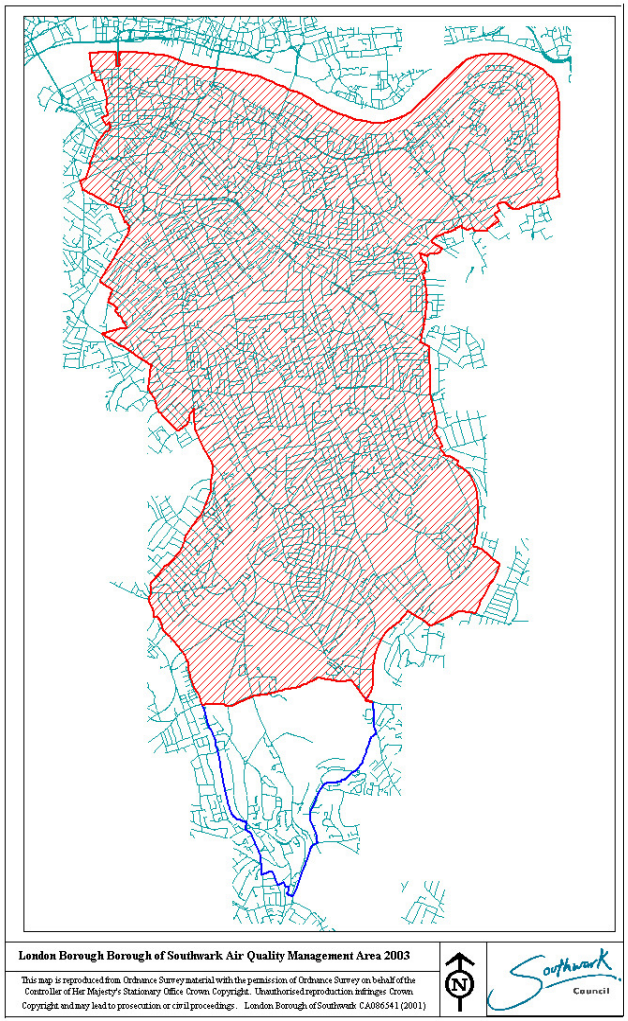


**Figure 9 Map of Southwark's AQMA Boundary**

## 1.3 Southwark's Air Quality Management Area

Figure 99 shows a map of the designated Air Quality Management Area in Southwark. This area was designated in 2003[7] and has remained unchanged through several reviews since.

## 1.4 Air Quality Focus Areas in Southwark

Figure 10 , on the following page, shows the GLA Air Quality Focus areas in Southwark. For each GLA Air Quality Focus Area[8], there are objectives in the Air Quality Action Plan to reduce emissions and/or exposure to pollutants.

[7] https://www.southwark.gov.uk/assets/attach/3635/Southwark-air-quality-management-area-order-2003.pdf
[8] https://data.london.gov.uk/dataset/laei-2013-london-focus-areas

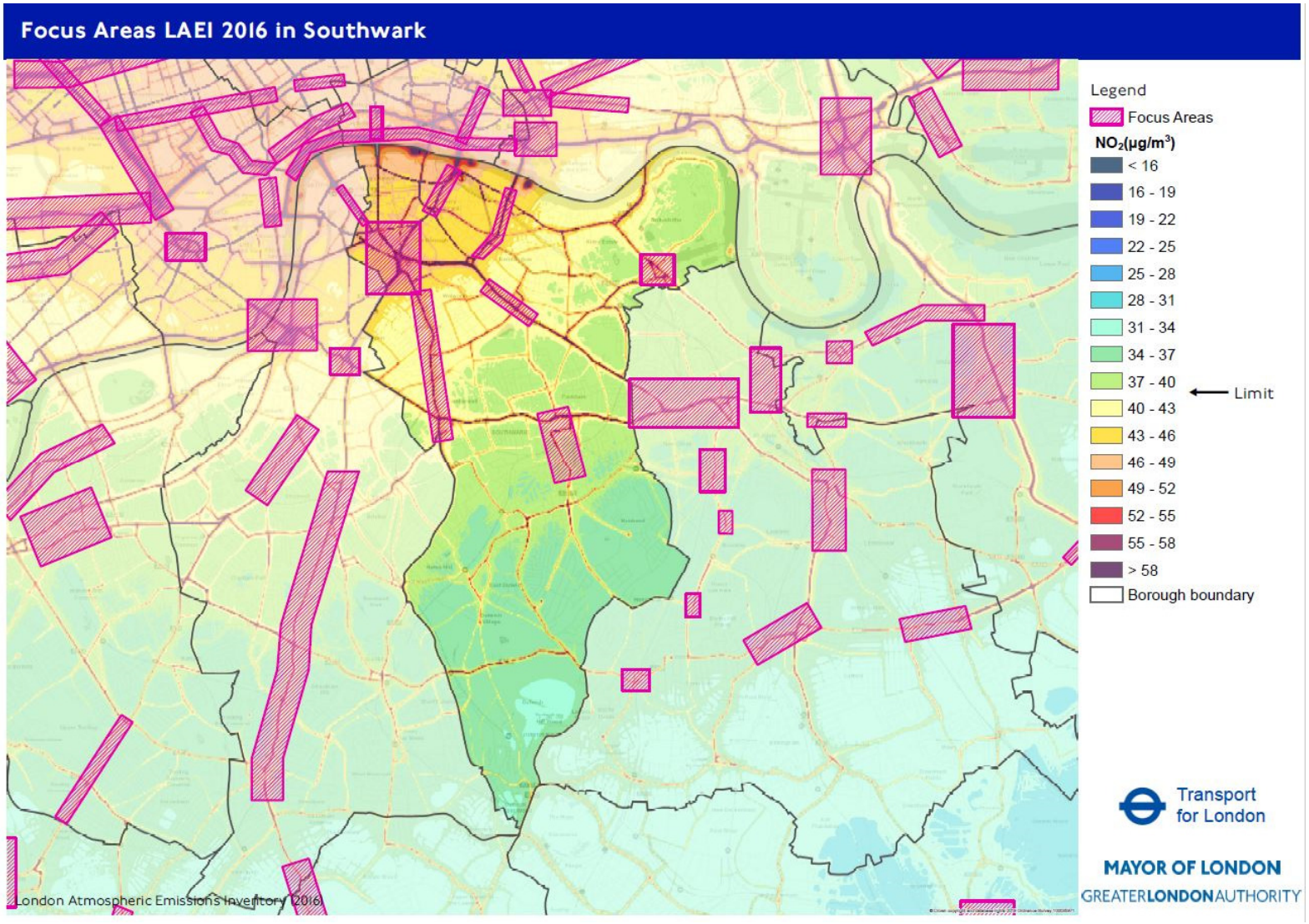


**Figure 10 GLA Air Quality Focus Areas in Southwark**

# 2. Actions to Improve Air Quality

## 2.1 Air Quality Action Plan – Progress

Table I provides a brief summary of progress against the Air Quality Action Plan, showing progress made this year.

**Table I Delivery of Air Quality Action Plan Measures**

| No. | Measure | | Action | Progress | Further information |
|---|---|---|---|---|---|
| 1.1 | Air quality monitoring | Maintain the continuous air quality monitoring stations | Ensure that the air quality monitoring stations at the Elephant & Castle, Old Kent Road & Tower Bridge are maintained, serviced and calibrated to current guidance | A third monitoring station was added at Tower Bridge Road during July 2019.<br>2 of the AQMS collected >90% for $NO_2$. For E & C & OKR sites the collection of $PM_{10}$ fell just below the target at 89% and 86% respectively. The existing equipment is old and is increasingly difficult to maintain and service.<br>All the existing equipment will be replaced during 2020 and 3 further stations will be added to the network | **Target not yet met** |
| 1.2 | | Maintain the $NO_2$ diffusion tube survey | Ensure that the $NO_2$ diffusion tube monitoring is maintained in accordance with current guidance | $NO_2$ diffusion tube monitoring has been maintained in accordance with current guidance. | **Target met** |
| 1.3 | | | | Data for the $NO_2$ diffusion tube monitoring is available at http://www.southwark.gov.uk/environment/air-quality/air-quality-data-monitoring-stations | **Target met** |

| No. | Measure | | Action | Progress | Further information |
|---|---|---|---|---|---|
| 1.4 | | Review the use of low-cost sensor technology to support air quality modelling | Support the University consortium 'Managing air for green inner cities' (MAGIC) project (London Road) | A new monitoring project was conducted during Summer 2019 around the Elephant & Castle measuring roadside concentrations and collecting the registration numbers using ANPR and speed cameras, currently awaiting the outcome of the survey. | **Target met** |
| 1.5 | London Local Air Quality Management Framework | Prepare and produce all London Local Air Quality Management Framework reports as required | All reports required by the London Local Air Quality Management Framework produced and submitted | This report to be submitted by the Framework deadline of 31st May 2020. | **Target met** |
| 1.6 | London Local Air Quality Management Framework | Respond to all appropriate air quality consultations | Review all air quality consultation requests and respond where appropriate | During the year, the EPT received 8 air quality consultations, reviewed 100%, and responded to 7. 1 consultation reuired no comment. See list of consultations at Appendix C | **Target met** |
| 1.7 | | Ensure the air quality action plan is current | Review the local air quality action plan to ensure it records achieved objectives and takes account of new evidence | The local air quality action has been reviewed | **Target met** |
| 1.8 | | Have and continue to develop a communication plan and campaign of relevant air quality improvement topics | Devise an air quality communication plan and campaign | An annual air quality communication plan and campaign has been devised and delivered using the tag #onething | **Target met** |
| 1.9 | | Support the Mayor of London's call for a government scrappage scheme for private diesel vehicle in line with JSNA recommendation to continue to advocate for wider, regional action to address air quality | 3 public statement/s of support from Cabinet Member issued | In the response to the Government's Clean Air Strategy and the Mayor's Environment and Transport Strategies, Southwark has supported on the introduction of the scrappage scheme. | **Action complete** |
| 1.10 | | Support the Mayor of London's call that the Government should modify the Vehicle Excise Duty regime to disincentive the purchase of diesel vehicles in line with the JSNA recommendation to advocate for wider regional action to address air quality | 3 Public statement/s of support from Cabinet Member | In the response to the Government's Clean Air Strategy and the Mayor's Environment and Transport Strategies, Southwark has supported on the introduction of the scrappage scheme. | **Action complete** |

| No. | Measure | | Action | Progress | Further information |
|---|---|---|---|---|---|
| 1.11 | Corporate responsibility | Support the introduction of a new or revised Clean Air Act that improves public protection from atmospheric pollution in line with JSNA recommendation to "Continue to advocate for wider, regional action to address air quality." | Explore whether there is support for new or revised Clean Air Act or a new London Act with the GLA and London Councils | Southwark has engaged with the City of London, London Councils and the first readings of two private Members Bills. There is now a commitment by the UK Government to introduce further clean air legislation in the Environment Bill. A new measure to ensure the provisions introduced in any Environment Bill is required. | **Action complete** |
| 1.12 | Corporate responsibility | Reduce the council's pension investment in fossil fuels | Southwark is cutting investment in fossil fuels and have agreed to place part of the pension fund into the "Blackrock Low Carbon Target Equity Fund | Place part of our pension fund into the "Blackrock Low Carbon Target Equity Fund". | **Action complete – further opportunities to work towards full divestment from fossil fuels are being pursued** |
| 1.13 | Control of shipping emissions and use of shipping to mitigate land based transport emissions | Reduce emissions from shipping using the River Thames | Support the Port of London Authority in delivering its air quality action plan in relation to Southwark | Guidance for planners and developers to encourage greater use of the river and ensure best practice to reduce emission from river traffic being published in the spring 2020 | **Target met** |
| 1.14 | | | | The feasibility study has been completed, currently awaiting publication of the report | **Target met** |
| 1.15 | Environment Bill | Support the GLA, UK100 and London Councils | Lobby for strong commitments to air quality improvements and a robust regulatory regime in the forthcoming Environment Bill | Reviewed the Environment Bill 2019 and prepared a briefing. Government called an election so the Bill was not enacted. The Authority will continue to lobby the relevant organisations in 2020 | **Target met** |
| 1.16 | Clean Air Bill | Support the GLA, UK100 and London Councils | Lobby for strong commitments to air quality improvements and a robust regulatory regime in the forthcoming Clean Air Bill | The Authority has reviewed the various Clean Air Private Members Bills and the City Of London Emission Reduction Bill. Government called an election so the Bills were not enacted. The Authority will continue to lobby the relevant organisations in 2020 | **Target met** |
| 1.17 | Air quality standards | Borough commitment to WHO targets | Produce a report to lead member regarding adoption of WHO targets for $PM_{2.5}$ by 2030 | Report not yet prepared It has taken longer than expected to install $PM_{2.5}$ monitoring equipment, and the report will be produced once we commence measurement of this parameter. | **Target not yet met** |

| No. | Measure | | Action | Progress | Further information |
|---|---|---|---|---|---|
| 1.18 | Improved air quality | Biodiversity 'Net Gain' measure | Explore how implementation of 'Net Gain for Biodiversity' methodologies, in GLA Environment Strategy, can support air quality improvement | Biodiversity Net Gain is considered in the Southwark Nature Action Plan. Accessed at http://moderngov.southwark.gov.uk/documents/s86152/Appendix%201%20SNAP%202020.pdf | **Target met** |
| 1.19 | Air Quality management framework | Air quality steering group | Set up a cross service air quality steering group to manage and oversee delivery of the AQAP actions and AQ improvement projects | The air quality agenda is currently reported up through a lead member to cabinet and the Health & Wellbeing Board. A briefing paper on potential changes to the reporting arrangement has been completed and is currently being considered by senior management. Discussions regarding how air quality agenda reporting will fit with the emerging Climate Emergency agenda reporting are ongoing. In the interim, through various air quality improvement projects, the environmental protection team work very closely with public heath, transport planning, highways, development policy & control, corporate comms, biodiversity and the climate emergency teams. | **Target met – but evolving** |

| No. | Measure | | Action | Progress | Further information |
|---|---|---|---|---|---|
| 2.1 | Local Air Quality Assessments | Ensure that Southwark Council's air quality technical guidance provides the latest advice on air quality assessment and mitigation | Devise air quality technical guidance | Air Quality Technical guidance been reviewed at the end of 2019, for publication in early 2020. | **Target met** |
| 2.2 | | | Include the air quality technical guidance standards in an SPD | Air quality will be reviewed in the carbon reduction action plan (due late 2020). Planning Policy are considering a Sustainability SPD of which Southwark's current air quality technical guidance will be a part | **Target not yet met** |
| 2.3 | Environmental Standards | Planning applications assessed to ensure that all developments will meet the requirements of the local air quality technical guidance | Assessment of 100% of all relevant planning applications with reference to the air quality technical guidance | All relevant planning applications have been assessed to ensure the developments will meet local air quality technical guidance standards | **Target met** |
| 2.4 | Increase the awareness of residents, businesses & visitors of the need to reduce emissions to atmosphere | Promote the reduction of total emissions to atmosphere | Public information campaign on domestic or commercial heating fuel type and fuel economy | An article prepared and published in the Authority's Winter 2019 edition of "Southwark Life" advising against burning wood and coal on an open fire or in an appliance.<br><br>The authority also produced a poster and useful leaflet to be displayed at retail units selling logs and solid fuels, reminding buyers that the borough is entirely covered by a designated Smoke Control Area | **Target met** |
| 2.5 | Low Emission Neighbourhood | Review the GLA Low Emissions Neighbourhoods pilot projects to support the JSNA recommendation to maintain our multi-agency approach to air quality. | Review and learn from the evaluation reports of the MAQF Low Emission Neighbourhoods schemes | A watching brief on the previous MAQF Low Emissions Neighbourhoods has been kept, and any lessons learnt are being incorporated into Southwark's Walworth Low Emission Neighbourhood. | **Target met** |

| No. | Measure | | Action | Progress | Further information |
|---|---|---|---|---|---|
| 3.1 | Encourage residents and those working in the borough to walk and cycle | Encourage children and parents to walk or cycle to school or nursery | Promote School Travel Plans & increase the number of schools attaining TfL STARs Silver or Gold accreditation each year | During the year the authority had 6 silver accredited schools | **Target met** |
| 3.2 | | | | The Authority has increased the number of Gold accredited by 17 schools, resulting in 31 Gold accredited schools in the Borough | **Target exceeded** |
| 3.3 | | Encourage Southwark staff to commute by walking or cycling | Promote the Authority's Travel Plan | A revised travel plan is being developed by Environment & Leisure Directorate for issue in 2020. | **Target not yet met** |
| 3.4 | | | Provide greater access to cycles for staff | The use of pool bikes is stable, CFM oversee a bicycle user group. A new advertising campaign will be launched on The Source in March 2020 | **Target met** |
| 3.5 | | | | At the end of 2019, the current facilities are meeting the demand of the cycling staff | **Target met** |
| 3.6 | | Encourage employees of businesses in Southwark to commute by foot or cycle | Encourage employees of businesses in Southwark to walk or cycle through the promotion of business specific travel plans | | **Target not met – see revised action at 3.17** |
| 3.7 | | Encourage residents to walk or cycle in the Borough | Promote active travel through relevant public health work streams and services including physical activity and healthy weight | Healthy Weight Implementation Group continues to meet. Active travel explored within the Schools Superzones project in Walworth. Public health providing continuing input into the Space Changers project where Sustrans are co-designing physical improvements to the public realm around 3 primary schools to increase active travel, with improvements implemented by the Highways team. | **Target met** |
| 3.8 | Increase public awareness of air quality forecasting and information on avoidance of high levels of pollutants | Public aware of how to access AirText, CityAir and Walk-it apps | Promotion of availability of AirText, CityAir and Walk-it apps especially to vulnerable groups | All listed are routinely promoted on the website and on all relevant email correspondence. EPT and PH staff is exploring avenues to improve current AirText product, with a view to bidding for funding in partnerships with other local authorities to support product development with CERC. An option will be finalised in 2020 | **Target met** |

| No. | Measure | | Action | Progress | Further information |
|---|---|---|---|---|---|
| 3.9 | Evidence based policy | Ensure action to tackle the health impact where air quality information is intelligence led and evidence based | Provide PH advice and guidance on the health impacts of air quality and mitigating actions | Review in progress to incorporate any new medical evidence and update any data. Any further recommendations will be implemented and monitored from 2020 | **Target met** |
| 3.10 | Web information on air quality | Southwark website content has comprehensive air quality information and guidance | Ensure web-based information is accurate and up to date | Last updated in September 2019. Air Quality to be included in public health's new digital health and wellbeing hub which is currently in development | **Target met** |
| 3.11 | Increase awareness of air quality issues | Public and businesses aware of the impact of their actions on air quality | Communication campaign on personal or business behaviour change to improve air quality | #onething campaign continued throughout the year, with production of solid fuel posters and promotion of electric charging points in the Borough | **Target met** |
| 3.12 | | Provide general public with advice on what they can do to improve air quality | Prepare guidance for general public on what they can do to improve air quality | Web pages updated with information on what public can do. Clean Air Day and Car Free Day were promoted in the borough to increase awareness | **Target met** |
| 3.13 | | Notify all 5 Community Councils of revised Air Quality Strategy 2017 – 2022 in support of JSNA recommendation to "Maintain our multi agency approach to air quality." | Present Air Quality Strategy 2017 – 2022 at all Community Councils | | **Action completed** |
| 3.14 | Protect health vulnerable groups including children, the ill and the elderly from poor air quality | Ensure those advising people in poor respiratory health have advice on reducing personal exposure to atmospheric pollutants | Work with clinicians via Breathlessness Group of CCG to ensure GPs and other health professionals have access to appropriate prompts, advice and information for use in GP surgery consultations | Produced a series of 5 leaflets on Air Pollution & Health for health professionals. Presentation delivered to the Nurses forum to launch the leaflets. Link to the leaflets has been disseminated through the GP bulletin and awareness of the pack raised in relevant protected learning events. Scoping is underway to assess how the information can be best embedded into current GP practice systems | **Target met** |
| 3.15 | | Provide advice to schools and nurseries with regard to improving air quality in and around their premises and on how to avoid exposure to high pollution environments | Devise advice to schools on air quality | | **Action completed** |

| No. | Measure | | Action | Progress | Further information |
|---|---|---|---|---|---|
| 3.16 | Reduce traffic emissions | Reduce Business use of vehicles | Work with BIDs to develop improved measure of business sector transport | Better Bankside BID ran a cargo bike trial with businesses via the 'Bikes for Businesses' scheme funded by TfL. The trial was taken up by 5 businesses and will continue in 2020.<br>Better Bankside conducted 6 detailed delivery and servicing reviews, including one for the multi-tenanted Blue Fin Building. The review data is currently being analysed.<br>Better Bankside and Team London Bridge organised several freight engagement events with local businesses. | **Target met** |
| 3.17 (revised 3.6) | Encourage employees of businesses in Southwark to commute by foot or cycle | Work with BIDS to encourage employees of businesses in Southwark to walk or cycle through the promotion of business specific travel plans | | Better Bankside worked with Dr Bike to support employees of businesses choosing to cycle to work. Workplace Dr Bike surgeries were delivered in 2 businesses.<br>A free 'Brompton Cycles' loan scheme It was arranged for those wanting to try cycling to work<br>Better Bankside worked with 'Runfriendly' (Airbnb for showers) to link up cycle commuters without access to showers with premises with underused showers | **Target met** |

| No. | Measure | | Action | Progress | Further information |
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| 4.1 | Reducing Emissions from Delivery and Servicing | Develop a freight consolidation solution for Southwark | Carry out a joint feasibility study with Lambeth, Wandsworth and Croydon | Feasibility study indicated minimal or no benefit from implementation of a consolidation solution - Action complete | **Action complete** |
| 4.2 | | | If the feasibility study is positive, monitor the preferred solution | N/a | **Not applicable due to the outcome of Measure 4.1. Action complete** |
| 4.3 | | | If the feasibility study is positive, evaluate the preferred solution | N/a | |
| 4.4 | | If consolidation centre opens –All Southwark Council suppliers to use the proposed freight consolidation solution where possible | Ensure in-contract documentation that all Southwark Council suppliers are required to use any implemented consolidation solution | N/a | |
| 4.5 | Reducing Emissions from Delivery and Servicing | All non-consolidation solution suppliers, to the Authority, with a large fleet to join the Fleet Operator Recognition Scheme (FORS) and obtain Silver accreditation as a minimum | Insert within standard contract documentation that all suppliers of large fleet are required to hold Silver accreditation of the Fleet Operator Recognition Scheme (FORS) or it be achieved within six months of the contract being signed, along with an ongoing commitment to use ULEV's | The FORS scheme was incorporated into the new Fairer Future Procurement Framework (FFPF) that was approved by Cabinet in June 2019 and is incorporated into the contract terms by colleagues in Legal Contracts. The FFPF can be found at: https://www.southwark.gov.uk/business/procurement/policy-and-guidance-for-procurement | **Target met** |
| 4.6 | | To support sustainable logistical measures in the north of the Borough | Work with stakeholders to promote rationalisation of deliveries and using low & zero emission vehicles and local distribution hubs for final stage delivery. Explore the feasibility of new technologies for smart deliveries | Better Bankside and Team London BID's have been working with the business in their area to use low and zero emission vehicles for the final stage.<br><br>Further innovation will be trialled and evaluated in the Walworth LEN project | **Target met** |

| No. | Measure | | Action | Progress | Further information |
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| 4.7 | | Reduce Southwark commercial fleet emissions. | Switch to use of low or no emission vehicles | Vehicles in the Authority's Fleet were renewed during 2018 and 2019 with electric and ULE compliant vehicles | **Target met** |
| 4.8 | | | Produce mileage and efficiency guidance for services | Guidance for services has been delayed due to the introduction of the new fleet management system and a delay in the implementation of the vehicle telematics system. Interim guidance is being produced | **Target not fully met** |
| 4.9 | | Introduction of telematics on commercial fleet | Install telematics on commercial fleet | The telematics equipment has been installed on all the new commercial fleet in 2019 and the policy to use it will be introduced during 2020 | **Target not fully met** |
| 4.10 | | Smarter Driver Southwark fleets Training for drivers of all | Introduce Smarter Driver training requirement for all current fleet drivers | In 2020, we will be introducing many new Driver requirements to Fleet Services for all drivers throughout the council.<br>There will be new licence check measures and based on points/endorsements related to individual drivers there will be various training modules which will need to be completed. This will be either by online or skill based and practical training | **Target met** |
| 4.11 | | Smarter Driver Training for drivers of all Southwark fleets | Introduce Smarter Driver training requirement for all new fleet drivers | | **Target met** |
| 4.12 | Travel planning | Maintain an up to date Council Travel Plan consistent with the aims of the air quality action plan | Undertake survey of staff travel arrangements | Staff travel survey being conducted in January / February 2020 | **Target not yet achieved** |
| 4.13 | | | Review the Authority's Travel Plan | Following an analysis of the travel survey, the Authority's travel plan will be reviewed in 2020 | **Target not yet achieved** |
| 4.14 | Reducing emissions from Taxies & Private Hire Vehicles | Smarter Driver Training for drivers of all taxis and private hire vehicles | Ask the GLA & TfL to introduce a requirement that all PCO licences include a Smarter Driver training element in line with JSNA recommendation to maintain our multi-agency approach to air quality | No new consultation opportunity has arisen in 2019 to request the introduction of Smarter Driver Training for PCO licences. The authority has requested this requirement be considered in a letter to the GLA | **Target met** |

| No. | Measure | | Action | Progress | Further information |
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| 4.15 | | Support the Mayor of London's requirement that all newly licenced taxis be zero emission capable from 2018 in line with JSNA recommendations | Support TfL in the identification and installation of EV charging points in line with JSNA recommendations to maintain our multi agency approach to air quality | TfL currently installed 11 rapid charging points, further potential locations identified to TfL | **Target met** |
| 4.16 | Reducing vehicle emissions | Reduce emissions from buses in the borough in line with JSNA recommendations | Work with TfL & GLA to deliver low emission bus zones in Southwark in line with JSNA recommendations to maintain our multi agency approach to air quality | Low Emission bus corridors delivered - Camberwell to New Cross from Camberwell New Road (from the junction with Brixton Road), along Peckham High Street to Deptford Bridge Station | **Target met** |
| 4.17 | Reducing vehicle emissions | Work with TfL and other London Boroughs to extend the Ultra-Low Emission Zone (ULEZ) to the South Circular initially, with a long term option to extend to the M25 in line with JSNA recommendations | Respond to all consultations and via any relevant forums on the ULEZ recommending the ULEZ be to the South Circular initially with a long term option to extend to the M25 | | **See measure 7.14** |
| 4.18 | Reducing vehicle emissions | Reduce fine particle emissions from tyre, brake and clutch components in line with JSNA recommendation to Continue to advocate for wider, regional action to address air quality reduce re-suspension of road dust | Engage with appropriate researchers and industries to increase research to reduce fine particle emissions from tyre, brake and clutch components in line with JSNA recommendation to maintain our multi agency approach to air quality | | **Action Complete** |
| 4.19 | | Reduce re-suspension of road dust | Explore possibilities for more extensive wet road cleaning techniques | | **Action Complete** |
| 4.20 | | Vehicle idling awareness | Run public awareness campaign | | **Action Complete** |
| 4.21 | | Enforcement of the provisions of the Road Traffic Act | Authorise street based enforcement staff | | **Action Complete** |
| 4.22 | | | Enable the Parking Enforcement staff to undertake enforcement through current contract | | **Action Complete** |

| No. | Measure | | Action | Progress | Further information |
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| 4.23 | | | Authorise other street based staff to undertake enforcement | | **Action Complete** |
| 4.24 | Emissions from vehicles | Variable vehicle parking charges to promote use of less polluting vehicles | Review the charges for on-street parking & permits | The council operate a scheme whereby green vehicles (Electric and Hybrid) receive a 75% discount on their permit compared to fossil fuel vehicles. Residents pay £31.25 annually for a green vehicle instead of £125 annually for petrol and diesel vehicles. Officers have also started a scheme which applies to our business parking permit holders and to our car clubs operators who will receive discounts for operating electric vehicles. The council is planning to remove its remaining 120 parking machines which are on-street this will benefit from Paybyphone's Meters for trees scheme and result in Paybyphone off setting 12 tonnes of carbon dioxide through a verified carbon standard audited project. Please see: https://park.paybyphone.com/metersfortrees/<br><br>In addition to this once the meters are removed the council plans to implement a diesel surcharge on its Paybyphone parking areas where diesel vehicles will pay 25% more than normal vehicles. | **Target met** |
| 4.25 | | | Review the charges for Housing Estate parking permits | This will be reviewed in 2020. As part of the review, we will be looking at bringing estate parking charges in line with those for on street parking which we hope will have an impact on the use of less polluting vehicles on our estates. Further discussion will be held with senior management and cabinet member before implementation | **Target not yet met** |

| No. | Measure | | Action | Progress | Further information |
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| 4.26 | | Promote the reduction of total emissions to atmosphere | Public information on alternative fuels for fleets/cars | The authority has installed numerous charging points using lamp posts, information placed on Southwark's website When exploring whether the location of the electric charging points in the Borough are on one map it was found that there is no consistent information between the different sources. Therefore by the end of 2020, the Authority is producing information listing all the charging points in Southwark in 1 location. | **Target not yet met** |
| 4.27 | Air quality around schools | Reduce parent & carer parking close to primary schools and nurseries | Pilot School Streets at 5 primary schools or nurseries (by 2022) | In the Borough, there are 2 permanent school streets. 3 schools are awaiting a decision to make their trial schemes permanent. At 2 schools the trail closure is being analysed. There are 29 schools on the Borough's waiting list | **Target exceeded** |
| 4.28 | Air quality around schools | GLA Air Quality Audits for primary school/s | Air Quality Audit/s facilitated | | **Action completed** |
| 4.29 | | GLA Air Quality Audits for primary school/s | Identify funding to implement the Air Quality Audit recommendations | Recommendations being considered by Authority's Highway section. | **Target met** |
| 4.30 | | | Encourage schools to implement the GLA Air Quality Audit recommendations and inform schools about funding sources for implementation | The 2 audited schools have implemented the school based audit recommendations by using GLA and LBS Air Quality Starter Grants. All schools have also been provided with a long list of other potential grant sources | **Action completed** |
| 4.31 | | Southwark Air Quality Audits for primary schools | Facilitate Air Quality Audits at 34 Southwark maintained schools as listed by the GLA | The contract for the School Air Quality Audit will now start in September 2020 | **Target not yet met** |
| 4.32 | | | Provide access to AQ Audits to all non-community schools in the Borough that are on the GLA list | When the contract has been awarded, an invitation letter will be sent to all the eligible non-community schools | **Target not yet met** |

| No. | Measure | | Action | Progress | Further information |
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| 4.33 | | | Identify funding to implement the Southwark Air Quality Audit recommendations | When the full School Air Quality Audit report has been received by the authority, it will be analysed and the funding will be sought (Update – Successful Capital Bid made for funds in early 2020) | **Target not yet met** |
| 4.34 | | | Ensure school air quality audit reports are received within performance management targets specified in contract | These measures have not started, due to the contract commencing in September 2020 | **Target not yet met** |
| 4.35 | | | Ensure the overarching priority recommendations report is received within performance management targets specified in contract | | |
| 4.36 | | | Promote and share actions that will improve air quality for the school community through Southwark and GLA Air Quality for Schools Networks | These measures have not started, due to the contract commencing in September 2020. | **Target not yet met** |
| 4.37 | Reduce private vehicles in the Borough | Promote the use of shared mobility in Southwark | Continue to promote & encourage shared mobility systems | Reviewed and amended car club operation in the borough to expand offer. | **Target met** |

| No. | Measure | | Action | Progress | Further information |
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| 4.38 | Reduce traffic emissions | Movement Plan impact assessment | Monitor whether implementation of the Movement Plan achieves the reductions in $NO_x$, $PM_{10}$ and $PM_{2.5}$ sought by the Mayor of London Transport Strategy outcome 4 | TfL funded schemes e.g. Liveable neighbourhood programme in Bramcote Park SE16 will be monitored for their effectiveness against the Movement Plan objectives. For example Mission 4 of the Movement Plan - Reduce Traffic can be monitored using the traffic volume indicator. The amount of traffic on our streets has a negative impact and if a scheme can be shown to reduce traffic then it follows that a reduction in $NO_x$, $PM_{10}$ and $PM_{2.5}$ can also be expected | **Target met** |
| 4.39 | | Reduce re-suspension of road dust | Explore possibilities for more extensive wet road cleaning techniques | This measure is being explored in the MAQF project to ascertain the degree that wet road cleaning will reduce the re-suspension of particles | **Target met** |
| 4.40 | Reduce emissions from Rotherhithe Tunnel | Reduce pollutant levels at tunnel vent shaft outlets and portals | Work with TfL's Tunnel Team and Tower Hamlets officers to monitor air quality in the tunnel and around the tunnel vents and portals | TfL's Tunnel Team and Officers have monitored the air quality in the tunnel and at the tunnels vents and portals, regular meetings to review the data. Redesign of the tunnel ventilation system is in progress | **Target met** |
| 4.41 | | | Work with TfL's Tunnel Team and Tower Hamlets officers to identify improvements to the tunnel current ventilation system | TfL Tunnel Team has reduced the vehicle types using the tunnel and has carried out work to the ventilation shafts in consultations with Southwark and Tower Hamlets.. Monitoring has shown pollutant levels have reduced. | **Target met** |
| 4.42 | | | Lobby TfL to fund and develop a plan to refit the tunnel ventilation system | Funding has been approved by the TfL Board and the new tunnel ventilation system is being designed | **Target met** |

| No. | Measure | | Action | Progress | Further information |
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| 5.1 | Reduction of carbon emissions | Require developers to contribute to reducing atmospheric emissions in line with JSNA recommendations to build on existing Council work to further address air quality locally | Achieve minimum 35% regulated carbon emissions reduction on Part L of 2013 Building Regulations on all new major developments in line with JSNA action to continue to develop and adopt robust planning policies that require high standards from new development proposals, particularly in identified areas such as Opportunity Areas or Air Quality Focus Areas | More than 80% of major planning applications approved in 2019 achieved this target. Where applications did not achieve the target for a valid reason (usually relating to limitations on site), The developers have agreed to pay offset charges to the Green Fund.<br>The Authority is writing a strengthened policy with a higher target of a 40% reduction against the baseline. This target will be included in the adopted version of the New Southwark Plan. The Authority believes that ongoing technological advancements and a growing economy of scale will make it easier for developments to achieve a higher target above 35% and that this will encourage greater innovation. | **Target met** |
| 5.2 | | | Any of the 35% minimum $CO_2$ reduction not achieved on-site to be secured through S106 for the "Green Fund" (carbon off-setting projects) for the equivalent remaining regulated carbon emission savings in line with JSNA action to "Continue to develop and adopt robust planning policies that require high standards from new development proposals, particularly in identified areas such as Opportunity Areas or Air Quality Focus Areas" | All applications which have not achieved a 35% on site reduction will pay an offset charge to the Green Fund to mitigate the carbon produced. This includes all residential applications which have not achieved the reduction criteria. | **Target met** |

| No. | Measure | | Action | Progress | Further information |
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| 5.3 | | | New homes on all major developments to be zero carbon as per London Plan policy 5.2, achieved either on-site or via financial contributions for off-setting in line with JSNA action to continue to develop and adopt robust planning policies that require high standards from new development proposals, particularly in identified areas such as Opportunity Areas or Air Quality Focus Areas | There are ongoing discussions taking place at present to decide where the off-setting funds should be spent. As of April 2020, the fund total is £4,432,891.80.<br>It is likely that a significant amount will be spent on retrofitting existing estates in the borough to reduce energy demand by improving building fabric and fittings | **Target met** |
| 5.4 | | | All major developments to achieve Air Quality Neutral Standards onsite in line with JSNA action to continue to develop and adopt robust planning policies that require high standards from new development proposals, particularly in identified areas such as Opportunity Areas or Air Quality Focus Areas | 100% of major developments are either confirmed to achieve Air Quality Neutral standards at the point of application, or are granted with conditions which will ensure that these standards are achieved | **Target met** |
| 5.5 | Reduction of carbon emissions | Require developers to contribute to reducing atmospheric emissions in line with JSNA recommendations to build on existing Council work to further address air quality locally | Where Air Quality Neutral standards are not achieved on-site, off-setting funds secured through section 106 to be used to ensure development meets the air quality neutral standard equivalent | All development met the Air Quality Neutral Standard therefore no off setting funding was collected | **Target met** |
| 5.6 | | | Commit and spend all off-setting funds on carbon off-setting projects | In 2019 the Southwark's Carbon off setting fund has collected approximately £468,000, however the planning team are capturing historic agreements into new planning system, there are further contributions to collect when the schemes are implemented.<br><br>Southwark is setting up a carbon off-setting board to manage the funds. | **Target met** |

| No. | Measure | | Action | Progress | Further information |
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| 5.7 | Improve the energy efficiency in Southwark homes | Promote reduced energy consumption and bills | Promote low cost energy efficiency measures | Heat meters being installed as part of any new development where district heating is provided. Smart meters continue to be rolled out via energy providers. | **Target met** |
| 5.8 | | Maximise funding streams available to improve energy efficiency | Bid for funding where it will be beneficial to energy efficiency and fit in with the overall council objectives | This measure is linked to 5.10 below. | **Target met** |
| 5.9 | Improve energy efficiency in Southwark homes | Install ultra-low $NO_x$ boilers in council & TMO housing | Install ultra-low $NO_2$ boilers when boilers are replaced in council and TMO housing | On course to install 1,600 ultra-low $NO_2$ boilers by year end - 861 installed as at 31/10/19 | **Target met** |
| 5.10 | | Develop & implement a strategy for communal boiler upgrades and renewals within council housing | Develop & implement the strategy for communal boiler upgrades and renewals | This is a progression of the work to deliver a district heating strategy that provides modern district heating to our residents and levers in the investment required to deliver it.<br>Heat mapping and master planning complete, now working up schemes to install ground source heat pumps at three estates, and working with Veolia to explore expansion of SELCHP.<br>Report approved at Cabinet in July to develop strategies further.<br>Heat network governance board meets monthly. This is a progression of the work to deliver a district heating strategy that provides modern district heating to our residents and levers in the investment required to deliver it. | **Target met** |
| 5.11 | | Monitor the effect of energy efficiency improvements in the Council's social housing planned renewal programme | Implement monitoring regime for improvement programme in the social housing planned works programme | The Energy module is running in Apex, providing a SAP score for properties and updating in line with Major Works completions. | **Target met** |

| No. | Measure | | Action | Progress | Further information |
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| 5.12 | Promote the use of renewable energy and minimise the energy demand of Southwark estate | Reorganise the use of space in operational council buildings to reduce overall energy demand | Improve the use of Council buildings making them more sustainable, flexible, cost & space efficient | Southwark facilities management are working with workplace to provide buildings that are modern bright and safe for staff. The Tooley Street Building has been trialling a range of new furniture and working practices that will be rolled out across the council as part of the modernise agenda | **Target met** |
| 5.13 | | Be aware of the energy used and generated by the Authority's operational buildings | Publish on-line information of the energy used and any generated by the Authority's operational buildings | The Council is in the process of developing a Climate Emergency Strategy by Summer 2020 which will also be targeting energy use and carbon from the council's operational buildings. A new baseline for the borough will be proposed. The council has commissioned extensive engagement with residents early in 2020. A new approach and action plan will form part of the strategy and new targets will be set. Additionally the option for purchasing 100% renewable energy for our largest operational buildings is being explored. | **Target will be revised when new strategy is in place** |
| 5.14 | Promote the use of renewable energy and minimise the energy demand of Southwark Housing | Explore the opportunity to install renewable energy technologies in Southwark housing | Through extra funding, explore the opportunities for installing renewable energy technologies, energy efficiency measures and insulation retrofitting | The measure is linked to 5.10 above | **Target met** |
| 5.15 | | | Explore options to set up community energy schemes on estates | The Authority commissioned feasibility studies of 3 resident-led solar pilot projects. These showed that retrofitted solar is probably not viable on our estates. Southwark is proceeding with the development of the corporate decarbonisation strategy to provide the framework for promoting community-led renewable energy initiatives | **Target met** |

| No. | Measure | | Action | Progress | Further information |
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| 5.16 | | | Explore use of low energy alternatives and motion sensor systems to major repairs to lighting systems on estates | Developing strategy to roll out LED installation to estates across the borough - currently replacing fail units with LED's. Investment programme does not cover estate lighting yet, but through term contracts lamps are replaced with LED type | **Target met** |
| 5.17 | Ensure new developments minimise their impact on local air quality and climate change | Develop robust air quality planning policies | Develop robust air quality planning policies in the New Southwark Plan, Old Kent Road Opportunity Area Plan & any new and revised Neighbourhood Plans in line with JSNA recommendations to "Commission an air quality study for the Old Kent Road Opportunity Area" | New Southwark Plan (NSP) is complete. OKR Area Action Plan is under review and we will ensure strength of air quality policies within the document before it is submitted in Dec 2020 | **Target not yet met** |
| 5.18 | | Highlight design guidance for best practice in reducing emissions to air | Develop a revised Sustainable Design and Construction SPD that includes up to date guidance on improving air quality | No work has started yet on the new Sustainable Design and Construction SPD | **Target not yet met** |
| 5.19 | Increase number of Southwark Council Homes using renewable energy | Increase no. of Southwark Council Homes using renewable energy from SELCHP | Connect more dwellings to SELCHP | Part of 5.10 above. Nearing agreement of Memorandum of Understanding with Veolia in order to fully explore potential for wide expansion | **Target not yet met** |
| 5.20 | Area and Heat Power Network | Provide an Area Heat and Power Scheme in the Borough | Explore how Southwark can replicate the "Croydon Central Area Heat and Power Scheme" within the Borough's Opportunity Areas | Discussed briefly in Energy background paper but no work begun yet | **Target not yet met** |
| 5.21 | Zero Emission Network | Provide a Zero Emission Network in the Borough | Explore how Southwark can develop a Zero Emission Network | Energy background paper provides guidance based off NSP policies P68 and P69 | **Target not yet met** |
| 5.22 | Reduction of carbon emissions | Revised measure for Air Quality Neutral | Working with planning services to better define and measure progress against target. | Air quality will be reviewed in the carbon reduction action plan (due late 2020) | **Target not yet met** |

| No. | Measure | | Action | Progress | Further information |
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| 6.1 | Smoke Control Zone | Enforcement of the Clean Air Acts | Ensure that all retail premises selling wood and coal are aware that the whole of Southwark is a Smoke Control Area | A survey of solid fuel retail premises was carried out during November 2019 and all the appropriate retailers were provided with an on-site information officer visit, a poster for customers and explanatory leaflets for staff. An evaluation report for the project is currently being prepared to ascertain the effectiveness of the project with regard to behaviour change | **Target met** |
| 6.2 | | Discourage burning of logs and house coal | Undertake a public communication campaign during Autumn 19 to highlight pollution caused by using non-smokeless fuels | | |
| 6.3 | Emissions from industrial premises | Regulation of EPA Part B processes | All IPPC premises in the Borough inspected in accordance with their risk assessment | Achieved | **Target met** |
| 6.4 | Green infrastructure | Increase the amount of green infrastructure | Explore all opportunities to install green infrastructure | The Council is delivering various items of "green" sustainable transport infrastructure in 2019, including: 2km of accessible cycle route, 42 cycle hangars, 20 uncontrolled and 7 controlled crossings, as well as working to encourage behaviour change. This include working with schools to develop travel plans and so encourage more children and parents to travel to school sustainably (now 61%) and also training nearly 3500 children and adults in Bikeability to improve cycling confidence. New Green infrastructure is planned as part of the Walworth LEN | **Target met** |
| 6.5 | Healthy Streets | Assess the Borough's Highways against the criteria in TfL's Healthy Streets approach | Highway projects to be assessed against the TfL's Healthy Streets criteria | Southwark Highway's procedure for all Highway developments is that all schemes are assessed against the Healthy Street Criteria | **Target met** |
| 6.6 | Emissions from development | Emissions from construction work minimised | Ensure that all strategic and major developments are aware of the Authority's Technical Guidance for Demolition & Construction | Comments included on all appropriate planning consultations. The Demolition & Construction Technical Guidance will be revised and updated in Spring 2020 | **Target met** |
| 6.7 | Emissions from construction equipment | Ensure all Non-Road Mobile Machinery (NRMM) complies with the GLA SPG | Ensure that all strategic & major construction sites are on the on-line NRMM register | Regular updates of all strategic & major construction sites provided to L.B. Merton | **Target met** |

| No. | Measure | | Action | Progress | Further information |
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| 6.8 | | construction criteria | All strategic and major construction sites inspected for NRMM compliance | The Authority has commissioned L.B. Merton to inspect the Borough's Strategic and Major Construction sites, in 2019 12 sites were visited and found 2 were non-compliant | **Target met** |
| 6.9 | Emissions from developments and premises | Enforcement of the provisions of the Environmental Protection and Clean Air Acts | Apply the provisions of Clean Air Act 1993 S.14 (chimney height) to appropriate developments | No applications received this year | **Target met** |
| 6.10 | | Enforcement of the provisions of the Environmental Protection and Clean Air Acts | Investigate all reports of bonfires & open burning | All reports investigated | **Target met** |
| 6.11 | Emissions from waste management process | Enforcement of the Permit conditions at waste management sites in the Borough | Liaise with Environment Agency to ensure appropriate controls are being used to minimise and mitigate the creation of dust and fume at waste management sites in line with JSNA recommendation to maintain our multi-agency approach to air quality | No complaints received regarding waste management sites in the borough this year, so no inter agency liaison was required. | **Target met** |
| 6.12 | Improved air quality | $PM_{2.5}$ from catering sources | Revise the air quality technical guidance for planning applications | Air Quality Technical Guidance has been reviewed and is due to published in early 2020 | **Target met** |
| 6.13 | | | Apply revised technical guidance standards with regards to complaints regarding emission from commercial kitchens | | **Target met** |
| 6.14 | | | Ensure all planning applications for catering premises include adequate provision for exhaust gas filtration and/or treatment | All planning applications for developments with any catering included in the scheme are assessed against the EMAQ guidance for catering premises | **Target met** |

| No. | Measure | | Action | | Progress | Further information |
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| 7.1 | GLA Air Quality Focus Areas | Ensure that local air quality is monitored in the GLA Air Quality Focus Areas | Diffusion tube survey expanded to include all GLA Air Quality Focus Areas | | | **Action completed** |
| 7.2 | | Improvement of air quality in the GLA Air Quality Focus Areas | Implement an air quality improvement project in each GLA Air Quality Focus Area. Ensure they are linked to relevant regeneration plans and build on any existing relevant initiatives to encourage modal shift towards public transport, cycling & walking | GLA AQ Focus Area 147 – Peckham Town Centre | This area is bisected by the Camberwell to New Cross Low Emission Bus Zone, TfL has consulted in January 2020 for highway safety work on Peckham High Street | **Target met** |
| 7.3 | | | | GLA AQ Focus Area 148 – Tower Bridge Road | An air quality monitoring station being re-commissioned on Tower Bridge Road and Southwark has investigated the impact of bridge lifts on idling queuing traffic | **Target met** |
| 7.4 | | | | GLA AQ Focus Area 149 – London Bridge Area | Better Bankside and Team London Bridge jointly ran a Business Low Emission Neighbourhood. Report to be produced in Spring 2020 | **Target met** |
| 7.5 | | | | GLA AQ Focus Area 150 – Old Kent Road | Proposals are being explored with various departments and external organisation to implement improvement measures in the area | **Target not yet met** |
| 7.6 | | | | GLA AQA 151 – Elephant & Castle Area | Southwark has been successful in obtaining a MAQF grant to ascertain whether extra road sweeping in the area would reduce particulates and improve the air quality in the area | **Target met** |
| 7.7 | | | | GLA AQ Focus Area 152 – Walworth Road / Camberwell Road | Southwark has been successful in obtaining a MAQF grant for a 'Low Emission Neighbourhood' in the Walworth Road area, and it has applied for a Good Growth Bid for the Camberwell area | **Target met** |
| 7.8 | | | | GLA AQ Focus Area 153 – Lower road | Southwark has consulted on a Controlled Parking Zone and new cycling provisions for the Rotherhithe Area and removing the Lower Road gyratory system, to make the one way roads into two way with a bus gate | **Target not yet met** |

| No. | Measure | | Action | Progress | Further information |
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| 7.9 | | | In Air Quality Focus Areas 152, & 153 and 157 explore using geo-fencing for TfL buses to only use the bus in an electrical mode | | **Action completed** |
| 7.10 | | | Ensure that the implemented air quality projects in the GLA Air Quality Focus Areas are assessed | On going | **Target met** |
| 7.11 | | | Ensure that local air quality projects in the GLA Air Quality Focus Areas are comprehensively evaluated | On going | **Target met** |
| 7.12 | | | Ensure that air quality projects implemented in the GLA Air Quality Focus Areas are regularly reviewed | On going | **Target met** |
| 7.13 | Cleaner Air Borough | Ensure full consideration of GLA air quality policy changes | Take all actions required by GLA to retain Cleaner Air Borough status in 2019 | Application will be made in June 2020 for Southwark to retain Cleaner Air Borough status | **Target met** |
| 7.14 | The extension of the ULEZ | Council policy is to support the extension of ULEZ to the south circular and in future for it to include the whole borough or be extended to the M25 | Respond to GLA consultations expressing the Southwark policy stance | | **Duplicate measure see 4.17** |
| 7.15 | Support GLA planning policy with regard to air quality | Ensure full consideration of GLA planning policy changes that relate to air quality | Ensure GLA air quality policy is considered in all planning decisions | Planning policy regarding environmental and sustainability issues is currently under revision | **Target not yet met** |
| 7.16 | Mayor's Air Quality Fund | Identify projects suitable for Mayor's Air Quality Fund | Review the Mayor's Air Quality Fund funding guidance & apply for funds when possible | Kept under regular review – successful bids made in all bid application rounds to date | **Target met** |

| No. | Measure | | Action | Progress | Further information |
|---|---|---|---|---|---|
| 7.17 | Clean Air for Londoners | Work, with the GLA, TfL and other organisations, towards meeting the national air quality objectives in line with JSNA recommendation to advocate for wider regional action on air quality | Review all external opportunities to participate in air quality improvement projects and respond to all air quality consultations | Achieved and on-going | **Target met** |
| 7.18 | GLA Air Quality Focus Areas | Target the improvement of air quality in the GLA Air Quality Focus Areas | Implement an air quality improvement project in each GLA Air Quality Focus Area. Ensure they are linked to relevant regeneration plans and build on any existing relevant initiatives to encourage modal shift towards public transport, cycling & walking. Deliver Walworth LEN | Social regeneration charters being prepared by the Public Health Team for each of the regeneration areas and the appropriate air quality indicators are included in the charter and will encourage the developers to implement air quality improvement projects | **Target met** |

| No. | Measure | | Action | Progress | Further information |
|---|---|---|---|---|---|
| 8.1 | Joint Strategic Needs Assessment | The JSNA includes air quality and has up to date information on its health impacts | Produce an air quality section for the JSNA | | **Action complete – see further measure 8.8** |
| 8.2 | | | Review the air quality section of the JSNA annually | | **Action complete** |
| 8.3 | Air Quality & Public Health | Retain local air quality as a public health priority | Provide up to date information in connection with air quality | Local air quality has been declared a Southwark public health priority<br>Regular Cabinet (Lead) member reports produced and presented during 2019. An update report to the Health & Wellbeing Board re progress on delivery of the AQAP is due in 2020 | **Target met** |
| 8.4 | Embed Air Quality Policy | Ensure that local air quality is considered within all relevant complementary council policy developments | All relevant new policies to incorporate air quality improvement objectives | All the (50+)policies have been listed and when the policies are due to be reviewed the appropriate air quality improvement objectives will be recommended | **Target met** |
| 8.5 | Air Quality Alerts | Provide a poor air quality alert to Southwark Council staff caring for health vulnerable persons with particular emphasis on nurseries, primary schools and care homes | Instigate a poor air quality cascade is in line with the GLA Air Quality Alert system | | **Action complete** |
| 8.6 | | | Continue to develop the air quality communications plan | To be reviewed in the Winter 2020 | **Target met** |
| 8.7 | | | Maintain and strengthen the poor air quality alert cascade | SWOT analysis of GLA AQ Alert system and Southwark system undertaken with recommendations. Work ongoing to improve value and reach of alerts | **Target met** |
| 8.8 | | Each organisation receiving GLA AQ alerts should provide feedback to the GLA | Encourage the GLA to request feedback | GLA has not yet been requested to encourage feedback from different organisations receiving the alerts | **Target not yet met** |
| 8.9 | Joint Strategic Needs Assessment | The JSNA includes air quality and up to date information on the health impacts of poor air quality | Monitor the implementation of the recommendations in the air quality JSNA | Current recommendations from the 2018 JSNA have been embedded into the AQAP and will be monitored by current and future governance arrangements for the AQAP. All new recommendations from the JSNA review will be incorporated into the AQAP and monitored | **Target met** |
| 8.10 | | | Review bi-annually the air quality section of the JSNA | Review in progress, will incorporate new medical evidence and update | **Target met** |

| No. | Measure | | Action | Progress | Further information |
|---|---|---|---|---|---|
| | | | | recommendations | |
| 8.11 | Air Quality Monitoring Data | Find out whether PHE are aggregating and analysing air quality monitoring data and local hospital data for impacts for respiratory and cardiovascular disease | Review the progress of recommendation 13 of the Chief Medical Officers report 2017<br>a) Southwark Clinical Commissioning Group (CCG) Groups should analyse local air quality monitoring data for breaches of air pollution standards, and publish these alongside the local hospital data for impacts on admissions for respiratory and cardiovascular disease and<br>b) Public Health England should aggregate and analyse progress annually for a national public report to NHS England | Meeting held with PHE to discuss in August 2019. PHE Lead agreed to look into this and have been chased for information - A response has yet to be received | **Target not yet met** |

# 3. Planning Update and Other New Sources of Emissions

**Table J** **Planning requirements met by planning applications in Southwark in 2019**

| Action | Number | Notes |
|---|---|---|
| a) Number of planning applications where an air quality impact assessment was reviewed for air quality impacts | **37** | |
| b) Number of planning applications required to monitor for construction dust | **75** | |
| c) Number of CHPs/Biomass boilers refused on air quality grounds | **1** | |
| d) Number of CHPs/Biomass boilers subject to GLA emissions limits and/or other restrictions to reduce emissions | **8** | |
| e) Number of developments required to install Ultra-Low $NO_x$ boilers | **1** | |
| f) Number of developments where an AQ Neutral building and/or transport assessments undertaken | **1** | |
| g) Number of developments where the AQ Neutral building and/or transport assessments not meeting the benchmark and so required to include additional mitigation | **0** | |
| h) Number of planning applications with S106 agreements including other requirements to improve air quality | **0** | |
| i) Number of planning applications with CIL payments that include a contribution to improve air quality | **0** | |
| j) NRMM: Central Activity Zone and Canary Wharf<br>Number of conditions related to NRMM included.<br>Number of developments registered and compliant.<br>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. | **9**<br>**26**<br>**Yes** | There are several developments sites that have not started in the Borough so will not appear on the NRMM register |
| k) NRMM: Greater London (excluding Central Activity Zone and Canary Wharf)<br>Number of conditions related to NRMM included.<br>Number of developments registered and compliant.<br>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. | **62**<br>**32**<br>**Yes** | There are several developments sites that have not started in the Borough so will not appear on the NRMM register |

## 3.1 Other new or significantly changed sources

The energy plant at the Elephant Park development is complete and the plant (24 boilers and 2 CHPs) was commissioned during 2019 along with the energy centre at Maple Quays. Both have been authorised by the Environment Agency, see the details below:-

- E.ON Energy Solutions Limited, 40 Rodney Road, London, SE17 1FJ – Permit number EPR/SP3500PP.
- E.ON UK PLC Maple Quays Energy Centre B2, Montreal House, Surrey Quays Road, London, SE16 2XU – Permit number EPR/JP3403PR

A large energy plant has been proposed at the redevelopment of the London College of Communication, which is part of the Elephant & Castle Shopping Centre redevelopment proposals. This scheme was granted planning permission in December 2019 and will come on line in due course.

There were no significant changes to the Borough's road layout in 2019.

# Appendix A – Details of Monitoring Sites QA/QC

## A.1 Automatic Monitoring Sites

The Authority is a member of the London Air Quality Network. All monitoring data is ratified in accordance with Kings College London QA/QC procedures for the network. The Authority has out-sourced the Local Site Operator role to ERG at King's College London. They are contracted to calibrate the all the pollutant monitors fortnightly.

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

### Diffusion Tube Bias Adjustment Factors

The Authority incorporates 2 local co-location diffusion tube studies, by exposing triplicate tubes at 2 automatic air quality monitoring stations at the Elephant & Castle (Urban Background) and the Old Kent Road (Roadside). The Local Air Quality Management bias spreadsheet to obtain the bias factors for Gradko (2019 = 0.93), is included in the results presented in section 1.2 of this report.

### QA/QC of Diffusion Tube Monitoring

The Authority has appointed Gradko International Ltd. to provide and analyse the Nitrogen Dioxide diffusion tubes. The laboratory supplies the Authority 20% TEA in water diffusion tubes. The laboratory has confirmed that it follows the procedures set out in the Practical Guidance. On the next page are the results for Gradko International from the Air Proficiency Testing (AIR PT) scheme (Table K). The Didcot Laboratory of Environmental Services Group and Gradko International submit two sets of results, whereas the other laboratories in the scheme only submit one set of results.

The AIR PT scheme has up 38 regular different samples and 3 different trial standards for the analytic laboratories to analyse. LGC Ltd has a programme to send out different combinations of the 41 samples in six rounds throughout the year. (The trial samples were available for one round only.) Sample 11 contains 4 dynamically loaded Palmes type diffusion tubes. The summary of the diffusion tube precision from the national database for Gradko International is detailed on page 61 in

Table L

**Table K Performance of Gradko Laboratory AIR $NO_2$ PT rounds AR001, to AR029.**

| Air PT Round | AR001 | AR003 | AR004 | AR006 | AR007 | AR009 | AR010 |
|---|---|---|---|---|---|---|---|
| Round conducted in the period | Apr – May 2014 | Jul – Aug. 2014 | Oct. – Nov. 2014 | Jan. – Feb. 2015 | Apr – May 2015 | July – Aug 2015 | Oct – Nov 2015 |
| Gradko International | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| **Air PT Round** | **AR012** | **AR013** | **AR015** | **AR016** | **AR018** | **AR021** | **AR022** |
| **Round conducted in the period** | **Jan – Feb 2016** | **Apr – May 2016** | **Jul – Aug 2016** | **Sept – Oct 2016** | **Jan – Feb 2017** | **Apr – May 2017** | **Sept – Oct 2017** |
| **Gradko International** | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| **Air PT Round** | **AR024** | **AR025** | **AR027** | **AR028** | **AR031** | **AR033** | **AR034** |
| **Round conducted in the period** | **Jan – Feb 2018** | **Apr – May 2018** | **Jul – Aug 2018** | **Oct – Nov 2018** | **Apr – May 2019** | **Jul – Aug 2019** | **Sept – Nov 2019** |
| **Gradko International** | 100% | 100% | 100% | 100% | 100% | 100% | 100% |

## Table L Gradko Laboratory summary performance April 2009 – March 2020

**Summary of Precision Results for the National Nitrogen Dioxide Diffusion Tube Collocation Studies, for Gradko Laboratory (20% TEA in Water)**

| 2008 | G | 2009 | G | 2010 | G | 2011 | G | 2012 | G | 2013 | G | 2014 | G | 2015 | G | 2016 | G | 2017 | G | 2018 | G | 2019 | G |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2008 | P | 2009 | G | 2010 | G | 2011 | G | 2012 | G | 2013 | G | 2014 | G | 2015 | G | 2016 | G | 2017 | G | 2018 | G | 2019 | G |
| 2008 | G | 2009 | G | 2010 | G | 2011 | G | 2012 | G | 2013 | G | 2014 | G | 2015 | G | 2016 | G | 2017 | G | 2018 | G | 2019 | G |
| 2008 | G | 2009 | G | 2010 | G | 2011 | G | 2012 | G | 2013 | G | 2014 | G | 2015 | G | 2016 | G | 2017 | G | 2018 | G | 2019 | G |
| 2008 | G | 2009 | G | 2010 | G | 2011 | G | 2012 | G | 2013 | G | 2014 | G | 2015 | G | 2016 | G | 2017 | G | 2018 | G | 2019 | G |
| 2008 | G | 2009 | G | 2010 | G | 2011 | G | 2012 | G | 2013 | G | 2014 | G | 2015 | G | 2016 | G | 2017 | G | 2018 | G | 2019 | G |
| 2008 | G | 2009 | G | 2010 | G | 2011 | G | 2012 | G | 2013 | G | 2014 | G | 2015 | G | 2016 | G | 2017 | G | 2018 | G | 2019 | G |
| 2008 | G | 2009 | G | 2010 | G | 2011 | G | 2012 | G | 2013 | G | 2014 | G | 2015 | G | 2016 | G | 2017 | G | 2018 | G | 2019 | G |
| 2008 | P | 2009 | G | 2010 | G | 2011 | G | 2012 | G | 2013 | G | 2014 | G | 2015 | G | 2016 | G | 2017 | G | 2018 | G | 2019 | G |
| 2008 | G | 2009 | G | 2010 | G | 2011 | G | 2012 | G | 2013 | G | 2014 | G | 2015 | G | 2016 | G | 2017 | G | 2018 | G | | |
| 2008 | G | 2009 | P | 2010 | G | 2011 | G | 2012 | G | 2013 | G | 2014 | G | 2015 | G | 2016 | G | 2017 | G | 2018 | G | | |
| 2008 | G | 2009 | G | 2010 | G | 2011 | G | 2012 | G | 2013 | G | 2014 | G | 2015 | G | 2016 | G | 2017 | G | 2018 | G | | |
| 2008 | G | 2009 | G | 2010 | G | 2011 | G | 2012 | G | 2013 | G | 2014 | G | 2015 | G | 2016 | G | 2017 | G | 2018 | G | | |
| 2008 | G | 2009 | G | 2010 | G | 2011 | G | 2012 | G | 2013 | G | 2014 | G | 2015 | G | 2016 | G | 2017 | G | 2018 | G | | |
| 2008 | G | 2009 | G | 2010 | P | 2011 | G | 2012 | G | 2013 | G | 2014 | G | 2015 | G | 2016 | G | 2017 | G | 2018 | G | | |
| 2008 | P | 2009 | G | 2010 | G | 2011 | G | 2012 | G | 2013 | G | 2014 | G | 2015 | G | 2016 | G | 2017 | G | 2018 | G | | |
| 2008 | G | 2009 | G | 2010 | G | 2011 | G | 2012 | G | 2013 | G | 2014 | G | 2015 | G | 2016 | G | 2017 | G | 2018 | G | | |
| 2008 | G | 2009 | P | 2010 | P | 2011 | G | 2012 | G | 2013 | G | 2014 | G | 2015 | G | 2016 | G | 2017 | G | 2018 | G | | |
| 2008 | G | 2009 | G | 2010 | G | 2011 | G | 2012 | G | 2013 | G | 2014 | G | 2015 | G | 2016 | G | 2017 | G | 2018 | G | | |
| 2008 | G | 2009 | P | 2010 | G | 2011 | G | 2012 | G | 2013 | G | 2014 | G | 2015 | G | 2016 | G | 2017 | G | 2018 | G | | |
| 2008 | G | 2009 | P | 2010 | G | 2011 | G | 2012 | G | 2013 | G | 2014 | G | 2015 | G | 2016 | G | 2017 | G | 2018 | G | | |
| 2008 | P | 2009 | G | 2010 | G | 2011 | G | 2012 | G | 2013 | G | 2014 | G | 2015 | G | 2016 | G | 2017 | G | 2018 | G | | |
| | | 2009 | G | 2010 | G | 2011 | G | 2012 | G | 2013 | G | 2014 | G | 2015 | G | 2016 | G | 2017 | G | 2018 | G | | |
| | | 2009 | G | 2010 | G | 2011 | G | 2012 | G | 2013 | G | | | 2015 | G | 2016 | G | 2017 | G | 2018 | G | | |
| | | 2009 | G | 2010 | G | 2011 | G | 2012 | G | 2013 | G | | | 2015 | G | 2016 | G | 2017 | G | 2018 | G | | |
| | | 2009 | G | 2010 | G | 2011 | G | 2012 | G | 2013 | G | | | 2015 | G | 2016 | G | 2017 | G | 2018 | G | | |
| | | 2009 | G | 2010 | G | 2011 | G | 2013 | G | 2013 | G | | | 2015 | G | 2016 | G | 2017 | G | 2018 | G | | |
| | | 2009 | G | 2010 | P | 2011 | G | 2012 | G | 2013 | G | | | 2015 | G | 2016 | G | 2017 | G | 2018 | G | | |
| | | 2009 | G | 2010 | G | 2011 | G | 2012 | G | 2013 | G | | | 2015 | G | 2016 | G | 2017 | G | 2018 | G | | |
| | | 2009 | G | 2010 | G | 2011 | G | 2012 | G | 2013 | G | | | 2015 | G | 2016 | G | 2017 | G | 2018 | G | | |
| | | 2009 | G | 2010 | G | 2011 | G | 2012 | G | 2013 | G | | | 2015 | G | 2016 | G | 2017 | G | 2018 | G | | |
| | | 2009 | G | 2010 | G | 2011 | G | 2012 | G | 2013 | G | | | 2015 | P | 2016 | G | 2017 | G | 2018 | G | | |
| | | | | 2010 | G | 2011 | G | 2012 | G | 2013 | G | | | | | 2016 | G | 2017 | G | 2018 | G | | |
| | | | | 2010 | G | 2011 | G | 2012 | G | 2013 | G | | | | | 2016 | P | 2017 | G | 2018 | G | | |
| | | | | 2010 | G | 2011 | G | 2012 | P | 2013 | G | | | | | | | 2017 | G | 2018 | G | | |
| | | | | 2010 | G | 2011 | G | 2012 | P | 2013 | G | | | | | | | 2017 | G | 2018 | G | | |
| | | | | 2010 | G | 2011 | G | | | 2013 | P | | | | | | | 2017 | G | 2018 | G | | |
| P | Poor Precision | | | 2010 | G | 2011 | G | | | 2013 | P | | | | | | | 2017 | G | 2018 | G | | |
| | | | | 2010 | G | 2011 | G | | | | | | | | | | | 2017 | G | 2018 | G | | |
| G | Good precision | | | | | 2011 | P | | | | | | | | | | | | | 2018 | G | | |
| | | | | | | 2011 | P | | | | | | | | | | | | | | | | |

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

| Site ID | Valid data capture for monitoring period % | Valid data capture 2019 % | Annual Mean $NO_2$ | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Jan | Feb | March | April | May | June | July | Aug | Sept | Oct | Nov | Dec | Annual mean – raw data | $A_m/P_m$ | Annualisation data |
| **SDT 89** | **66.67** | **66.67** | 53.18 | 40.40 | 42.35 | 50.22 | | 37.75 | 31.57 | | | | 47.96 | 37.18 | 42.58 | 0.94 | **39.88** |
| **SDT 123** | **100.00** | **16.67** | 55.32 | 54.96 | | | | | | | | | | | 55.14 | **0.83** | **45.64** |
| **SDT 124** | **100.00** | **16.67** | 38.24 | 33.67 | | | | | | | | | | | 35.96 | **0.83** | **29.76** |
| **SDT 125** | **100.00** | **16.67** | 41.65 | 31.64 | | | | | | | | | | | 36.65 | **0.83** | **30.33** |
| **SDT 127** | **100.00** | **16.67** | 36.29 | 52.59 | | | | | | | | | | | 44.44 | **0.83** | **36.78** |
| **SDT 147** | **75.00** | **50.00** | | | | | 33.15 | 31.80 | | 29.78 | 32.06 | | 47.06 | 36.87 | 35.12 | **1.08** | **37.9** |
| **SDT 148** | **100.00** | **66.67** | | | | | 27.51 | 34.92 | 36.02 | 27.04 | 35.96 | 37.47 | 51.45 | 39.45 | 36.23 | **1.09** | **39.4** |
| **SDT 149** | **100.00** | **66.67** | | | | | 33.24 | 29.71 | 30.80 | 27.76 | 24.41 | 34.88 | 44.67 | 34.17 | 32.46 | **1.09** | **35.3** |
| **SDT 151** | **100.00** | **41.67** | | | | | | | | 18.38 | 25.10 | 30.46 | 43.26 | 30.69 | 29.58 | **1.07** | **31.8** |
| **SDT 152** | **60.00** | **25.00** | | | | | | | | | | 31.10 | 42.13 | 35.28 | 36.17 | **0.95** | **34.5** |
| **SDT 153** | **100.00** | **41.67** | | | | | | | | 20.72 | 28.29 | 28.24 | 37.63 | 26.00 | 28.18 | **1.07** | **30.3** |
| **SDT 154** | **100.00** | **41.67** | | | | | | | | 31.79 | 39.87 | 39.63 | 52.57 | 40.78 | 40.93 | **1.07** | **43.9** |
| **SDT 155** | **100.00** | **41.67** | | | | | | | | 24.04 | 31.31 | 31.66 | 42.89 | 32.25 | 32.43 | **1.07** | **34.70** |
| **SDT 156** | **60.00** | **25.00** | | | | | | | | 30.06 | | 41.13 | 58.02 | | 43.07 | **1.01** | **43.50** |
| **SDT 157** | **100.00** | **41.67** | | | | | | | | 29.09 | 33.33 | 37.12 | 35.28 | 36.51 | 34.27 | **1.07** | **36.8** |

**Data Adjustment**

Table M on page 62 shows the raw data, the annual mean raw data and ratio value ($R_A$) of the annual mean to the period mean. The methodology used to calculate the ratio value $A_m$ / $P_m$ is found in Box 4.9 of the LLAQM TG (16)[9]. The annual data was calculated from the Old Kent Road automatic monitoring station..

The methodology for calculating the $R_A$ ratio (annual mean to the Period mean ($A_m/P_m$)) was applied to each diffusion tube site. The measured period mean concentration was multiplied by the $R_A$ ratio to produce the annualised average. After the annualisation average was obtained the values were then factored using the bias value.

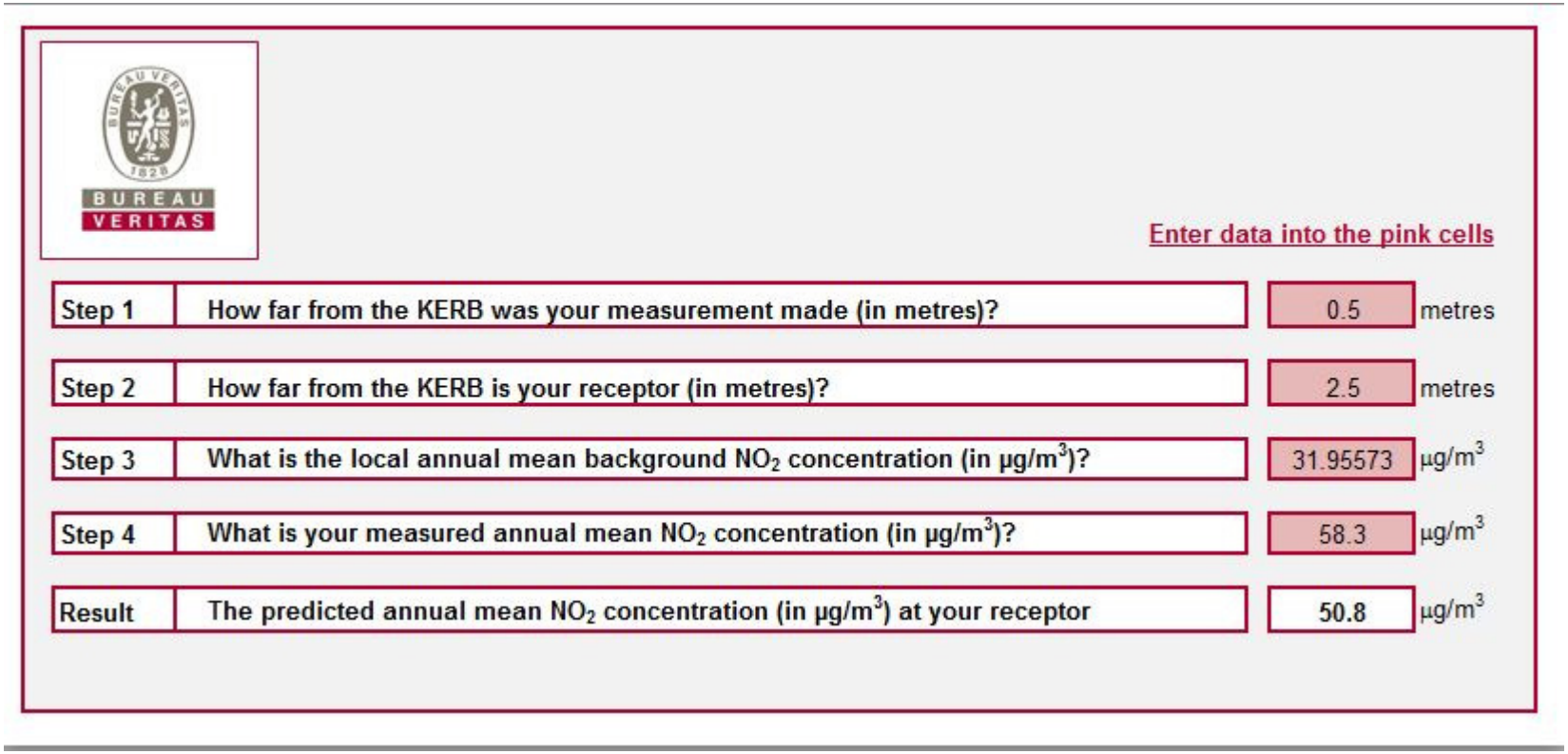
[9] London Local Air Quality Management Technical Guidance 2016 (LLAQM.TG (16)) accessed at https://www.london.gov.uk/what-we-do/environment/pollution-and-air-quality/working-london-boroughs

**Table N Example of the annualised average of the data in Table M**

| Start Date | End Date | OKR Continuous Data for the period C1 | D1 = SDT XXX | C1 when D1 is available |
|---|---|---|---|---|
| 09/01/2019 | 06/02/2019 | 34.68 | No data | No data |
| 06/02/2019 | 06/03/2019 | 37.62 | " | " |
| 06/03/2019 | 03/04/2019 | 36.07 | " | " |
| 03/04/2019 | 01/05/2019 | 32.97 | " | " |
| 01/05/2019 | 05/06/2019 | 34.70 | " | " |
| 05/06/2019 | 03/07/2019 | 24.21 | " | " |
| 03/07/2019 | 07/08/2019 | 29.93 | " | " |
| 07/08/2019 | 04/09/2019 | 27.32 | " | " |
| 04/09/2019 | 02/10/2019 | 28.59 | 42.98 | 28.59 |
| 02/10/2019 | 06/11/2019 | 35.30 | 45.22 | 35.30 |
| 06/11/2019 | 04/12/2019 | 34.10 | 45.89 | 34.10 |
| 04/12/2019 | 08/01/2020 | 32.65 | 45.63 | 32.65 |
| **Average** | | **32.34** | **44.93** | **32.66** |

## Distance Adjustment

The results of the long-term diffusion tube monitoring in the borough are shown in Table F. The concentration data for the various years and locations has been calculated using the distance calculator available from the LAQM Support website[10].



BUREAU VERITAS

Enter data into the pink cells

| | | | |
|---|---|---|---|
| Step 1 | How far from the KERB was your measurement made (in metres)? | 0.5 | metres |
| Step 2 | How far from the KERB is your receptor (in metres)? | 2.5 | metres |
| Step 3 | What is the local annual mean background $NO_2$ concentration (in $\mu g/m^3$)? | 31.95573 | $\mu g/m^3$ |
| Step 4 | What is your measured annual mean $NO_2$ concentration (in $\mu g/m^3$)? | 58.3 | $\mu g/m^3$ |
| Result | The predicted annual mean $NO_2$ concentration (in $\mu g/m^3$) at your receptor | 50.8 | $\mu g/m^3$ |

[10] https://laqm.defra.gov.uk/tools-monitoring-data/no2-falloff.html

# Appendix B Full Monthly Diffusion Tube Results for 2019

**Table O $NO_2$ Diffusion Tube Results**

| Site ID | Valid data capture for monitoring period % | Valid data capture for monitoring period % | Annual Mean $NO_2$ | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Jan | Feb | March | April | May | June | July | Aug | Sept | Oct | Nov | Dec | Annual mean – raw data | Annual mean – bias adjusted |
| SDT 1 | 100.00 | 100.00 | 48.32 | 41.71 | 43.04 | 51.90 | 36.47 | 32.67 | 32.82 | 29.68 | 33.12 | 34.34 | 46.53 | 35.70 | 38.86 | 36.14 |
| SDT 2 | 91.67 | 91.67 | 55.55 | 43.76 | | 51.31 | 38.50 | 35.25 | 31.14 | 27.38 | 36.35 | 40.22 | 56.29 | 36.60 | 41.12 | 38.24 |
| SDT 3 | 100.00 | 100.00 | 40.07 | 41.97 | 45.43 | 47.35 | 34.80 | 33.53 | 33.62 | 28.71 | 36.76 | 39.96 | 43.52 | 30.32 | 38.00 | 35.34 |
| SDT 4 | 91.67 | 91.67 | 57.13 | 49.82 | 54.66 | 65.16 | 47.34 | | 45.59 | 42.87 | 46.89 | 41.73 | 51.15 | 41.73 | 49.46 | **46.00** |
| SDT 5 | 100.00 | 100.00 | 48.21 | 40.32 | 38.16 | 29.34 | 23.73 | 23.71 | 25.73 | 27.23 | 25.68 | 31.74 | 42.26 | 53.64 | 34.15 | 31.75 |
| SDT 6 | 100.00 | 100.00 | 74.39 | 58.51 | 64.66 | 60.99 | 48.93 | 55.06 | 53.30 | 50.90 | 53.75 | 51.55 | 69.20 | 49.94 | 57.60 | **53.57** |
| SDT 7 | 91.67 | 91.67 | 41.37 | 34.84 | 30.87 | 31.60 | 23.97 | 37.71 | 34.84 | 36.61 | 37.95 | 24.67 | 47.84 | | 34.75 | 32.32 |
| SDT 8 | 100.00 | 100.00 | 44.12 | 39.56 | 33.00 | 36.42 | 27.46 | 23.80 | 22.31 | 19.26 | 27.05 | 30.13 | 34.53 | 32.54 | 30.85 | 28.69 |
| SDT 9 | 100.00 | 100.00 | 57.98 | 53.60 | 44.49 | 49.52 | 41.63 | 39.64 | 42.78 | 39.91 | 42.03 | 47.09 | 51.94 | 40.20 | 45.90 | **42.69** |
| SDT 10 | 100.00 | 100.00 | 39.76 | 37.51 | 34.43 | 41.72 | 27.83 | 29.09 | 26.41 | 23.82 | 30.03 | 23.63 | 36.92 | 30.30 | 31.79 | 29.56 |
| SDT 11 | 75.00 | 75.00 | 63.65 | 55.46 | 64.61 | | 52.37 | 57.89 | 52.09 | 41.42 | 59.16 | | 64.61 | | 56.81 | **52.83** |
| SDT 12 | 91.67 | 91.67 | 42.46 | | 47.96 | 36.52 | 32.94 | 37.61 | 29.14 | 26.95 | 34.46 | 34.55 | 36.75 | 33.34 | 35.70 | 33.20 |
| SDT 13 | 100.00 | 100.00 | 57.52 | 47.88 | 36.08 | 32.39 | 32.25 | 29.03 | 33.29 | 29.51 | 32.43 | 35.3 | 42.89 | 30.75 | 36.61 | 34.05 |
| SDT 14 | 100.00 | 100.00 | 51.9 | 45.06 | 31.1 | 33.89 | 26.53 | 33.65 | 31.36 | 27.87 | 34.03 | 29.77 | 41.38 | 33.08 | 34.97 | 32.52 |
| SDT 15 | 100.00 | 100.00 | 68.57 | 56.21 | 49.49 | 37.16 | 34.00 | 40.39 | 38.75 | 42.70 | 51.72 | 52.54 | 61.04 | 52.32 | 48.74 | **45.33** |
| SDT 18 | 100.00 | 100.00 | 66.88 | 80.35 | 65.03 | 72.06 | 66.33 | 76.25 | 70.96 | 64.15 | 62.19 | 69.05 | 69.17 | 62.10 | 68.71 | **63.90** |
| SDT 20 | 100.00 | 100.00 | 55.09 | 58.38 | 54.73 | 58.78 | 55.24 | 53.56 | 56.08 | 42.39 | 54.59 | 55.89 | 59.36 | 47.32 | 54.28 | **50.48** |
| SDT 24 | 91.67 | 91.67 | 72.58 | 65.44 | 68.52 | 48.52 | 62.06 | 67.98 | 76.16 | 61.38 | 65.92 | 71.79 | 74.48 | | 66.80 | **62.12** |
| SDT 29 | 100.00 | 100.00 | 67.2 | 64.21 | 70.81 | 48.61 | 68.06 | 63.30 | 64.63 | 48.49 | 67.38 | 63.57 | 71.28 | 62.16 | 63.31 | **58.88** |
| SDT 31 | 91.67 | 91.67 | 54.49 | 53.57 | 45.58 | 52.61 | 42.74 | 48.99 | 38.03 | 38.30 | | 61.45 | 61.11 | 40.90 | 48.89 | **45.57** |
| SDT 37 | 100.00 | 100.00 | 44.01 | 38.06 | 30.78 | 30.83 | 23.32 | 23.07 | 18.76 | 20.97 | 29.99 | 33.24 | 35.49 | 32.67 | 30.10 | 27.99 |
| SDT 38 | 91.67 | 91.67 | 54.56 | | 48.20 | 40.58 | 43.23 | 53.32 | 54.31 | 41.35 | 50.82 | 51.29 | 47.6 | 48.59 | 48.53 | **45.13** |
| SDT 39 | 91.67 | 91.67 | 50.22 | 52.97 | 47.12 | 37.31 | 40.32 | 35.71 | 41.45 | 34.37 | 43.13 | | 33.78 | 43.77 | 41.83 | 38.90 |

| Site ID | Valid data capture for monitoring period % | Valid data capture for monitoring period % | Annual Mean $NO_2$ | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Jan | Feb | March | April | May | June | July | Aug | Sept | Oct | Nov | Dec | Annual mean – raw data | Annual mean – bias adjusted |
| **SDT 41** | **100.00** | **100.00** | 61.60 | 64.62 | 53.44 | 52.93 | 56.68 | 60.75 | 60.14 | 48.19 | 61.74 | 45.73 | 66.84 | 53.94 | 57.22 | **53.21** |
| **SDT 42** | **100.00** | **100.00** | 55.01 | 49.48 | 41.85 | 38.55 | 27.41 | 31.44 | 28.54 | 35.14 | 36.93 | 34.48 | 47.73 | 42.64 | 39.10 | 36.36 |
| **SDT 48** | **91.67** | **91.67** | 52.86 | 53.96 | 51.21 | 47.79 | 46.84 | 39.49 | 48.53 | 44.62 | 45.31 | 44.14 | | 40.88 | 46.88 | **43.60** |
| **SDT 49** | **100.00** | **100.00** | 46.60 | 37.17 | 30.52 | 34.63 | 20.17 | 22.27 | 19.64 | 24.08 | 26.99 | 31.19 | 37.65 | 31.90 | 30.23 | 28.11 |
| **SDT 52** | **100.00** | **100.00** | 45.41 | 38.70 | 30.73 | 29.07 | 21.18 | 20.89 | 19.52 | 22.43 | 24.76 | 27.74 | 36.57 | 25.84 | 28.57 | 26.57 |
| **SDT 53** | **100.00** | **100.00** | 40.85 | 31.85 | 28.00 | 32.00 | 22.39 | 20.49 | 20.14 | 19.18 | 19.59 | 25.44 | 30.98 | 23.01 | 26.16 | 24.33 |
| **SDT 54** | **100.00** | **100.00** | 42.33 | 45.48 | 32.94 | 33.60 | 24.50 | 24.60 | 21.93 | 24.99 | 25.85 | 27.78 | 34.58 | 34.22 | 31.07 | 28.90 |
| **SDT 55** | **83.33** | **83.33** | 49.59 | 42.01 | 29.07 | | 29.15 | 26.32 | 27.24 | 26.81 | 32.58 | | 42.85 | 39.37 | 34.50 | 32.90 |
| **SDT 57** | **91.67** | **91.67** | | 46.70 | 42.06 | 41.83 | 33.89 | 30.98 | 30.57 | 29.08 | 40.05 | 42.33 | 47.01 | 35.83 | 38.21 | 35.54 |
| **SDT 61** | **100.00** | **100.00** | 50.85 | 39.72 | 38.58 | 37.11 | 27.71 | 30.70 | 29.58 | 33.40 | 33.06 | 37.87 | 41.09 | 34.83 | 36.21 | 33.68 |
| **SDT 66** | **100.00** | **100.00** | 43.87 | 34.91 | 34.03 | 45.61 | 26.20 | 29.42 | 28.59 | 23.21 | 30.46 | 30.57 | 42.72 | 31.83 | 33.45 | 31.11 |
| **SDT 77** | **100.00** | **100.00** | 64.6 | 61.01 | 51.09 | 45.26 | 36.49 | 35.74 | 36.14 | 45.52 | 48.85 | 46.19 | 56.89 | 41.98 | 47.48 | **44.16** |
| **SDT 81** | **100.00** | **100.00** | 76.52 | 78.19 | 73.52 | 76.53 | 63.29 | 59.6 | 60.2 | 64.99 | 63.97 | 60.62 | 68.24 | 44.21 | 65.82 | **61.21** |
| **SDT 82** | **83.33** | **83.33** | 66.23 | 65.2 | 52.19 | 59.92 | 39.12 | 46.23 | | 47.54 | 45.91 | 52.42 | 57.32 | | 53.21 | **49.49** |
| **SDT 84** | **83.33** | **83.33** | 59.99 | 47.92 | 42.89 | 41.60 | 33.93 | 32..47 | 37.36 | 43.31 | 41.84 | 48.35 | | 78.79 | 47.60 | **44.27** |
| **SDT 87** | **91.67** | **91.67** | 81.34 | 66.16 | 63.38 | 49.60 | 53.43 | 59.28 | 58.08 | 66.76 | | 62.37 | 63.35 | 58.52 | 62.02 | **57.28** |
| **SDT 88** | **100.00** | **100.00** | 70.25 | 64.77 | 65.91 | 53.56 | 41.05 | 45.51 | 49.97 | 56.51 | 49.19 | 59.80 | 60.25 | 37.18 | 54.50 | **50.69** |
| **SDT 89** | **66.67** | **66.67** | 53.18 | 40.40 | 42.35 | 50.22 | | 37.75 | 31.57 | | | | 47.96 | 37.18 | 42.58 | 38.09 |
| **SDT 90** | **100.00** | **100.00** | 78.19 | 61.38 | 57.01 | 76.05 | 58.70 | 56.43 | 50.87 | 52.46 | 54.52 | 45.51 | 67.14 | 53.98 | 59.35 | **55.20** |
| **SDT 91** | **100.00** | **100.00** | 73.38 | 58.73 | 62.96 | 72.73 | 63.22 | 55.33 | 54.55 | 49.28 | 56.19 | 63.69 | 65.34 | 47.73 | 60.26 | **56.04** |
| **SDT 92** | **75.00** | **75.00** | 67.47 | 55.73 | 54.44 | 50.79 | 42.01 | | 47.69 | 42.59 | 42.45 | 53.61 | | | 50.75 | **47.20** |
| **SDT 93** | **83.33** | **83.33** | 84.44 | 45.78 | 34.16 | 43.78 | 36.81 | 52.07 | 58.00 | 6.84 | 57.18 | 47.71 | | | 46.68 | **43.41** |
| **SDT 94** | **83.33** | **83.33** | 139.04 | 93.94 | 70.38 | 84.52 | 70.67 | 68.90 | 74.57 | 75.86 | 66.79 | 57.92 | | | 80.26 | **74.64** |
| **SDT 95** | **91.67** | **91.67** | 35.98 | 36.05 | 27.65 | 29.09 | 21.93 | 19.96 | 21.31 | 32.78 | | 25.16 | 36.78 | 28.65 | 28.67 | 26.66 |
| **SDT 97** | **91.67** | **91.67** | 56.31 | 54.36 | 49.92 | 49.50 | | 40.55 | 41.28 | 41.86 | 39.04 | 38.21 | 51.03 | 37.09 | 45.38 | **42.20** |
| **SDT 98** | **100.00** | **100.00** | 68.48 | 58.12 | 62.69 | 54.03 | 50.98 | 52.12 | 45.66 | 48.76 | 41.68 | 43.75 | 56.51 | 48.85 | 52.64 | **48.96** |
| **SDT 100** | **100.00** | **100.00** | 49.57 | 51.93 | 39.22 | 36.37 | 29.57 | 39.30 | 27.94 | 23.60 | 36.07 | 34.18 | 41.77 | 40.05 | 37.46 | 34.84 |
| **SDT 101** | **91.67** | **91.67** | 52.48 | 48.82 | 39.03 | 44.63 | | 33.29 | 29.71 | 28.56 | 32.34 | 29.99 | 45.28 | 34.42 | 38.05 | 35.39 |
| **SDT 102** | **91.67** | **91.67** | 44.80 | 41.15 | 35.66 | | 35.53 | 33.19 | 29.46 | 28.51 | 35.36 | 32.12 | 46.62 | 32.34 | 35.89 | 33.38 |

| Site ID | Valid data capture for monitoring period % | Valid data capture for monitoring period % | Annual Mean $NO_2$ | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Jan | Feb | March | April | May | June | July | Aug | Sept | Oct | Nov | Dec | Annual mean – raw data | Annual mean – bias adjusted |
| **SDT 103** | **91.67** | **91.67** | 57.46 | 57.71 | 43.98 | | 37.06 | 42.56 | 41.09 | 35.20 | 41.41 | 42.20 | 37.13 | 44.09 | 43.63 | **40.58** |
| **SDT 104** | **75.00** | **75.00** | 73.16 | 71.59 | 59.87 | 66.12 | 60.37 | 66.52 | 60.91 | | | | 65.33 | 59.13 | 64.78 | **60.25** |
| **SDT 105** | **100.00** | **100.00** | 51.32 | 53.54 | 38.81 | 40.32 | 36.78 | 35.30 | 33.20 | 36.50 | 37.00 | 40.61 | 44.08 | 41.08 | 40.71 | 37.86 |
| **SDT 106** | **83.33** | **83.33** | | 64.06 | 56.31 | | 28.41 | 45.00 | 50.87 | 46.37 | 56.01 | 47.24 | 59.05 | 56.97 | 51.03 | **47.46** |
| **SDT 107** | **91.67** | **91.67** | 56.35 | 46.92 | 35.79 | | 34.50 | 31.84 | 34.61 | 30.15 | 36.98 | 38.33 | 47.31 | 38.84 | 39.24 | 36.49 |
| **SDT 111** | **91.67** | **91.67** | | 49.95 | 42.79 | 40.11 | 38.09 | 46.18 | 43.55 | 37.14 | 45.63 | 51.28 | 53.63 | 48.45 | 45.16 | **42.00** |
| **SDT 112** | **100.00** | **100.00** | 40.72 | 18.77 | 27.18 | 34.86 | 18.46 | 19.37 | 19.46 | 18.97 | 27.03 | 30.32 | 42.92 | 31.19 | 27.44 | 25.52 |
| **SDT 113** | **100.00** | **100.00** | 81.37 | 83.09 | 62.19 | 58.18 | 53.13 | 61.76 | 61.40 | 34.26 | 69.7 | 65.46 | 67.88 | 48.37 | 62.23 | **57.87** |
| **SDT 114** | **100.00** | **100.00** | 51.05 | 52.59 | 37.44 | 36.07 | 28.37 | 27.47 | 27.85 | 27.57 | 30.16 | 32.72 | 40.43 | 43.18 | 36.24 | 33.70 |
| **SDT 115** | **100.00** | **100.00** | 36.53 | 31.06 | 26.89 | 28.78 | 17.46 | 15.99 | 15.49 | 17.42 | 19.63 | 24.08 | 34.59 | 26.59 | 24.54 | 22.82 |
| **SDT 116** | **83.33** | **83.33** | 38.39 | 34.50 | 26.48 | 28.22 | 17.71 | 17.36 | 15.50 | | 21.11 | | 39.51 | 26.45 | 26.52 | 24.66 |
| **SDT 117** | **91.67** | **91.67** | 38.80 | 31.65 | 25.35 | 25.25 | 15.02 | 16.66 | 14.65 | 16.58 | 19..22 | 24.65 | 33.67 | 25.46 | 24.34 | 22.64 |
| **SDT 118** | **91.67** | **83.33** | 53.82 | 50.70 | 41.91 | 46.23 | 40.11 | 36.12 | 38.05 | 22.92 | 40.58 | | 42.50 | | 41.29 | 38.40 |
| **SDT 119** | **91.67** | **83.33** | 47.41 | 37.61 | 32.73 | 34.74 | 21.13 | 24.50 | | 25.79 | 27.76 | 32.92 | 40.92 | | 32.55 | 30.27 |
| **SDT 120** | **91.67** | **91.67** | 53.18 | 44.58 | 39.17 | 42.55 | 29.18 | 28.54 | 27.27 | 28.00 | 24.03 | 38.79 | | 32.49 | 35.25 | 32.78 |
| **SDT 121** | **75.00** | **75.00** | 44.48 | 37.57 | | 32.96 | 25.09 | 15.58 | 44.74 | | | 27.89 | 40.64 | 31.26 | 33.36 | 31.02 |
| **SDT 122** | **100.00** | **100.00** | 44.62 | 37.27 | 32.73 | 28.80 | 18.44 | 22.05 | 18.36 | 22.17 | 26.97 | 34.28 | 39.43 | 30.92 | 29.67 | 27.59 |
| **SDT 123** | **100.00** | **16.67** | 55.32 | 54.96 | | | | | | | | | | | 55.14 | 42.45 |
| **SDT 124** | **100.00** | **16.67** | 38.24 | 33.67 | | | | | | | | | | | 35.96 | 27.68 |
| **SDT 125** | **100.00** | **16.67** | 41.65 | 31.64 | | | | | | | | | | | 36.65 | 28.21 |
| **SDT 127** | **100.00** | **16.67** | 36.29 | 52.59 | | | | | | | | | | | 44.44 | 34.21 |
| **SDT 128** | **90.00** | **75.00** | 53.11 | 46.50 | 41.13 | 45.07 | 35.00 | 33.81 | 33.12 | 37.7 | | 33.78 | | | 39.91 | 37.12 |
| **SDT 129** | **90.00** | **75.00** | 54.08 | 46.34 | 36.72 | 45.01 | 34.89 | 30.52 | 27.51 | | 32.64 | 34.98 | | | 38.08 | 35.41 |
| **SDT 130** | **90.00** | **75.00** | 54.26 | 45.53 | 39.04 | 40.83 | 31.36 | | 24.48 | 24.99 | 30.11 | 25.46 | | | 35.12 | 32.66 |
| **SDT 131** | **100.00** | **83.33** | 52.32 | 46.53 | 42.87 | 49.53 | 36.26 | 33.60 | 29.66 | 31.79 | 33.78 | 38.59 | | | 39.49 | 36.73 |
| **SDT 132** | **83.33** | **83.33** | 39.79 | 34.18 | 27.83 | 31.26 | 23.25 | | 40.43 | 39.25 | 39.63 | 35.74 | 51.54 | | 36.29 | 33.75 |
| **SDT 133** | **100.00** | **83.33** | 45.15 | 38.26 | 31.01 | 34.93 | 25.36 | 27.02 | 33.28 | 36.67 | 26.37 | 35.76 | | | 33.38 | 31.04 |
| **SDT 134** | **100.00** | **83.33** | 50.96 | 45.78 | 34.40 | 36.71 | 27.17 | 27.00 | 27.49 | 28.79 | 29.52 | 30.56 | | | 33.84 | 31.47 |
| **SDT 135** | **90.00** | **75.00** | 77.32 | 68.88 | 58.58 | 46.36 | 47.79 | 57.86 | 58.83 | | 35.11 | 47.67 | | | 55.38 | **51.50** |
| **SDT 136** | **100.00** | **100.00** | 53.87 | 51.55 | 42.12 | 36.88 | 22.28 | 30.35 | 29.68 | 30.74 | 32.20 | 32.56 | 49.17 | 34.45 | 37.15 | 34.55 |

| Site ID | Valid data capture for monitoring period % | Valid data capture for monitoring period % | Annual Mean $NO_2$ | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Jan | Feb | March | April | May | June | July | Aug | Sept | Oct | Nov | Dec | Annual mean – raw data | Annual mean – bias adjusted |
| **SDT 137** | **83.33** | **83.33** | 41.94 | | 29.38 | 32.83 | 20.60 | | 17.79 | 18.38 | 24.04 | 26.57 | 37.78 | 27.92 | 27.72 | 25.78 |
| **SDT 138** | **100.00** | **83.33** | | | 38.06 | 38.63 | 26.14 | 26.78 | 26.88 | 29.21 | 36.27 | 34.63 | 40.96 | 43.96 | 34.15 | 31.76 |
| **SDT 139** | **100.00** | **83.33** | | | 40 | 45.18 | 35.65 | 31.27 | 29.86 | 27.57 | 34.92 | 38.73 | 41.76 | 39.61 | 36.46 | 33.91 |
| **SDT 140** | **100.00** | **83.33** | | | 34.07 | 41.92 | 28.58 | 29.12 | 31.41 | 28.61 | 36.88 | 33.11 | 46.72 | 34.05 | 34.45 | 32.04 |
| **SDT 141** | **100.00** | **83.33** | | | 41.78 | 40.15 | 32.10 | 32.37 | 32.98 | 29.84 | 37.27 | 44.03 | 47.67 | 32.70 | 37.09 | 34.49 |
| **SDT 142** | **100.00** | **75.00** | | | | 39.48 | 21.25 | 19.95 | 25.00 | 23.33 | 28.30 | 27.68 | 47.06 | 26.42 | 28.77 | 26.76 |
| **SDT 143** | **100.00** | **75.00** | | | | 29.99 | 25.10 | 23.57 | 22.50 | 23.46 | 26.56 | 37.72 | 36.78 | 28.68 | 28.26 | 26.28 |
| **SDT 144** | **100.00** | **75.00** | | | | 49.75 | 40.74 | 35.30 | 31.72 | 30.95 | 31.92 | 34.51 | 43.18 | 33.62 | 36.85 | 34.27 |
| **SDT 145** | **100.00** | **75.00** | | | | 34.71 | 23.15 | 21.22 | 21.95 | 25.65 | 27.99 | 21.92 | 38.39 | 32.11 | 27.45 | 25.53 |
| **SDT 146** | **100.00** | **75.00** | | | | 41.57 | 30.75 | 31.78 | 27.22 | 26.30 | 30.94 | 32.21 | 37.49 | 33.80 | 32.45 | 30.18 |
| **SDT 147** | **75.00** | **50.00** | | | | | 33.15 | 31.80 | | 29.78 | 32.06 | | 47.06 | 36.87 | 35.12 | 35.25 |
| **SDT 148** | **100.00** | **66.67** | | | | | 27.51 | 34.92 | 36.02 | 27.04 | 35.96 | 37.47 | 51.45 | 39.45 | 36.23 | 36.64 |
| **SDT 149** | **100.00** | **66.67** | | | | | 33.24 | 29.71 | 30.80 | 27.76 | 24.41 | 34.88 | 44.67 | 34.17 | 32.46 | 32.83 |
| **SDT 150** | **100.00** | **75.00** | | | | 52.68 | 39.54 | 41.69 | 41.17 | 35.59 | 38.03 | 43.72 | 44.30 | 39.17 | 41.77 | 38.85 |
| **SDT 151** | **100.00** | **41.67** | | | | | | | | 18.38 | 25.10 | 30.46 | 43.26 | 30.69 | 29.58 | 29.57 |
| **SDT 152** | **60.00** | **25.00** | | | | | | | | | | 31.10 | 42.13 | 35.28 | 36.17 | 32.09 |
| **SDT 153** | **100.00** | **41.67** | | | | | | | | 20.72 | 28.29 | 28.24 | 37.63 | 26.00 | 28.18 | 28.18 |
| **SDT 154** | **100.00** | **41.67** | | | | | | | | 31.79 | 39.87 | 39.63 | 52.57 | 40.78 | 40.93 | **40.83** |
| **SDT 155** | **100.00** | **41.67** | | | | | | | | 24.04 | 31.31 | 31.66 | 42.89 | 32.25 | 32.43 | 32.27 |
| **SDT 156** | **60.00** | **25.00** | | | | | | | | 30.06 | | 41.13 | 58.02 | | 43.07 | **40.46** |
| **SDT 157** | **100.00** | **41.67** | | | | | | | | 29.09 | 33.33 | 37.12 | 35.28 | 36.51 | 34.27 | 34.22 |

Exceedances of the $NO_2$ annual mean AQO of 40µg.m$^{-3}$ are shown in **bold**.
Exceedances where there is potential for the hourly mean to be exceeded i.e. over 60µg.m$^{-3}$ are in **bold and underlined.**

# Appendix C Air Quality Consultations 2019

**National Consultations**

Aviation 2050 – The future of UK Aviation

Review of Environment Bill 2019

The Introduction of Green Number Plates for Ultra-low Emission Vehicles

**Regional Consultations**

GLA – London Local Air Quality Management Framework – Policy Guidance

GLA – London Local Air Quality Management Framework – Technical Guidance

Heathrow Airport

London Environment Directors' Network and Association of Directors of Public Health London Position: Cleaning up London's Air

**Local Consultations**

Southwark Council – Rotherhithe Movement Plan


Electric vehicle charging point
EV
Register to use at:
southwark.gov.uk/evcharge
HELP CLEAN SOUTHWARK'S AIR #ONETHING
Southwark Council
P
Permit holders only
L
Mon - Fri
8.30 am - 6.30 pm

## Contact

Environmental Protection Team
Regulatory Services
Environment & Leisure Services
3rd Floor, Hub 1
P.O. Box 64529
London
SE1P 5LX

Telephone 020 7525 4261
Email environmental.protection@southwark.gov.uk
Web www.southwark.gov.uk/airquality