# London Borough of Tower Hamlets Air Quality Annual Status Report for 2017
# Date of publication: May 2018



This report provides a detailed overview of air quality in Tower Hamlets during 2017. It has been produced to meet the requirements of the London Local Air Quality Management statutory process[1].

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

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**Tables**

## Abbreviations

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

**Table A. Summary of National Air Quality Standards and Objectives**

| Pollutant | Objective (UK) | Averaging Period | Date[1] |
|---|---|---|---|
| Nitrogen dioxide - $NO_2$ | 200 µg m$^{-3}$ not to be exceeded more than 18 times a year | 1-hour mean | 31 Dec 2005 |
| | 40 µg m$^{-3}$ | Annual mean | 31 Dec 2005 |
| Particles - $PM_{10}$ | 50 µg m$^{-3}$ not to be exceeded more than 35 times a year | 24-hour mean | 31 Dec 2004 |
| | 40 µg m$^{-3}$ | Annual mean | 31 Dec 2004 |
| Particles - $PM_{2.5}$ | 25 µg m$^{-3}$ | Annual mean | 2020 |
| | Target of 15% reduction in concentration at urban background locations | 3 year mean | Between 2010 and 2020 |
| Sulphur Dioxide ($SO_2$) | 266 µg m$^{-3}$ not to be exceeded more than 35 times a year | 15 minute mean | 31 Dec 2005 |
| | 350 µg m$^{-3}$ not to be exceeded more than 24 times a year | 1 hour mean | 31 Dec 2004 |
| | 125 µg m$^{-3}$ mot to be exceeded more than 3 times a year | 24 hour mean | 31 Dec 2004 |

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

## 1. Air Quality Monitoring

### 1.1 Locations

**Table B.** Details of Automatic Monitoring Sites for 2017

| Site ID | Site Name | Coordinates | | Site Type | In AQMA | Distance from monitoring site to relevant exposure (m) | Distance to kerb of nearest road (N/A if not applicable) (m) | Inlet height (m) | Pollutants monitored | Monitoring technique |
| | | X | Y | | | | | | | |
|---------|-----------|-----|-----|-----------|---------|------------------------|------------------------|------|----------|----------|
| | Poplar | 537509 | 180867 | Roadside | Y | N/A | N/A | 4 | $NO_2$, $PM_{10}$, $O_3$ | Station closed |
| TH2 | Mile End | 535927 | 182221 | Roadside | Y | 1m (offices) | 3 | 3 | $NO_2$ | Chemiluminescence |
| TH004 | Blackwall[2] | 538290 | 181452 | Roadside | Y | 15m (residential) | 3 | 3 | $NO_2$, $PM_{10}$, $PM_{2.5}$, $O_3$ | Chemiluminescence UV photometric FDMS (for PM) |
| TH002 | Victoria Park | 536487 | 184238 | Background | Y | 290m (residential) | 300 | 2 | $NO_2$, $SO_2$, $PM_{10}$ | Chemiluminescence UV fluorescence TEOM |
| TH001 | Milwall Park | 538052 | 178559 | Background | Y | ??? | 60 | 1.5 | $NO_2$, $PM_{10}$, $O_3$ | Chemiluminescence BAM; UV absorption |

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[2] Site operated by Transport for London

**Table C.    Details of Nitrogen Dioxide Non-Automatic Monitoring Sites for 2017**

| Site ID | Site name/Location | X | Y | Site Type | Distance to relevant exposure (meters) | Distance to kerb (meters) | Inlet Height (meters) |
|---|---|---|---|---|---|---|---|
| 1 | Colombia Rd/Gossett Street | 533883 | 182815 | Roadside | 6 | 0.5 | 2.2 |
| 2 | Calvert Ave/Boundary Street | 533507 | 182569 | Roadside | 3 | 3 | 2.2 |
| 3 | Bethnal Green Rd/ Brick Lane | 533875 | 182437 | Roadside | 2 | 0.5 | 2.2 |
| 4 | Commercial St/Calvin St | 533583 | 182066 | Roadside | 4 | 1.5 | 2 |
| 5 | Whitechapel High St (KFC) | 533985 | 181426 | Roadside | 3 | 0.5 | 2 |
| 6 | Mansell St | 533801 | 180726 | Roadside | 5 | 1 | 2 |
| 7 | St Katherine's Way | 533984 | 180373 | Background | 8 | n/a | 2 |
| 8 | Wapping High St/Sampson St | 534444 | 180122 | Roadside | 5 | 2 | 2 |
| 11 | Brick Lane/Princelet St | 533866 | 181860 | Roadside | 1 | 1 | 2 |
| 12 | Buckfast St/Bethnal Green Rd | 534259 | 182580 | Roadside | 1 | 0.5 | 2.2 |
| 14 | Warner Place/Hackney Rd | 534255 | 183130 | Roadside | 10 | 2 | 2.2 |
| 16 | Paradise Row/Bethnal Green Rd | 534959 | 182757 | Roadside | 1 | 1 | 2 |
| 17 | Finnis St/Three Colts Lane | 534783 | 182385 | Roadside | 3 | 0.5 | 2.2 |
| 18 | Sidney St/Mile End Rd | 534968 | 181878 | Roadside | 3 | 0.5 | 2 |
| 19 | Philpot St/Commercial Road | 534816 | 181321 | Roadside | 5 | 0.5 | 2 |
| 20 | Dellow St/The Highway | 534951 | 180779 | Roadside | 4 | 7 | 2.2 |
| 22 | Wapping Wall/Garnet St | 535132 | 180337 | Roadside | 1 | 2 | 2.2 |
| 23 | Brodlove Lane | 535598 | 180816 | Roadside | 4 | 0.5 | 2.2 |
| 24 | Jubilee Street/Commercial Rd | 535150 | 181279 | Roadside | 11 | 1 | 2.2 |
| 25 | Cavell St/Stepney Way | 534884 | 181667 | Roadside | 35 | 1.5 | 2.2 |
| 26 | Hannibal Rd/Mile End Rd | 535392 | 182010 | Roadside | 4 | 10 | 2.1 |

| 28 | Bonner Road | 535356 | 183223 | Roadside | 6 | 1 | 2.2 |
|----|-------------|--------|--------|----------|---|---|-----|
| 29 | Grove Rd/Old Ford Rd | 535930 | 183385 | Roadside | 5 | 0.5 | 2.2 |
| 30 | Fieldgate Street | 534232 | 181584 | Roadside | 6 | 0.5 | 2.2 |
| 31 | Whitechapel Market | 534516 | 181744 | Roadside | 14 | 0.5 | 2 |
| 32 | Globe Rd/Mile End Rd | 535295 | 182820 | Roadside | 9 | 0.5 | 2 |
| 33 | Stepney Green | 535545 | 181604 | Background | 120 | 10m | |
| 36 | Locksley St/St Paul's Way | 536702 | 181646 | Roadside | 30 | 5 | 2.2 |
| 37 | Rhodeswell Rd | 536574 | 181338 | Roadside | 4 | 0.5 | 2.2 |
| 38 | Ben Johnson Road | 536080 | 181721 | Roadside | 5 | 0.5 | 2.2 |
| 39 | Harford St/Mile End Rd | 536089 | 182258 | Roadside | 7 | 0.5 | 2 |
| 41 | Ford Close/Roman Rd | 536457 | 183301 | Roadside | 0.1 | 1.5 | 2.2 |
| 42 | Victoria Park (Co-location site) | 536494 | 184170 | Background | 300 | n/a | 2.2 |
| 43 | Victoria Park (Co-location site) | 536494 | 184170 | Background | 300 | n/a | 2.2 |
| 44 | Parnell Rd/Old Ford Rd | 536874 | 183741 | Roadside | 5 | 1 | 2.2 |
| 45 | St Stephen's Rd/Tredegar Rd | 536713 | 183070 | Roadside | 3 | 0.1 | 2 |
| 46 | Rhondda Grove/Mile End Rd | 536542 | 182589 | Roadside | 8 | 0.5 | 1.5 |
| 47 | Wentworth Mews | 536452 | 182454 | Roadside | 10 | 1 | 2.2 |
| 48 | Ackroyd Drive | 536767 | 181771 | Roadside | 25 | 0.5 | 2.2 |
| 49 | Dod St/Burdett Rd | 537026 | 181227 | Roadside | 2 | 0.5 | 2.2 |
| 50 | Rich Street | 536937 | 180987 | Roadside | 4 | 0.5 | 2.2 |
| 51 | Watney Market | 534938 | 181257 | Background | 8 | 20m | 2.2 |
| 52 | Wick Lane/Autumn St | 537304 | 183619 | Roadside | 3 | 0.5 | 2.2 |
| 53 | Fairfield Road/Tredegar Road | 537159 | 183415 | Roadside | 3 | 0.5 | 2.2 |
| 54 | Bow Rd /Glebe Terrace | 537525 | 182887 | Roadside | 3 | 4 | 2.4 |
| 55 | TH Cemetery Park | 536730 | 182363 | Background | 15 | 7 | 2.2 |
| 56 | Bow Common Lane/St Paul's Way | 537248 | 181820 | Roadside | 15 | 2 | 2.3 |

| 58 | Dolphin Lane | 537539 | 180688 | Roadside | 5 | 2 | 2.2 |
|----|----|----|----|----|----|----|----|
| 59 | Westferry Road/Limehouse Link jnct | 537100 | 180791 | Roadside | 25 | 2 | 2.2 |
| 60 | Cascades, Westferry Road | 537115 | 180074 | Roadside | 15 | 0.5 | 2.2 |
| 61 | Bow Rd/Alfred St | 537056 | 182773 | Roadside | 6 | 6.5 | 2.2 |
| 62 | Mast House Terrace | 537348 | 178690 | Roadside | 4 | 2 | 2.2 |
| 63 | Millwall Park | 538259 | 178688 | Background | 250 | n/a | 2.2 |
| 64 | Limeharbour | 537953 | 179357 | Roadside | 10 | 2 | 2.2 |
| 65 | Manchester Road/East Ferry Road | 538033 | 178360 | Roadside | 3 | 0.5 | 2.2 |
| 66 | Millwall Park | 538247 | 178689 | Background | 250 | n/a | 2.2 |
| 67 | Seyssel Street | 538545 | 178767 | Roadside | 20 | 2 | 2.2 |
| 68 | Manchester Road/Ollife Street | 538432 | 179044 | Roadside | 6 | 6 | 2.2 |
| 69 | Lawnhouse Close | 538191 | 179750 | Roadside | 80 | 2 | 2.2 |
| 72 | Prestons Road/ Coldharbour | 538364 | 180188 | Roadside | 3 | 2 | 2.2 |
| 73 | John Smith Mews | 538742 | 180756 | Roadside | 10 | 0.5 | 2.2 |
| 75 | Hale Street | 537661 | 180768 | Roadside | 7 | 0.5 | 2.2 |
| 76 | Chrisp Street/E India Dock Road | 537940 | 181021 | Roadside | 20 | 1 | 2.2 |
| 77 | Morris/Barchester Street | 537731 | 181761 | Roadside | 4 | 1 | 2.4 |
| 78 | Devons Road / Campbell Road | 537577 | 182232 | Roadside | 15 | 2 | 2.2 |
| 79 | Hatfield Terrace/Fairfield Road | 537356 | 183059 | Roadside | 6 | 2.2 | 2.2 |
| 80 | Wrexham Road | 537581 | 183208 | Roadside | 10 | 2.1 | 2.2 |
| 81 | Bromley High Street/ St Leonards | 537868 | 182912 | Roadside | 6 | 2 | 2.2 |
| 82 | Devas Street /Devons road | 537821 | 182332 | Roadside | 6 | 2 | 2.2 |
| 83 | Zetland Street/A12 | 538178 | 181747 | Roadside | 50 | 1 | 2.2 |
| 84 | Blair Street (End of Street) | 538366 | 181180 | Roadside | 15 | 3 | 2.2 |
| 85 | Portree Street | 538895 | 181296 | Roadside | 4 | 2 | 2.2 |
| 86 | Newport Avenue | 538955 | 180872 | Roadside | 12 | 1 | 2.2 |

| 89 | Thames Path Storers Quay | 538730 | 178733 | Background | 30 | 30 | 2.4 |
| 90 | Sextant Avenue | 538674 | 178887 | Roadside | 4 | 1 | 2.2 |

### 1.2 Comparison of Monitoring Results with AQOs

The results presented are after adjustments for "annualisation" and for distance to a location of relevant public exposure, the details of which are described in Appendix A.

**Table D.**   Annual Mean NO$_2$ Ratified and Bias-adjusted Monitoring Results (µg m$^{-3}$) – Automatic Sites

| Site ID | Site type | Valid data capture for monitoring period % [a] | Valid data capture 2017 % [b] | Annual Mean Concentration (µg m$^{-3}$) | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 2011 [c] | 2012 [c] | 2013 [c] | 2014 [c] | 2015 [c] | 2016 [c] | 2017 [c] |
| TH1 Poplar | Automatic | n/a | n/a | 34 | 33 | 33 | n/a | n/a | n/a | n/a |
| TH2 Mile End | Automatic | 99 | 100% | 57 | 60 | 57 | 62 | 53 | 51.7 | 48 |
| TH4 Blackwall | Automatic | 97 | 100% | 63 | 61 | 58 | 58 | 58 | 59 | 56 |
| TH5 Victoria Pk | Automatic | 98 | 100% | - | 33 | 33 | 44c | 33c | 32.0 | 32 |
| TH5 Millwall Pk | Automatic | 99 | 100% | -- | - | - | - | 26c | 25.3 | 26 |

**Note:** Areas where the National Objective Level 40 (µg m$^{-3}$) is being breached is shown **in bold**

**Table D contd. Annual Mean NO$_2$ Ratified and Bias-adjusted Monitoring Results (µg m$^{-3}$) – Diffusion Tube Sites** Exceedance in Annual average in **bold**

| Site ID | Location | Valid data capture for monitoring period % [a] | Valid data capture 2017 % [b] | Annual Mean Concentration (µg m$^{-3}$) | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 2011 [c] | 2012 [c] | 2013 [c] | 2014 [c] | 2015 [c] | 2016 [c] | 2017 [c] |
| 1 | **Colombia Rd/Gossett Street** | 100% | 100% | | | | | 38 | 37 | 39 |
| 2 | **Calvert Ave/Boundary Street** | 92% | 100% | | | | | **42** | **41** | **40** |
| 3 | **Bethnal Green Rd/ Brick Lane** | 92% | 100% | | | | | **47** | **46** | **45** |
| 4 | **Commercial St/Calvin St** | 75% | 100% | | | | | **66** | **60** | **60** |
| 5 | **Whitechapel High St (KFC)** | 100% | 100% | | | | | **72** | **64** | **62** |
| 6 | **Mansell St** | 83% | 100% | | | | | **84** | **71** | **75** |
| 7 | **St Katherine's Way** | 100% | 100% | | | | | 33 | 34 | 30 |
| 8 | **Wapping High St/Sampson St** | 100% | 100% | | | | | 35 | 36 | 33 |
| 9 | | - | - | | | | | - | | |
| 10 | | - | - | | | | | - | | |
| 11 | **Brick Lane/Princelet St** | 100% | 100% | | | | | **42** | **44** | **40** |
| 12 | **Buckfast St/Bethnal Green Rd** | 100% | 100% | | | | | **42** | **42** | 39 |
| 13 | | - | - | | | | | - | | |
| 14 | **Warner Place/Hackney Rd** | 100% | 100% | | | | | **42** | **42** | **41** |

| Site ID | Location | Valid data capture for monitoring period % [a] | Valid data capture 2017 % [b] | Annual Mean Concentration ($\mu g\ m^{-3}$) | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 2011 [c] | 2012 [c] | 2013 [c] | 2014 [c] | 2015 [c] | 2016 [c] | 2017 [c] |
| 15 | | - | - | | | | | - | | |
| 16 | Paradise Row/Bethnal Green Rd | 100% | 100% | | | | | 50 | 50 | 42 |
| 17 | Finnis St/Three Colts Lane | 100% | 100% | | | | | 35 | 35 | 35 |
| 18 | Sidney St/Mile End Rd | 75% | 100% | | | | | 47 | 47 | 46 |
| 19 | Philpot St/Commercial Road | 100% | 100% | | | | | 54 | 54 | 51 |
| 20 | Dellow St/The Highway | 100% | 100% | | | | | 70 | 69 | 59 |
| 21 | | - | - | | | | | - | | |
| 22 | Wapping Wall/Garnet St | 100% | 100% | | | | | 34 | 37 | 34 |
| 23 | Brodlove Lane | 100% | 100% | | | | | 47 | 45 | 46 |
| 24 | Jubilee Street/Commercial Rd | 83% | 100% | | | | | 68 | 65 | 62 |
| 25 | Cavell St/Stepney Way | 100% | 100% | | | | | 44 | 45 | 45 |
| 26 | Hannibal Rd/Mile End Rd | 100% | 100% | | | | | 72 | 50 | 50 |
| 27 | | - | - | | | | | | | |
| 28 | Bonner Road | 92% | 100% | | | | | 39 | 41 | 40 |
| 29 | Grove Rd/Old Ford Rd | 92% | 100% | | | | | 47 | 48 | 46 |
| 30 | Fieldgate Street | 100% | 100% | | | | | 53 | 48 | 42 |
| 31 | Whitechapel Market | 100% | 100% | | | | | 71 | 68 | 69 |

| Site ID | Location | Valid data capture for monitoring period % [a] | Valid data capture 2017 % [b] | Annual Mean Concentration (µg m$^{-3}$) | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 2011 [c] | 2012 [c] | 2013 [c] | 2014 [c] | 2015 [c] | 2016 [c] | 2017 [c] |
| 32 | Globe Rd/Mile End Rd | 92% | 100% | | | | | **55** | **54** | **52** |
| 33 | Stepney Green | 75% | 100% | | | | | 34 | 34 | 37 |
| 34 | | - | - | | | | | - | | |
| 35 | | - | - | | | | | - | | |
| 36 | Locksley St/St Paul's Way | 100% | 100% | | | | | 31 | 38 | 36 |
| 37 | Rhodeswell Rd | 92% | 100% | | | | | 35 | 39 | 36 |
| 38 | Ben Johnson Road | 83% | 100% | | | | | **41** | **45** | **44** |
| 39 | Harford St/Mile End Rd | 100% | 100% | | | | | **43** | **41** | **41** |
| 40 | | - | - | | | | | - | | |
| 41 | Ford Close/Roman Rd | 83% | 100% | | | | | **41** | **41** | **40** |
| 42 | Victoria Park | 100% | 100% | | | | | 23 | 24 | 24 |
| 43 | Victoria Park | 100% | 100% | | | | | 23 | 25 | 23 |
| 44 | Parnell Rd/Old Ford Rd | 92% | 100% | | | | | 39 | **41** | **42** |
| 45 | St Stephen's Rd/Tredegar Rd | 92% | 100% | | | | | **44** | **47** | **45** |
| 46 | Rhondda Grove/Mile End Rd | 92% | 100% | | | | | 35 | **41** | 37 |
| 47 | Wentworth Mews | 100% | 100% | | | | | **50** | **51** | **46** |
| 48 | Ackroyd Drive | 92% | 100% | | | | | **45** | **44** | **44** |

| Site ID | Location | Valid data capture for monitoring period % [a] | Valid data capture 2017 % [b] | Annual Mean Concentration ($\mu g\ m^{-3}$) | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 2011 [c] | 2012 [c] | 2013 [c] | 2014 [c] | 2015 [c] | 2016 [c] | 2017 [c] |
| 49 | Dod St/Burdett Rd | 100% | 100% | | | | | 37 | 38 | 38 |
| 50 | Rich Street | 92% | 100% | | | | | **42** | **45** | **42** |
| 51 | Watney Market | 75% | 100% | | | | | 38 | 37 | 34 |
| 52 | Wick Lane/Autumn St | 100% | 100% | | | | | **44** | **45** | **42** |
| 53 | Fairfield Road/Tredegar Road | 92% | 100% | | | | | **52** | **52** | **50** |
| 54 | Bow Rd /Glebe Terrace | 83% | 100% | | | | | **57** | **49** | **57** |
| 55 | TH Cemetery Park | 100% | 100% | | | | | 25 | 26 | 25 |
| 56 | Bow Common Lane/St Paul's Way | 92% | 100% | | | | | **41** | **43** | **40** |
| 57 | | - | - | | | | | - | | |
| 58 | Dolphin Lane | 100% | 100% | | | | | 33 | 36 | 32 |
| 59 | Westferry Road/Limehouse Link jnct | 100% | 100% | | | | | **40** | 39 | **40** |
| 60 | Cascades, Westferry Road | 100% | 100% | | | | | **44** | **45** | **41** |
| 61 | Bow Rd/Alfred St | 92% | 100% | | | | | **42** | **44** | **41** |
| 62 | Mast House Terrace | 100% | 100% | | | | | 32 | 35 | 34 |
| 63 | Millwall Park | 92% | 100% | | | | | 27 | 29 | 26 |
| 64 | Limeharbour | 92% | 100% | | | | | **42** | **42** | **40** |

| Site ID | Location | Valid data capture for monitoring period % [a] | Valid data capture 2017 % [b] | Annual Mean Concentration (µg m$^{-3}$) | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 2011 [c] | 2012 [c] | 2013 [c] | 2014 [c] | 2015 [c] | 2016 [c] | 2017 [c] |
| 65 | Manchester Road/East Ferry Road | 100% | 100% | - | - | - | - | 31 | 34 | 32 |
| 66 | Millwall Park | 75% | 100% | - | - | - | - | 27 | 30 | 29 |
| 67 | Seyssel Street | 100% | 100% | - | - | - | - | 33 | 34 | 34 |
| 68 | Manchester Road/Ollife Street | 100% | 100% | - | - | - | - | 29 | 34 | 33 |
| 69 | Lawnhouse Close | 100% | 100% | - | - | - | - | **44** | **41** | **41** |
| 70 | | - | - | - | - | - | - | - | | |
| 71 | | - | - | - | - | - | - | - | | |
| 72 | Prestons Road/ Coldharbour | 100% | 100% | - | - | - | - | **41** | 39 | **40** |
| 73 | John Smith Mews | 92% | 100% | - | - | - | - | 36 | 38 | **40** |
| 74 | | - | - | - | - | -- | - | - | | - |
| 75 | Hale Street | 83% | 100% | - | - | - | - | 31 | 33 | 34 |
| 76 | Chrisp Street/E India Dock Road | 92% | 100% | - | - | - | - | **51** | **48** | **49** |
| 77 | Morris/Barchester Street | 100% | 100% | - | - | - | - | 35 | 39 | **40** |
| 78 | Devons Road / Campbell Road | 100% | 100% | - | - | - | - | **47** | **48** | **47** |
| 79 | Hatfield Terrace/Fairfield Road | 100% | 100% | - | - | - | - | 31 | 31 | 33 |
| 80 | Wrexham Road | 100% | 100% | - | - | - | - | **43** | **41** | **40** |
| 81 | Bromley High Street/ St Leonards | 100% | 100% | - | - | - | - | 37 | 39 | 38 |

| Site ID | Location | Valid data capture for monitoring period % [a] | Valid data capture 2017 % [b] | Annual Mean Concentration (µg m$^{-3}$) | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 2011 [c] | 2012 [c] | 2013 [c] | 2014 [c] | 2015 [c] | 2016 [c] | 2017 [c] |
| 82 | **Devas Street /Devons road** | 92% | 100% | - | - | - | - | **47** | **50** | **48** |
| 83 | **Zetland Street/A12** | 100% | 100% | - | - | - | - | **66** | **63** | **62** |
| 84 | **Blair Street (End of Street)** | 100% | 100% | - | - | - | - | **52** | **48** | **52** |
| 85 | **Portree Street** | 100% | 100% | - | - | - | - | **48** | **48** | **48** |
| 86 | **Newport Avenue** | 100% | 100% | - | - | - | - | 33 | 34 | 33 |
| 87 | | - | - | - | - | - | - | | | - |
| 88 | | - | - | - | - | - | - | - | 31 | - |
| 89 | **Thames Path Storers Quay** | 100% | 100% | - | - | - | - | 24 | 30 | 29 |
| 90 | **Sextant Avenue** | 92% | 100% | - | - | - | - | 16 | 28 | 28 |

Notes: Exceedance of the NO$_2$ annual mean AQO of 40 µg m$^{-3}$ are shown in **bold**.

NO$_2$ annual means in excess of 60 µg m$^{-3}$, indicating a potential exceedance of the NO$^2$ hourly mean AQS objective are shown in bold and underlined.

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

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

[c] Means should be "annualised" in accordance with LLAQM Technical Guidance, if valid data capture is less than 75%

**Real time NO$_2$ data**

NO$_2$ (ug/m³)

| | Mile End |
| | Blackwall |

2011  2012  2013  2014  2015  2016  2017
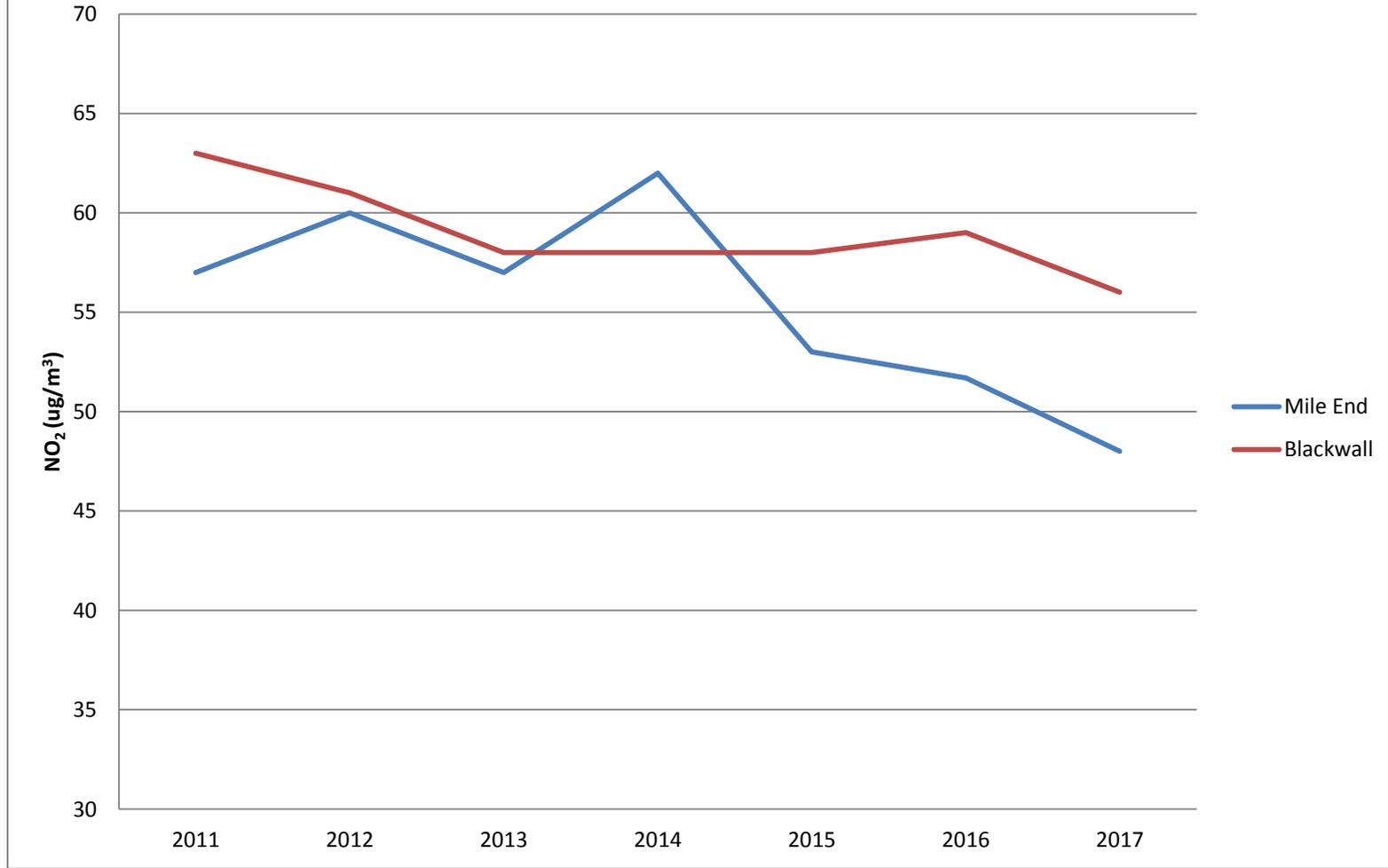
**Nitrogen Dioxide levels at roadside real time monitoring sites**
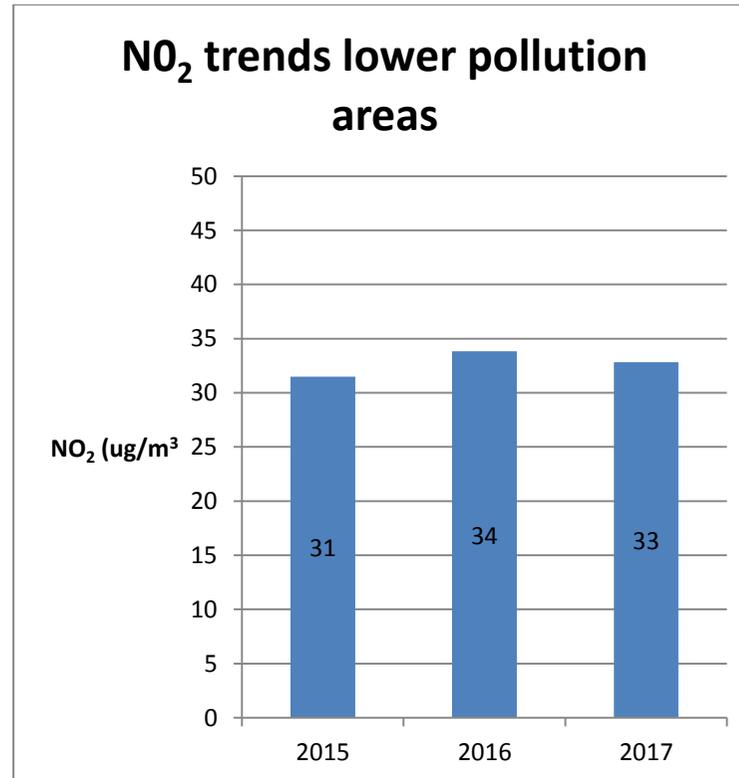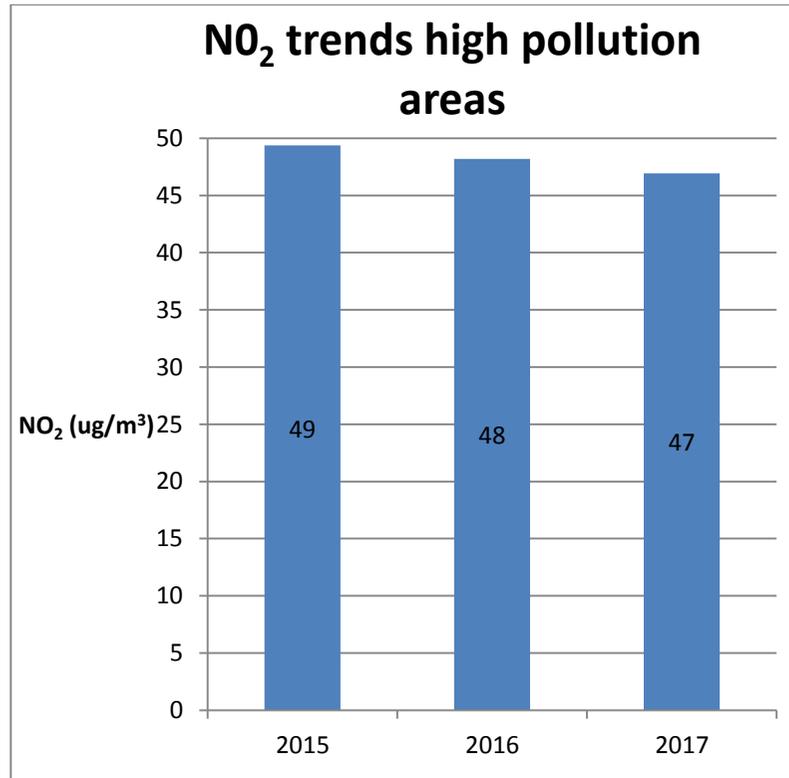


High pollution areas where Nitrogen dioxide levels exceed the National Air Quality Objective of 40 ug/m$^3$
Lower pollution areas where Nitrogen dioxide levels does not exceed the National Air Quality Objective of 40 ug/m$^3$
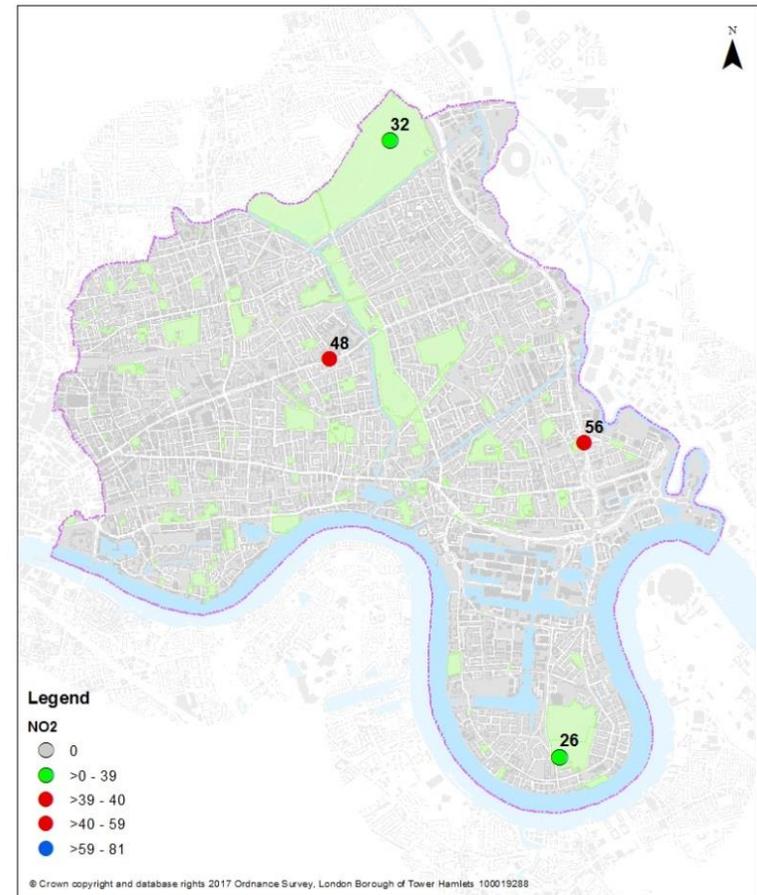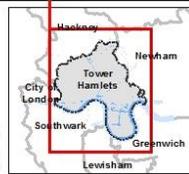Note: data derived from diffusion tube results

Location of NO$_2$ diffusion tubes and real time monitoring networks
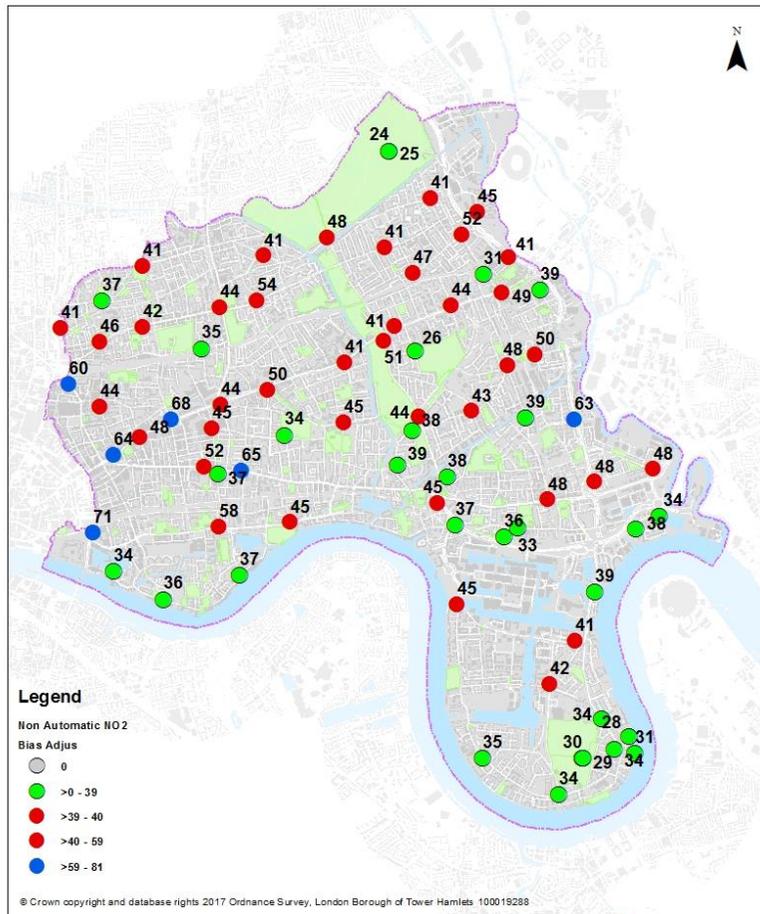


Non-automatic NO2 stations



Automatic NO2 stations
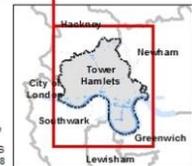
The GLA have provided forecasts of the future levels of air pollution in Tower Hamlets. A plan of pollution levels is below:



London Borough of Tower Hamlets
Annual Mean NO₂ concentrations 2020

LAEI 2013 Update

Legend
NO₂ (µg/m³)
< 16
16 – 19
19 – 22
22 – 25
25 – 28
28 – 31
31 – 34
34 – 37
37 – 40 ← Limit
40 – 43
43 – 55
55 – 58
58 – 73
73 – 76
76 – 97
> 97
Boroughs

MAYOR OF LONDON
GREATER LONDON AUTHORITY

CLEANER AIR FOR LONDON
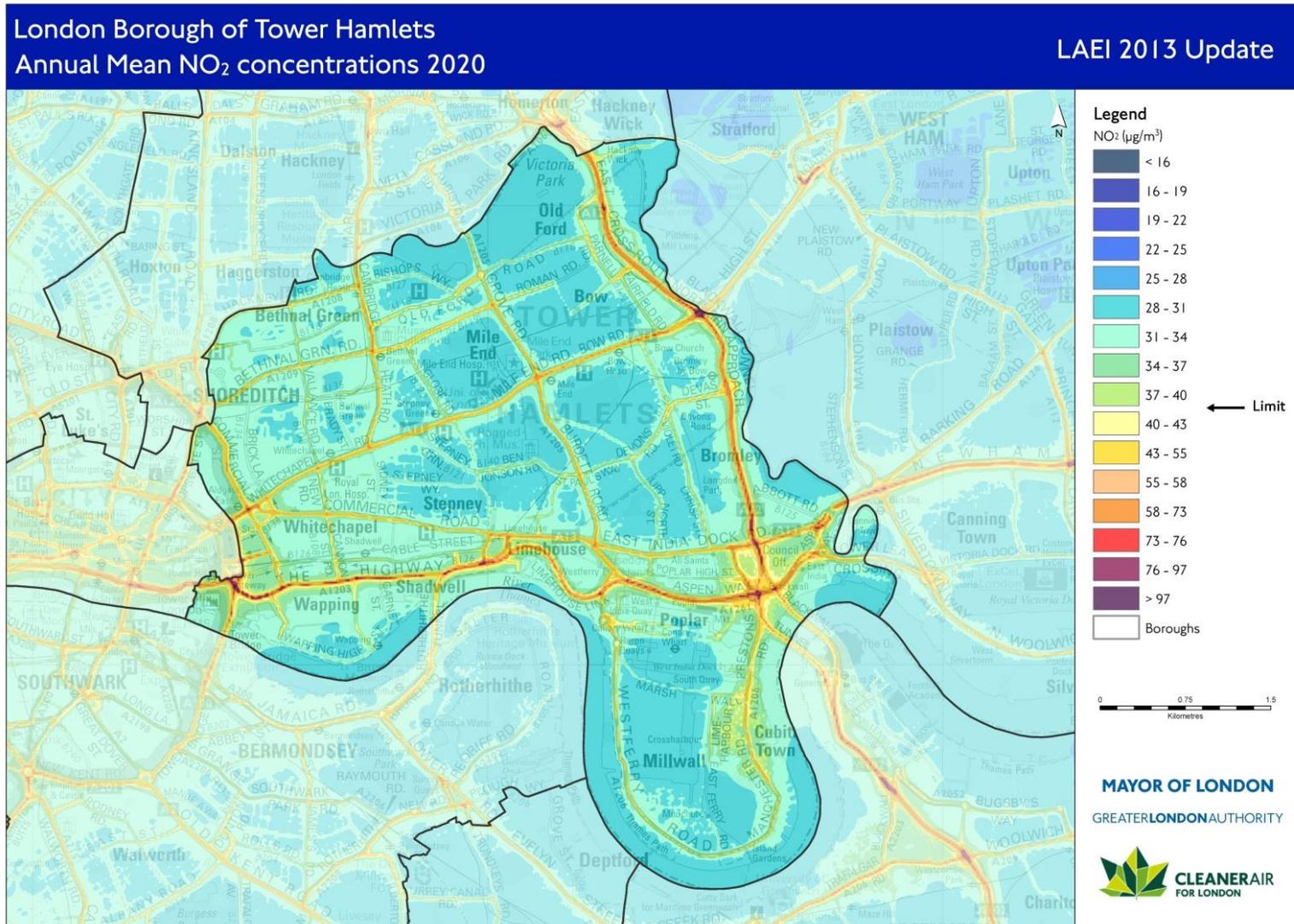
The GLA have identified areas in Tower Hamlets where air pollution is particularly bad. The 'Focus Areas' identified are shown on the plan below


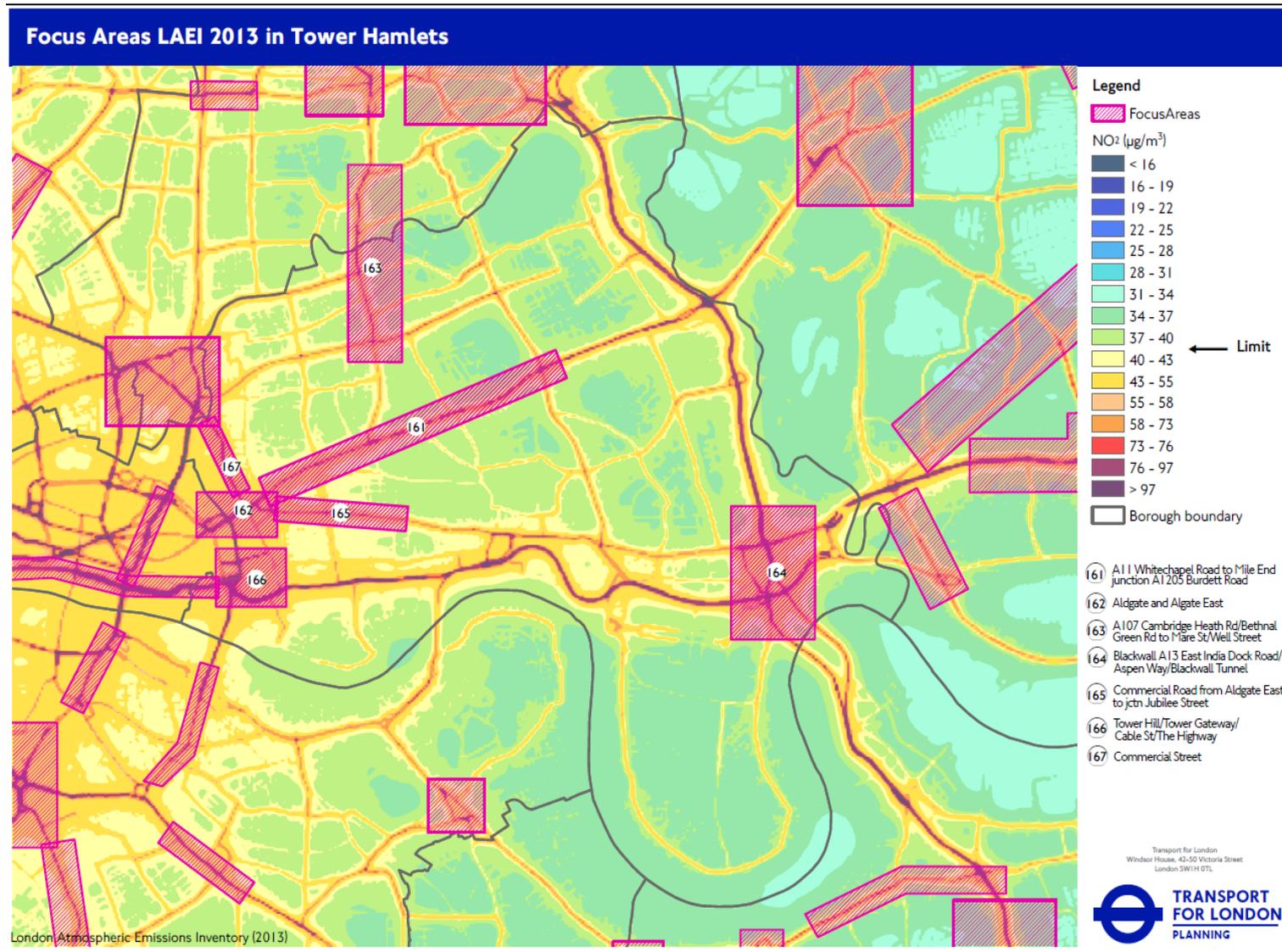
Focus Areas LAEI 2013 in Tower Hamlets

Legend

FocusAreas

NO₂ ($\mu g/m^3$)
- < 16
- 16 – 19
- 19 – 22
- 22 – 25
- 25 – 28
- 28 – 31
- 31 – 34
- 34 – 37
- 37 – 40 ← Limit
- 40 – 43
- 43 – 55
- 55 – 58
- 58 – 73
- 73 – 76
- 76 – 97
- > 97

Borough boundary

161  A11 Whitechapel Road to Mile End junction A1205 Burdett Road
162  Aldgate and Algate East
163  A107 Cambridge Heath Rd/Bethnal Green Rd to Mare St/Well Street
164  Blackwall A13 East India Dock Road/ Aspen Way/Blackwall Tunnel
165  Commercial Road from Aldgate East to jctn Jubilee Street
166  Tower Hill/Tower Gateway/ Cable St/The Highway
167  Commercial Street

Transport for London
Windsor House, 42–50 Victoria Street
London SW1H 0TL

TRANSPORT FOR LONDON
PLANNING

London Atmospheric Emissions Inventory (2013)

**Table E.** **NO$_2$ Automatic Monitor Results: Comparison with 1-hour Mean Objective**

| Site ID | Valid data capture for monitoring period % [a] | Valid data capture 2017 % [b] | Number of Hourly Means > 200 µg m$^{-3}$ | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | 2011 [c] | 2012 [c] | 2013 [c] | 2014 [c] | 2015 [c] | 2016 [c] | 2017 [c] |
| TH1 Poplar | - | - | 0 | 0 | 0 | - | - | - | - |
| TH2 Mile End | - | 100% | 0 | 2 | 1 | 1 | 0 | 0 | 2 |
| TH4 Blackwall | - | 100% | 0 | 0 | 0 | 0 | 0 | 9 | 0 |
| TH5 Victoria Pk | - | 100% | - | 0 | 0 | 0 | 0 | 0 | 24 |
| TH6 Millwall Pk | - | 100% | - | - | - | - | 0 | 0 | 0 |

Notes: Exceedance of the NO$_2$ short term AQO of 200 µg m$^{-3}$ over the permitted 18 days per year are shown in **bold**.
[a] data capture for the monitoring period, in cases where monitoring was only carried out for part of the year
[b] data capture for the full calendar year (e.g. if monitoring was carried out for six months the maximum data capture for the full calendar year would be 50%)
[c] Means should be "annualised" in accordance with LLAQM Technical Guidance, if valid data capture is less than 75%

Commentary

Pollution where levels exceed the National Objective of 40 ug/m$^3$ of nitrogen dioxide have been showing a slow decline, this trend does not seem to be reflected on lower pollution areas away from roads where there is no clear trend. It should be emphasised that compliance with the National Objective levels does not imply that levels of nitrogen dioxide below 40 ug/m$^3$.

**Table F.    Annual Mean PM$_{10}$ Automatic Monitoring Results (µg m$^{-3}$)**

| Site ID | Valid data capture for monitoring period % [a] | Valid data capture 2017 % [b] | Annual Mean Concentration (µg m$^{-3}$) | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | 2011 [c] | 2012 [c] | 2013 [c] | 2014 [c] | 2015 [c] | 2016 [c] | 2017 [c] |
| TH4 Blackwall | - | 100% | 28 | 26 | 28 | 29 | 22 | 23 | 25 |
| TH6 Millwall | | | - | - | - | - | 15 | 17 | 20 |
| TH5 Victoria Park | | | - | - | 16 | 17 | 17 | 16 | 17 |

Notes: Exceedance of the PM$_{10}$ annual mean AQO of 40 µg m$^{-3}$ are shown in **bold**.
[a] data capture for the monitoring period, in cases where monitoring was only carried out for part of the year
[b] data capture for the full calendar year (e.g. if monitoring was carried out for six months the maximum data capture for the full calendar year would be 50%)
[c] Means should be "annualised" in accordance with LLAQM Technical Guidance, if valid data capture is less than 75%


**Table G.    PM$_{10}$ Automatic Monitor Results: Comparison with 24-Hour Mean Objective**

| Site ID | Valid data capture for monitoring period % [a] | Valid data capture 2017 % [b] | Number of Daily Means > 50 µg m$^{-3}$ | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | 2011 [c] | 2012 [c] | 2013 [c] | 2014 [c] | 2015 [c] | 2016 [c] | 2017 [c] |
| TH4 Blackwall | | | 32 | 24 | 24 | 16 | 8 | 10 | 10 |
| TH5 Vic Park | - | 100% | - | 0 | 0 | 0 | 2(32.36) [c] | 3(28.6) [c] | 2 |
| TH6 Millwall | - | 100% | - | 0 | - | - | 0(22.04) [c] | 0(27.9) [c] | 8 |

Notes: Exceedance of the PM$_{10}$ short term AQO of 50 µg m$^{-3}$ over the permitted 35 days per year or where the 90.4th percentile exceeds 50 µg m$^{-3}$ are shown in **bold**.
Where the period of valid data is less than 85% of a full year, the 90.4[th] percentile is shown in brackets after the number of exceedances.
[a] data capture for the monitoring period, in cases where monitoring was only carried out for part of the year
[b] data capture for the full calendar year (e.g. if monitoring was carried out for six months the maximum data capture for the full calendar year would be 50%)

[c] Means should be "annualised" in accordance with LLAQM Technical Guidance, if valid data capture is less than 75%

Commentary

Levels of $PM_{10}$ have been consistently below the National Air Quality Objectives and levels continue to fall

**Table H.** **Annual Mean $PM_{2.5}$ Automatic Monitoring Results ($\mu g\ m^{-3}$)**

| Site ID | Valid data capture for monitoring period % [a] | Valid data capture 2017 % [b] | Annual Mean Concentration ($\mu g\ m^{-3}$) | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | 2011 [c] | 2012 [c] | 2013 [c] | 2014 [c] | 2015 [c] | 2016 [c] | 2017 [c] |
| TH4 Blackwall | - | 90% | 18 | 15 | 16 | 16 | 14 | 20 | 13 |

Notes: Exceedance of the $PM_{2.5}$ annual mean 100%AQO of 25 $\mu g\ m^{-3}$ are shown in **bold**.
[a] data capture for the monitoring period, in cases where monitoring was only carried out for part of the year
[b] data capture for the full calendar year (e.g. if monitoring was carried out for six months the maximum data capture for the full calendar year would be 50%)
[c] Means should be "annualised" in accordance with LLAQM Technical Guidance, if valid data capture is less than 75%

Commentary

Levels of $PM_{2.5}$ have been consistently below the National Air Quality Target value. However there has been no consistent trend in values year on year. Whilst $PM_{2.5}$ are below target levels this does not mean that levels recorded at Blackwall do not have an impact on health.

**Table I.** **$SO_2$ Automatic Monitor Results: Comparison with Objectives**

| Site ID | Valid data capture for monitoring period % [a] | Valid data capture 2017 % [b] | Number of: [c] | | |
|---|---|---|---|---|---|
| | | | 15-minute means > 266 $\mu g\ m^{-3}$ | 1-hour mean > 350 $\mu g\ m^{-3}$ | 24-hour mean > 125 $\mu g\ m^{-3}$ |
| TH5 Victoria | - | 94.4% | 0 | 0 | 0 |

Exceedances of the $SO_2$ AQOs are shown in **bold** (15-min mean = 35 allowed a year, 1-hour mean = 24 allowed a year, 24-hour mean = 3 allowed / year)
[a] data capture for the monitoring period, in cases where monitoring was only carried out for part of the year
[b] data capture for the full calendar year (e.g. if monitoring was carried out for six months the maximum data capture for the full calendar year would be 50%)
[c] Means should be "annualised" in accordance with LLAQM Technical Guidance, if valid data capture is less than 75%

2.      Action to Improve Air Quality

**2.1      Air Quality Action Plan Progress**

Table J provides a brief summary of the London Borough of Tower Hamlets progress against the Air Quality Action Plan, showing progress made this year. The information in table J relates to the latest Air Quality Action Plan adopted by the Council in October 2017. The AQAP will be updated in 2022.

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

| ID | Action | Progress | Further information |
|---|---|---|---|
| 1. | Develop and implement a communications strategy for disseminating air quality information in the borough to raise awareness of the impacts of poor air quality and encourage behaviour change. | Breathe Clean' campaign launched March 2018 Council support for independently run 'Wear AQ' project at events through LBTH in March 2018. See http://umbrellium.co.uk/initiatives/wearaq/ | DEFRA grant obtained for further air quality awareness raising work in Poplar |
| 2. | Director of Public Health to have responsibility for ensuring their Joint Strategic Needs Assessment (JSNA) has up to date information on air quality impacts on the population – Air Quality officer to be consulted on JSNA. | JSNA including specific reference to air quality published in 2016 See: https://www.towerhamlets.gov.uk/lgnl/ health__social_care/joint_strategic_needs_assessme/ joint_strategic_needs_assessme.aspx | Action to be deleted until next review of JSNA |
| 3. | Strengthening co-ordination with Public Health by ensuring that at least one public health specialist within the borough has air quality responsibilities outlined in their job profile. | Air quality dedicated staff in Public Health Team.<br>• Somen Banerjee, Director of Public Health<br>• Abi Knight, Associate Director of Public Health<br>• Matthew Phelan, Programme Lead for Healthy Environments | Further joint working planned for 2018 |
| 4. | Director of Public Health to sign off all new Air Quality Action Plans. | Air quality action plan signed off by Public Health | Current AQ Action Plan signed off by Public Health. Further revisions to be agreed. |

| | | | |
|---|---|---|---|
| 5. | Support patients with heart and lung conditions by providing air quality advice to discharged patients, particularly vulnerable & those with heart/lung conditions. This would be a continuation of the 'Protecting Patient' work stream from the Barts Project. | Initial contact made with Associate Director for Adults who has engaged with the trust. | Further worked planned from April 2018 |
| 6. | Support and Promotion of air quality awareness programmes such as AirTEXT | LBTH had 21 new subscribers signed up between June 2016 – January 2017 and 39 between February 2017 – June 2017. Tower Hamlets currently has 265 subscribers to the service. The total number of subscribers to end of June 2017 was 237. Further promotion of the service to be programmed. | Air Text funded for financial year 2018-19 Note - the GLA are commissioning an air quality forecasting service similar to Airtext. Once this is available, the Council may want to promote the GLA service which will be at no cost to the Council and cease financial contribution to AirText in 2019-20. |
| 7. | Encourage schools to join the TfL Sustainable Travel Active Responsible Safer (STARS) accredited travel planning programme by providing information on the benefits to schools and supporting the implementation of such a programme. | 20% schools accredited in 2016/17. | Staffing issues led to reduction in STARS accredited schools in 2016/17. This been addressed and a significant increase is expected for 2017/18. 2021 target corresponds to c88 schools and is likely to require additional resource to achieve. Without additional resource, the highest level of take-up is estimated to be 50-60 schools |
| 8. | Air quality at schools – Roll out the cleaner air for schools program that was previously run in 2 schools, to more schools in high pollution areas. | Contract with Loop labs is currently being let to roll out scheme in local primary school in 2018. | Bonner school selected (on two sites) |
| 9. | Pollution Audits in schools. Support the GLA in their program to provide air quality audits in 2 schools. | Two schools participated in GLA audit scheme. Reports received 2018 | To review contents of reports with participating schools and seek funding to implement recommended measures |
| 10. | Schools anti-idling project | Anti-idling scheme run in two primary schools in March 2018 | In Tower Hamlets we have talked to the drivers of 39 vehicles, of which 30 were idling and 9 were not idling. Of the 30 idling drivers, 26 (87%) switched off their engines when asked. Of the 3 |

| | | | drivers who did not switch off their engines when asked, 2 were just about to leave and one had a permitted reason to keep idling. In total there were 72 interactions and we have spoken to 86 drivers, passengers and pedestrians in Tower Hamlets |
|---|---|---|---|
| 11. | Schools Environmental Theatre Project | Contract let with Big Wheel Theatre company to run an event at 20 schools | Programme to be complete by July 2018 |
| 12. | Investigate and invest in new technology as it becomes available to reduce pollution levels at pollution hotspots & sensitive uses e.g. schools | Developments are being monitored and will be assessed by the Pollution team leader to determine practical investments. | Proposals for free standing moss wall and anti-pollution paint reviewed and rejected on the grounds that they were not likely to be effective |
| 13. | Citizen Science air quality monitoring project | Contract let with Mapping for change company to run a project for six months jointly with Public Health Team for delivery in spring 2018. | |
| 14. | Work with Residential Providers to develop and implement a strategy for disseminating air quality information to their tenants. | Extensive publicity campaign planned for 2018. | • LBTH Housing Forum to be used to agree that all housing providers will cascade our messages and opportunities for residents through their regular newsletters / social media and notice boards. (The council will coordinate and cascade all messages) • Presentations to be made by our Air Pollution team Housing Forum. • Liaision with housing providers to schedule publicity with their newsletters • All housing providers and stakeholders will be using the same hashtags on their social media: #cleanair and #breatheclean |
| 15. | Use Health and Wellbeing Board to get existing and future public sector and RP partners to pledge to increase the number of, electric, hybrid, and cleaner vehicles in their fleets. | A paper is scheduled to go to the Health and Wellbeing Board (HWB) on 20th Feb highlighting the car fleet commitment. Public Health also intend to promote awareness for more electric charging points across the borough – but the plan is for a fuller discussion on the subject post-election. | |

| | | | |
|---|---|---|---|
| 16. | Continue to run the 3 continuous monitoring stations, monitoring pollutants of concern to ensure air quality objectives are being met and to assess the effectiveness of local and regional policies. | Monitors maintained. Data available on line and separately in this report. | Additional $PM_{2.5}$ monitor is being purchased in 2018 to complement existing $NO_2$ monitor on Mile End Road at junction with Bancroft Road |
| 17. | Continue to implement the NOx Diffusion Tube Monitoring network across the borough. Investigate and implement further monitoring where necessary. E.g. at schools. | Diffusion tube network maintained | Additional diffusion tubes will be deployed as part of the Citizen Science project. See action 13. |
| 18. | Continue to ensure that all pollution monitoring data is available to the public and the website is regularly updated with the latest available data. | Data available on Council web site and separately in this report | |
| 19. | Fulfil the GLA's criteria to retain our Cleaner Air Borough Status each year | Cleaner Air Borough Status retained | The GLA is in the process of revising the eligibility criteria for the award. Boroughs which currently hold the award will retain it. New criteria will be set for next year |
| 20. | Ensuring emissions from demolition and construction are minimised via planning applications reviews and conditions attached to planning permissions requiring Construction Environmental Management Plans, including dust mitigation and monitoring and Travel Plans encouraging sustainable travel for site workers | Comments provided on major planning applications as required by GLA SPG on Control of Dust and Emissions from Construction Sites. | To set up formal recording system from April 2018 Liaison needed with planning regarding collection of data and enforcement through planning conditions. |
| 21. | Ensuring all major developments adhere to the GLA's Non Road Mobile Machinery Low Emission Zone. I.e. All NRMM used on site must meet the emissions standards stated in the GLA's | NRMM requirements form part of conditions recommended on major developments. | To set up system to check compliance from April 2018 Liaison needed with planning regarding collection of data and enforcement through planning conditions. |

| | | | |
|---|---|---|---|
| | Control of Dust and Emissions during Demolition and Construction SPG 2014 (or subsequent updated guidance) | | |
| 22. | Ensuring Combined Heat and Power (CHP) and biomass air quality policies are met at all developments proposing to utilise CHP, including the NOx emission limits for heating plant as stated in the GLA's Sustainable Design and Construction SPG (or subsequent updated guidance). | Comments provided on major planning applications as required by GLA SPG on Sustainable Design and Construction | To set up formal recording system from April 2018 Liaison needed with planning regarding collection of data and enforcement through planning conditions. |
| 23. | Ensuring new developments have suitable energy efficiency measures installed to reduce the demand for onsite heat generation from boilers & CHP's. | Our Local Plan requires energy use to be minimised as a priority in the design of the building and made energy efficient as possible. Policy is monitored through the Local Plan. March 2018 | |
| 24 | Ensuring Air Quality Neutral policies are complied with at all developments and exceeded where possible. Ensure all larger developments (as defined by the GLA) will be air quality | Pollution team will provide observations when requested by Development Management for all major developments as defined in the GLA Sustainable Design and Construction SPG. New air quality officer in post from 22 January. Liaison needed with planning regarding collection of data and enforcement through planning conditions. | New Local Plan has been submitted to the Secretary of State including policy requirement for developments to be air quality neutral. Council has responded positively to the proposed new draft London Plan policy for developments to be air quality positive but requested further guidance on deliverability. |
| 25. | Reduce the use of private cars by residents by encouraging car free developments and limiting number of parking spaces in new developments. | Measure – All major planning applications reviewed to ensure they meet the parking standards. | The adopted and emerging Local Plan include policies to restrict residential car parking (apart from mobility parking) the assumption is always that development should always be car free. New Local Plan is being submitted to the Secretary of State on 28 February 2018 including new car parking standards. The GLA's new draft London Plan includes further reduced residential parking standards. |

| 26. | Ensure the layout of new developments considers air quality impacts, for example considering the locations of buildings with different proposed uses and locating the most sensitive use units in the least polluted areas | The Pollution Team will provide necessary comments when requested by the Development Management Service.  The draft London Plan and emerging Local Plan set out more explicit policy guidance in this regard.  Appropriate design and mitigation measures are considered as part of the assessment for planning applications. | New Local Plan has been submitted to the Secretary of State. It includes new policy requirement for developments to embed appropriate design and mitigation measures to respond to poor air quality.<br><br>Council has responded positively to the proposed new draft London Plan policy for developments to further consider the impact of and requirements to mitigate poor air quality. |
|---|---|---|---|
| 27. | Ensuring adequate, appropriate, and well located green space and infrastructure, including for walking and cycling, is included in new developments with the Green Grid Strategy promoted and adhered to in all major planning applications and master planning to provide low emissions routes for walking and cycling. | Green Grid Strategy has been updated and the proposed new routes embedded in the draft Local Plan, which been submitted to the Secretary of State. | Public Health are undertaking a review across the Green Grid refreshed strategy,  the bio-diversity action plan, open space strategy, air quality action plan and emerging physical activity strategy to identify opportunity to maximise green infrastructure increase connectivity and improve health and wellbeing. |
| 28. | Encourage new developments to install alternative mass waste collection systems, such as ENVAC, to reduce collection vehicle emissions. | New Local Plan has been submitted to the Secretary of State and includes a new policy requirement for major  developments to incorporate high quality mass waste collection systems | |
| 29. | Ensuring that the whole borough Smoke Control Zones is fully publicised and enforced. | A publicity campaign is proposed to include TH web Pollution Team have drafted an Article and forwarded to Communications Team for publicity. To be included as part of the overall cleaner air campaign. | Publicity proposed for September at the beginning of the heating season |
| 30. | Implement a Domestic boiler refit project using the GLA's RE:FIT energy efficiency retrofit programme. | £200k has been allocated for this project and there is scope to add another £600k from the carbon offsetting fund to continue this project until March 2021. The current scheme commenced in December 2017 and is anticipated to delivery 80 boiler replacements targeting the most inefficient non- | |

| | | condensing boilers. | |
|---|---|---|---|
| 31. | Implement a Carbon Emissions Reduction Programme for council properties including boiler replacements and insulation projects. | Two school projects are currently being delivered to improve energy efficiency of the buildings. Schools retrofit project - Energy efficiency improvements completed to 9 schools which includes boiler replacement, heating upgrades, insulation etc. The total fund for this project was £198k. Schools energy efficiency project - A project for schools which is a grant of up to £30k for energy efficiency works which 7 schools have successfully applied for and the works will be carried out and completed by Dec 2018. Total fund for this project was £210k. | |
| 32. | Implement a Carbon Emissions Reduction Programme for council properties including boiler replacements and insulation projects. | £200k has been allocated for this project with a potential of another £400k over a 3 year period to be funded from the carbon offsetting fund (subject to council receiving the fund in the s106 account) | |
| 33. | Enderby Wharf – Ensure a thorough and robust evaluation of the Environmental statement, that methodologies used comply with current guidance and that the project will not lead to any significant adverse air quality impacts in the borough. | On going working with R B Greenwich Environmental health and Planning teams to minimise pollution from this development | |
| 34. | Ensure applications for new developments in neighbouring boroughs that have the potential to have impacts in Tower Hamlets are reviewed for air quality impacts and that no development will lead to any significant adverse air quality impacts in the borough. | Relevant applications in neighbouring boroughs (& LLDC planning area) reviewed and appropriate comments made | To set up formal recording system from April 2018 |
| 35. | Lead by example by ensuring the | Corporate Property and Capital Delivery team are | The strategy for the project will achieve:  -Circa |

| | | | |
|---|---|---|---|
| | councils new Civic Centre is a best practice example of a sustainable and low emissions development in regards to air pollution and CO2 with both air quality neutral and carbon zero policies being met. | leading on the planning application; the relevant teams will be consulted to ensure sustainability/air quality targets are met. Building due to be occupied 2021. | 3,500sqm of open space provision/public realm - Provide over 300 staff and visitor cycle parking to the site -Achieve BREEAM excellent rating -Provide renewable energy measures such as air source heat pumps and PV within design -Includes waste recycling facilities -Includes rainwater/greywater recycling facilities -Provision of brown roof -Achieving 84.3% over the baseline for the whole development in carbon reduction, meeting the LBTH policy target |
| 36. | Improve the energy efficiency of John Onslow House as part of the upcoming refurbishment with the aim of becoming carbon zero and any new boilers to be ultra-low NOx. | New Remeha Quinta Pro and Vaillant Ecotec boilers installed | • Remeha, Low Class 5 NOx emissions levels from 29mg/kWh (0% O2, dry) - Low pollutant emissions meet environmental regulations including BREEAM • Vaillant, Fully modulating low NOx burner to achieve lower NOx emissions. NOx class 5 from 36mg/KWh (0% O2, dry) |
| 37. | Ensure developments that will increase river traffic, in the operational phase of development, are thoroughly assessed for potential air quality impacts and will not have a significant negative impact on air quality. | Planning applications which have an impact on air pollution on the River will be reviewed. None noted to date | |
| 38. | Ensure the Tideway Tunnel infrastructure project is sustainably delivered with the Construction Code of Practice adhered to and effective emissions mitigation in place during construction & operational phases. | LBTH attend forum meetings and the CCP is in place and is being monitored. | |
| 39. | Silvertown Tunnel – Ensure a thorough and robust evaluation of the Environmental statement, that | LBTH was represented at the Development Consent Order Panel meetings and made representations on a number of matters including air quality.  The | |

| | | | |
|---|---|---|---|
| | methodologies used comply with current guidance and that the project, during both the construction and operational phases, will not lead to any significant adverse air quality impacts in the borough and that adequate mitigation is provided for any potential impacts. Ensure traffic modelling on which the air quality statements are robust. | announcement on its findings has been delayed for a further assessment on air quality. An announcement is not now expected until May 2018. | |
| 40. | Ensure that all future major infrastructure projects are adequately reviewed and assessed through the planning process to ensure impacts on air quality are minimised. | No new infrastructure projects other than these specifically assessed in the action plan received | Major infrastructure projects have historically been governed by acts of parliament and more recently by the development consent order process. These procedures are separate from the normal planning application process. Air quality is however, included in the requirements for the consideration of environmental impacts of such projects. |
| 41. | Ensure that Procurement policies to include a requirement for suppliers with large fleets to have attained, silver as a minimum or gold as a preference, Fleet Operator Recognition Scheme (FORS) accreditation or equivalent. | Requirement will be incorporated as part of vehicle fleet procurement planned for 2018. | |
| 42. | Investigate updating Procurement policies to ensure sustainable logistical measures are implemented (and include requirements for preferentially scoring bidders based on their sustainability criteria). | Sustainable Procurement Policy has been drafted and is on the agenda for Strategic Procurement Board for discussion. This policy will act as the overarching framework for all existing sustainable and ethical procurement practices | |
| 43. | Investigate re-organisation of freight to support consolidation (or micro-consolidation) of deliveries, by setting | A constructors' forum has been established and officers already require construction management plans for major development and are additionally | The Isle of Dogs and South Poplar Opportunity Area Framework has been delayed by the GLA but is due for consultation shortly |

| | | | |
|---|---|---|---|
| | up or participating in new logistics facilities, and/or requiring that council suppliers participate in these. | exploring Construction Logistic Plans and Community Safety (CLOCS) systems to manage construction traffic and reduce pedestrian and cycling safety.<br>The constructors' forum is currently for internal LBTH officers but will be expanded to include developers in areas experiencing high levels of construction. | |
| 44. | Investigate implementing a local Eco Stars Fleet Recognition Scheme for Tower Hamlets. | Initial estimate to join EcoStars for a two year participation is in the region of £40,000. There is no identified funding for this scheme at the moment. | Without a suitable funding stream this action point will  be kept under review. |
| 45. | Join a recognised appropriate driver award scheme, e.g. Fleet Operator Recognition Scheme (FORS) or Van Excellence & achieve certification. | The Council will be joining the FORS scheme in 2018 | FORS Bronze to be achieved in 2018/9. Aspiration to Achieve FORS Gold |
| 46. | Increasing the number of, electric, hybrid, and cleaner vehicles in the boroughs' fleet. | The Competition Board has requested that a review of Fleet be carried out before procurement can proceed. | Small light duty vehicles (small vans etc) to be replaced on a rolling programme starting in 2018.<br><br>Larger light duty vehicles (Transit style) to be replaced with electric if feasible |
| 47. | Accelerate uptake of new Euro VI vehicles in borough fleet, ending the purchase of diesel vehicles where feasible. | The Competition Board has requested that a review of Fleet be carried out before procurement can proceed. | Where electric vehicles are not feasible, remaining fleet will be replaced with Euro 6 diesels in 2018-2019 |
| 48. | Real-time Telematics monitoring of fleet driver behaviour and subsequent driver training. | The Competition Board has requested that a review of Fleet be carried out before procurement can proceed. | Telemetrics to be installed in all internal combustion driven vehicles as the fleet is to be renewed |
| 49. | Utilise round optimisation for council fleet to reduce vehicle miles. | Newly appointed fleet manager to review | A review of fleet usage is being planned to minimise the number of Council owned vehicles |
| 50. | Procure a cargo bike for regular delivery of literature to councillors. | Parks Dept already have 2 cargo bikes in use in Victoria Park. Require FM to confirm the bike will be used and post drivers trained to cycle. Update Feb 12 2018 : No further progress as no confirmation from | |

| | | FM that bikes can be used. | |
|---|---|---|---|
| 51. | Project 2020: use the procurement process to ensure all waste & Recycling collection vehicles in the new contract are as low emission as possible by prioritising tenders with the highest proportion of low emission vehicles. | The Council is currently exploring what the options are likely to be in terms of low emissions vehicles for the waste collection and street cleansing fleet. Proposals will be put forward within the waste contracts report that will be considered by the Council before the procurement process commences | The procurement process for the new waste contract is expected to commence in Summer 2018. This action will be incorporated into the tendering process. |
| 52. | Project 2020: utilise round optimisation to reduce vehicle mileage for waste collections. | The procurement process for the new waste contract is expected to commence in Summer 2018. | The opportunity for route optimisation to be implemented under the current contract with Veolia is being explored as well as the incorporation of route optimisation as part of the procurement process for the new contract in 2020. Options for route optimisation software are currently being explored |
| 53. | Reduce 'Grey Fleet' impacts by reviewing staff parking permits to reduce number or allocate shared team permits rather than individual. | Staff travel plan is to be reviewed in 2018 | |
| 54. | Investigate installing Green Infrastructure, such as green walls, green screens or living roofs at schools/residential developments in polluted areas. Linking in with the Green Grid and Open Paces Strategy. | Project has not been scoped yet and is funding dependent. Will be taken forward when the new air quality officer joins. Could tie in with the GLA's air quality audits & do greening at the schools | |
| 55. | Low Emission Neighbourhoods (LENs) – implement the City Fringe LEN in partnership with Hackney and Islington. | Promotional work encouraging businesses in LEN to take up corporate membership of the Santander Cycle Hire Scheme has been effective in increasing usage to the extent that it is shortlisted for a London Transport Award for Innovation in March. This project is scheduled for delivery by 2020. | ULEZ signage being agreed with TfL for delivery by Dec 2018 and Go Live April 2019 : covers part of LEN area in LBTH |
| 56. | Engagement with businesses – Continuation of the ZEN Project engaging businesses with advice and | 356 ZEN business members<br>30 business grants<br>156 household members | |

| | | | |
|---|---|---|---|
| | grants to enable them to reduce their air quality impact. | Comms website https://zeroemissionsnetwork.com/<br>Twitter feed: #CleanerAirIsOurBusiness (1759 followers)<br><br>LinkedIn; ebulletins; Instragram (143 followers)<br>Various pop up events<br>ZEN cycle hire workplace scheme, 88 cycle hire codes were provided to ZEN workplaces in Tower Hamlets and in the first 9 months of operation a total of 6216 journeys were made using the codes | |
| 57. | Discouraging unnecessary idling by taxis, coaches and other vehicles. Anti – Idling engagement project focusing on air pollution hotspots and high risk locations such as hospitals and schools. | Two anti-idling campaigns carried out at primary schools | Campaigns held at Bonner and English Martyrs Schools.<br>Anti idling signposts sent to borough schools |
| 58. | Enforce anti-idling regulations by becoming a designated authority to issue Fixed Penalty Notices to idling drivers. | Action to establish designated authority status is scheduled for spring 2018. Discussions have been had with Camden Council which introduced the scheme most recently on how the implementation process. Legal advice has been sought which confirms this is a key decision and as such will require approval from the Mayor in Cabinet. The next step is to prepare a Cabinet report. | Report will go to Cabinet in 2018 |
| 59. | Increasing the proportion of electric, hydrogen and ultra-low emission vehicles in Car Clubs. | The Council has entered in to discussion with both the DriveNow and ZipCar companies to consider implementing their scheme in the near future. Both DriveNow and ZipCar Flex use ultra-low emission vehicles. | |
| 60. | Review parking permit fee banding to encourage lower emission vehicle choice or add an additional diesel surcharge to existing permit fees. | Emission bands already exist for C02 emissions as part of the permit pricing structure. Consideration of diesel vehicles will be discussed with elected Members after the elections. | |
| 61. | Installation of residential electric charge | Slow chargers to be procured through CLC 4371 LOT4 | Progress slow due to supplier constraints and |

| | | | |
|---|---|---|---|
| | points. | Street lighting Improvements contract; residents' consultation underway until Dec 22nd on requests for on-street chargers for residents. Update Feb 12 2018 : Consultation complete. PO issued for installation of 21 slow charge points in March. | electrical engineering issues.  10 in place by end of May 18.  Only 1 DfT approved supplier in the country at present |
| 62. | Installation of rapid chargers to help enable the take up of electric taxis, cabs and commercial vehicles (in partnership with TfL and/or OLEV) | Legal agreements with suppliers for rapid and fast chargers drafted and ready for signoff;   site feasibility studies in progress for 23 fast charging points;  final site feasibility plans awaited for the 6 sites for rapid chargers which TfL wish to deliver in 2018/19 in LBTH. Update Feb. 12 2018: Legal agreement with Source London signed and 20 sites ready for delivery. Traffic orders being drafted for site specific statutory consultation. | Sites for 15 medium charge bollards agreed and installation progressing – these will provide 37 charging points between them.<br><br>Discussions continuing with TfL on siting of 6 Rapid Charge Points. |
| 63. | Investigate reprioritisation of road space to smooth traffic flow, reduce congestion,  improve bus journey times, cycling and pedestrian experience, and reduce emissions caused by congested traffic | Healthy Street assessment included in recent design studies on Roman Road / St Stephen's Rd junction; Chrisp St / Violet Road corridor; Cotton St / Prestons Rd corridor. Update Feb 12 2018 : presentation on technique and examples of use to Health & Wellbeing Board Feb 20th. | Implementation works will take place 2018/19.<br><br>Road closure completed at William Burrough school – redesign of the space completed with school children and moving into implementation |
| 64. | Continue to provide/ ensure provisions of infrastructure to support walking and cycling including on street residential secure parking lockers, cycle routes, cycle permeability schemes, traffic management area reviews. | Secure residential cycle parking:<br><br>• 97 spaces in individual lockers<br>• 90 spaces in on street bike hangars (15 bike hangars)<br>• 90 spaces in communal cycle shelters (8 shelters)<br>On-street public cycle parking:<br><br>• 50 on street cycle parking spaces (25 cycle stands)<br>Total parking spaces : 237 spaces | Development work progressing on two central London Grid E-W extensions and strategic N-S corridors on Cambridge Heath Rd and Burdett Rd corridors. |
| 65. | Reduce traffic in the borough through the development of a new Local | The target for delivery of this work is in 2018/19 as required by TfL, due to guidance and background | New LIP 3 Guidance received March 26 2018 to guide development of the strategy. |

| | | statistical information only now beginning to be issued by TfL. | |
|---|---|---|---|
| 66. | Continue to encourage staff sustainable travel by providing Dr Bike services and staff subscriptions to the TFL cycle hire scheme for site visits. Annual update of the Staff Travel Plan to ensure it remains relevant and proactive. | Successful introduction of cycle hire scheme for staff. Usage figures to be provided in March 2018, and scheme will be expanded to include more staff during Feb/March 2018. | New staff travel plan to be produced in 2018/19. Update Feb 12 2018 : Priority actions and development of new plan agreed by CLT. |
| 67. | Push for Tower Hamlets to be included in the ULEZ through partaking in the TFL Consultation process. | ULEZ proposed for area within North Circular Road incorporating all of LBTH | Pollution Team have provided comments on the latest consultation for ULEZ expansion to be incorporated in common response. Separate comments made to London Council's consultation |
| 68. | Ensure responses to all government and regional consultations focus on reducing or eliminating emissions of Local air pollutants and CO2. | Recently commented on the LBTH local plan, Isle of Dogs neighbourhood Plan, DEFRA consultation on domestic solid fuel burning, TfL ULEZ proposals, and the draft London Plan. | |
| 69. | Lobby and work with TFL to reduce emissions from buses in the borough. e.g. through green bus corridors. Work with other statutory Services to reduce emissions – LFB, NHS etc. | A11 has been designated part of the Ultra Low Emissions Bus Zone and LBTH are liaising with TfL on delivery of works to improve bus reliability and reduce queuing. Update Feb 12 2018 : No further info from TfL as yet but funding for delivery is protected in the TfL Business Plan. | TfL are progressing this action: lobbying not necessary |
| 70. | Lobby and work with TFL to reduce emissions from TfL controlled roads e.g. through reprioritisation of road space. | Update Feb 2018: Lead Members being briefed about the conflicts of this action with the overall desired results. NO ACTION TO BE PURSUED UNTIL THE ACTION IS REVISITED. The target as currently expressed could conflict with aspirations for improvement of local neighbourhoods (i.e. by diverting traffic from trunk roads to local roads). This action will be reviewed to ensure that lobbying is focussed on appropriate actions and outcomes in relation to road space allocation and design | Lead Members briefed on the conflict with policies – this could worsen environmental quality on local roads |
| 71. | Lobby the GLA to strengthen their Air | New Draft Environment Strategy and Draft London | |

| | | | |
|---|---|---|---|
| | Quality Neutral Policy and lower the CHP emission limits in current guidance. | Plan seeks to have largest developments required to be air quality positive. Further guidance awaited from the GLA following adoption of the new London Plan | |
| 72. | The development of a Mayors Air Quality fund within Tower Hamlets. | At the Grants Sub-Committee meeting on 6 Feb, the Sub-Committee approved the implementation of a grant scheme for promoting measures to improve air quality in the borough. A publicity campaign is being worked on with Communications Team. Application will be open from May 2018 onward. | |
| 73. | The Mayor of Tower Hamlets to hold a meeting with The Royal Borough of Greenwich and Greater London Authority to discuss reducing the environmental impact of the proposed Enderby Wharf cruise terminal. Lobby for shore-side power to be provided for the ships. | Meeting held. Liaison between officers of LBTH & RBG to control pollution. Shore side power not feasible. | |
| 74. | Work with the Canal & Rivers Trust, the GLA and other Boroughs with canals to devise a plan to best tackle issues with emissions from canal boats. Enforcement action to be taken where necessary. | Tower Hamlets Better Boating Guide to be given out to canal boats on a regular basis. | Liaison with CRT. Meetings being set up |
| 75. | Support the Port London Authority in the development and implementation of their Air Quality Strategy for the River Thames. | The Mayor has also raised the issue of Enderby Wharf with the Mayor of London's office and highlighted the problems caused by the fact the current statute means the Mayor of London has no jurisdiction to take action on air quality matters related to activity on the River Thames. He suggested lobbying for a change to this to give the Mayor of London oversight of air quality emissions produced on the Thames. The consultation strategy was published in early | |

| | | December, consultation feedback to be provided. PLA Representative will update | |
|---|---|---|---|
| 76. | Support the GLA in Lobbying national Government to provide new powers and improved coordination for river and maritime vessels, including having a single regulatory authority for the Thames and London tributaries and introduce minimum emissions standards | Presentation by PLA to next air quality board on their new environment strategy, | Liaison with PLA Representative specifically on the production of guidance for developers and boroughs in 2018, as well as proposals for funds improving emissions from the marine sources within the borough. Attendance to the future workshops on the progress for the strategy. |

**Lead Officers**

| | |
|---|---|
| Kelly Powell (Head of External Communications) | Mark Baigent (Interim Head of Strategy Regeneration Sustainability & Housing options |
| Somen Banerjee; Abigail Knight (PH) | Zamil Ahmed: (Head of Procurement) |
| Jack Ettinger (Team Leader Development schools) | Richard Williams (Business Manager Operational Services) |
| Owen Whalley (Divisional Director - Planning and Building Control) | Margaret Cooper (Head of Engineering) |
| Abdul J Khan; Jonathan Taylor (Sustainability) | Stephen Willie (PR – Parking) |
| Fiona Heyland (Waste management) | Anita Haylock (Parking Business Development Manager) |
| Ann Sutcliffe: (Divisional Director, Property & Major Programmes) | Robert Morton (Active Travel Officer) |
| Sam Brown: (Head of Hard Services Property Maintenance Manager) | David Courcoux (Head of Mayors Office) |

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

Table K.Planning requirements met by planning applications in the London Borough of Tower Hamlets in 2017

| Condition | Number<br><br>Total numbers |
|---|:---:|
| Number of planning applications where an air quality impact assessment was reviewed for air quality impacts | 173 |
| Number of planning applications required to monitor for construction dust | 53 |
| Number of CHPs/Biomass boilers refused on air quality grounds | 3 |
| Number of CHPs/Biomass boilers subject to GLA emissions limits and/or other restrictions to reduce emissions | 33 |
| Number of developments required to install Ultra-Low $NO_x$ boilers | 24 |
| Number of developments where an AQ Neutral building and/or transport assessments undertaken | 53 |
| Number of developments where the AQ Neutral building and/or transport assessments not meeting the benchmark and so required to include additional mitigation | 35 |
| Number of planning applications with S106 agreements including other requirements to improve air quality | - |
| Number of planning applications with CIL payments that include a contribution to improve air quality | - |
| **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. | 15 |
| **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. | 35 |

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

No new sources identified

## Appendix A  Details of Monitoring Site QA/QC

### A.1  Automatic Monitoring Sites

Calibrations at Tower Hamlets Roadside, Millwall Park and Victoria Park are undertaken by Ricardo Energy and Environment. Millwall Park and Victoria Park are both urban background sites so they calibrated every 4 weeks. Tower Hamlets Roadside is calibrated every 2 weeks.

Millwall Park and Victoria Park are audited by Ricardo Energy and Environment every 6 months; in June and December.

Note: the Blackwall site is operated by Transport for London, not LBTH

PM$_{10}$ Monitoring Adjustment

Millwall Park – 1020 Heated BAM, correction applied
Victoria Park – TEOM, VCM correction applied
Both VCM and BAM correction is applied automatically when data is downloaded from Air Quality England web site.

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

- Lab supplying and analysing the tubes:
  SOCOTEC Unit 12, Moorbrook, Southmead Industrial Park Didcot OX11 7HP

- *Preparation method used*
  The tubes were prepared by spiking acetone:triethanolamine (50:50) onto the grids prior to the tubes being assembled. The tubes were desorbed with distilled water and the extract analysed using a segmented flow autoanalyser with ultraviolet detection

- *Confirmation that the lab follows the procedures set out in the Practical Guidance*
  The samples have been analysed in accordance with SOCOTEC's standard operating procedure ANU/SOP/1015 Issue 1.  This method meets the guidelines set out in DEFRA's 'Diffusion Tubes For Ambient NO2 Monitoring: Practical Guidance.'

- *Results of laboratory precision results:*
  This analysis of diffusion tube samples to determine the amount of nitrogen dioxide present on the tube is within the scope of our UKAS schedule. Any further calculations and assessments requiring exposure details and conditions fall outside the scope of our accreditation. In the AIR PT intercomparison scheme for comparing spiked Nitrogen Dioxide diffusion tubes, SOCOTEC currently holds the highest rank of a **Satisfactory** laboratory

- *Bias adjustment factor*
  A bias adjustment factor of 0.77 was used. This was derived from DEFRA spreadsheet version number 03/18 for LBTH's contractor's lab.

Factor from Local Co-location Studies (if available)

Local co-location bias adjustment was not used

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

<u>Short-term to Long-term Data Adjustment</u>

Not applicable

# Appendix B    Full Monthly Diffusion Tube Results for 2017

## Table M.        NO$_2$ Diffusion Tube Results

Note all sites were operational throughout 2017

| Site ID | Valid data capture 2017 % [b] | Annual Mean NO$_2$ | | | | | | | | | | | | Annual mean – raw data [c] | Annual mean – bias adjusted [c] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Jan | Feb | March | Apr | May | June | Jul | Aug | Sept | Oct | Nov | Dec | | |
| 1 | 100% | 76.5 | 64.2 | 50.9 | 19.1 | 44.4 | 47 | 43.7 | 45.9 | 53.6 | 60 | 61.7 | 43.7 | 50.5 | 39 |
| 2 | 92% | 70.6 | 53.6 | 58.8 | 43.2 | 47.6 | 46.6 | 49.8 | 49.9 | 55.5 | 56.6 | Missing | 49.8 | 51.9 | 40 |
| 3 | 92% | 77.5 | 59 | 59.7 | 41.6 | Missing | 46.6 | 50.2 | 55.4 | 62.7 | 82 | 62 | 50.2 | 58.3 | 45 |
| 4 | 67% | 99 | 77.1 | 84.7 | 80.2 | 79.1 | 98.9 | Missing | 77.7 | 50.1 | Missing | Missing | Missing | 78.5 | 60 |
| 5 | 100% | 98.9 | 95.2 | 79.2 | 95.1 | 49.7 | 89.3 | 78.5 | 71.2 | 84.4 | 85.4 | 70.5 | 78.5 | 80.9 | 62 |
| 6 | 83% | 130.4 | 96.3 | 106.1 | 86.4 | Missing | 110.1 | 96 | 92 | 97.2 | Missing | 70.1 | 96 | 97.1 | 75 |
| 7 | 100% | 57.6 | 44 | 34.9 | 33.6 | 33.1 | 35.9 | 33.7 | 36.5 | 42 | 46.7 | 44.8 | 33.7 | 39.1 | 30 |
| 8 | 100% | 69 | 46.7 | 40.6 | 35.1 | 37.9 | 35.5 | 39.6 | 40.8 | 40.8 | 51.7 | 50.9 | 39.6 | 43.5 | 33 |
| 11 | 100% | 72.7 | 58.8 | 44.4 | 41.9 | 41.7 | 37.9 | 47.5 | 48.6 | 76.3 | 60.7 | 55.7 | 47.5 | 51.8 | 40 |
| 12 | 100% | 64.6 | 58.7 | 47.6 | 40 | 45 | 46.7 | 41 | 45.6 | 49.9 | 63.4 | 60.5 | 41 | 50.1 | 39 |
| 14 | 100% | 69 | 58.8 | 52.9 | 42.2 | 44.8 | 52.1 | 46.7 | 52.9 | 57.7 | 60.1 | 58.1 | 46.7 | 52.9 | 41 |
| 16 | 100% | 73.5 | 68.1 | 60.3 | 45.9 | 54.7 | 48.5 | 41.8 | 46.7 | 52.1 | 61.4 | 55.9 | 41.8 | 54.2 | 42 |
| 17 | 100% | 68.1 | 50.7 | 46 | 34.8 | 35.7 | 40.8 | 38 | 40.4 | 47 | 54.8 | 51.6 | 38 | 45 | 35 |
| 18 | 75% | 80.9 | 70.9 | Missing | 53.9 | 51.6 | 56.2 | 57 | 53 | 62.5 | Missing | Missing | 57 | 59.4 | 46 |
| 19 | 100% | 80.5 | 75.5 | 68.1 | 52.9 | 57.5 | 68.1 | 62.3 | 59.8 | 66 | 75.1 | 73.3 | 62.3 | 65.9 | 51 |
| 20 | 100% | 85.8 | 89.2 | 83.3 | 54.9 | 76.1 | 88.4 | 72.2 | 66 | 79.8 | 71 | 81.7 | 72.2 | 76 | 59 |
| 22 | 100% | 66.6 | 46.8 | 41.2 | 41.4 | 38.9 | 40.8 | 35.6 | 40 | 50.2 | 46.8 | 53.8 | 35.6 | 44.6 | 34 |
| 23 | 100% | 72.8 | 63.9 | 47.8 | 42.9 | 60.6 | 57.4 | 60.6 | 61.5 | 67.3 | 63.7 | 63.7 | 60.6 | 59.5 | 46 |
| 24 | 83% | 98.9 | 90.1 | 75.8 | 83.6 | 75.7 | 85.1 | 75.9 | 75 | 77 | Missing | Missing | 75.9 | 80.1 | 62 |
| 25 | 100% | 78.4 | 63.9 | 53 | 44.3 | 81.5 | 52.8 | 53.7 | 46 | 50.6 | 73.3 | 69.8 | 53.7 | 59.1 | 45 |
| 26 | 100% | 83.1 | 69.3 | 69.1 | 55.1 | 58.8 | 58.9 | 64.2 | 58.8 | 61.9 | 73.3 | 69.2 | 64.2 | 64.6 | 50 |
| 28 | 92% | 62.9 | 53 | 51.7 | 48.4 | Missing | 50.8 | 46.7 | 47.4 | 44.7 | 59.6 | 58.8 | 46.7 | 51.5 | 40 |
| 29 | 100% | 78.3 | 60.4 | 63.5 | 48.8 | 54.7 | 52.9 | 55 | 57.3 | 59.1 | 66.1 | 56.9 | 55 | 59.4 | 46 |
| 30 | 100% | 80.8 | 59.2 | 54.4 | 49.2 | 54 | 60.3 | 50.2 | 51.1 | 55.4 | 41.5 | 60.5 | 50.2 | 54.8 | 42 |
| 31 | 100% | 111.1 | 101.1 | 92.5 | 80.1 | 81 | 91.5 | 83.8 | 80.5 | 91.9 | 94.2 | 85.3 | 83.8 | 89.2 | 69 |
| 32 | 83% | 84.4 | 66.1 | 73.5 | 61.1 | 60.9 | 72.3 | Missing | 63.4 | 64.4 | 76.4 | 64.9 | Missing | 67.2 | 52 |
| 33 | 75% | 70.9 | 44.6 | Missing | 31.6 | 31.5 | 36.5 | 37.3 | Missing | 43.5 | Missing | 108.8 | 37.3 | 48.1 | 37 |
| 36 | 100% | 74.2 | 50.6 | 48.8 | 38.8 | 41.4 | 33.8 | 38.6 | 41.1 | 41.2 | 60.9 | 55.7 | 38.6 | 46.5 | 36 |

| 37 | 92% | 69.8 | 53.7 | 49 | 35.7 | Missing | 47 | 38.9 | 41.4 | 40.3 | 51.7 | 50.6 | 38.9 | 46.7 | 36 |
| 38 | 83% | 87.7 | 67.5 | Missing | Missing | 46.1 | 48.6 | 48.8 | 47.2 | 50.3 | 68.4 | 62.9 | 48.8 | 57 | **44** |
| 39 | 100% | 87.9 | 44.4 | 61.8 | 41.9 | 52.8 | 63.6 | 41.7 | 47.3 | 54.5 | 53.4 | 49.4 | 41.7 | 53.5 | **41** |
| 41 | 83% | 65.9 | 51.2 | 57.1 | Missing | Missing | 53 | 43.4 | 46.9 | 52.4 | 56.3 | 55.8 | 43.4 | 51.9 | **40** |
| 42 | 100% | 56.7 | 36.8 | 29 | 21.2 | 25.9 | 26.3 | 27.4 | 24.5 | 31.8 | 37.8 | 37 | 27.4 | 31.2 | 24 |
| 43 | 100% | 50.6 | 38.6 | 32.4 | 20.4 | 25.3 | 23.1 | 27.8 | 27.5 | 25.7 | 38.3 | 35.2 | 27.8 | 30.4 | 23 |
| 44 | 92% | 80.1 | 54.2 | 60.7 | 44 | 43.9 | 48.5 | 50.4 | 51.4 | 54.1 | 67 | Missing | 50.4 | 54.2 | **42** |
| 45 | 92% | 75.7 | 60.3 | 68.3 | Missing | 54.1 | 54.1 | 50.8 | 47.6 | 56.6 | 64.8 | 61.2 | 50.8 | 58.1 | **45** |
| 46 | 100% | 79.2 | 52 | 3.6 | 34.7 | 45.2 | 45.7 | 47.7 | 47 | 51.7 | 63.4 | 53.6 | 47.7 | 47.6 | 37 |
| 47 | 100% | 76.4 | 65.9 | 71.4 | 52.2 | 54.9 | 58.9 | 57.6 | 50.9 | 51.6 | 67.7 | 61.9 | 57.6 | 59.6 | **46** |
| 48 | 92% | 82.5 | 62.7 | 53.5 | 43.5 | 48.8 | Missing | 55.7 | 54.1 | 53.9 | 67.3 | 62.2 | 55.7 | 57.7 | **44** |
| 49 | 100% | 78.4 | 61.3 | 55.5 | 32.9 | 40.2 | 38 | 40.6 | 45.7 | 43 | 58.4 | 58.5 | 40.6 | 49 | 38 |
| 50 | 92% | 76.8 | 57.5 | 54.3 | 41.2 | 42.9 | 56.4 | 53 | 50.5 | 53.4 | 65.1 | Missing | 53 | 54.2 | **42** |
| 51 | 75% | Missing | 46.5 | 51.5 | 43 | 38.8 | 45.6 | 35.5 | 43.6 | 60.5 | Missing | Missing | 35.5 | 44.1 | 34 |
| 52 | 100% | 74.5 | 58.6 | 58 | 44.4 | 53 | 52.1 | 51.7 | 53.8 | 52.6 | 60 | 57.9 | 51.7 | 55 | **42** |
| 53 | 92% | 89.3 | 67.3 | 77.7 | 60 | 61.2 | 71.6 | 61.9 | 52.5 | 61 | Missing | 50.5 | 61.9 | 64.3 | **50** |
| 54 | 83% | 88.7 | 80.7 | 70 | 64 | 75 | 81.3 | 77.1 | 71.2 | 68.2 | Missing | Missing | 77.1 | 74.3 | **57** |
| 55 | 100% | 46.8 | 26.5 | 38.8 | 22.2 | 28 | 30.5 | 30.6 | 28.3 | 34.2 | 45.8 | 36 | 30.6 | 32.6 | 25 |
| 56 | 83% | 75 | 58.3 | 56.7 | 36.3 | 47.4 | 41.5 | Missing | 46.1 | 54.7 | 60.8 | 51.3 | Missing | 51.8 | **40** |
| 58 | 100% | 65.5 | 49.5 | 48.3 | 32.1 | 38.6 | 32.3 | 41.4 | 41.8 | 23.7 | 45.6 | 52.3 | 41.4 | 42 | 32 |
| 59 | 100% | 80.7 | 54.2 | 62 | 42.2 | 50.7 | 42.3 | 44.9 | 46.7 | 23.6 | 63 | 64.6 | 44.9 | 51.4 | **40** |
| 60 | 100% | 76.4 | 59.9 | 64.1 | 43.4 | 48.1 | 49.1 | 62.1 | 60.2 | 31.9 | 37.2 | 62.2 | 62.1 | 53.5 | **41** |
| 61 | 92% | 81.3 | 64.7 | 58 | 41.5 | 44.1 | 50.9 | 49.7 | 49.2 | 53.9 | Missing | 47.1 | 49.7 | 52.9 | **41** |
| 62 | 100% | 69.9 | 48.5 | 48.4 | 31.5 | 35.3 | 39.7 | 39.5 | 39.7 | 41.6 | 60.6 | 50.9 | 39.5 | 44.7 | 34 |
| 63 | 92% | 59 | 40.5 | 35.6 | 23.5 | 27.1 | 27.2 | 30.2 | 33.4 | 27 | 50.1 | Missing | 30.2 | 34.3 | 26 |
| 64 | 92% | 77.2 | 54.5 | 56.9 | 45 | 42.6 | 53.2 | 52.1 | 49.2 | Missing | 51.6 | 55.6 | 52.1 | 52.5 | **40** |
| 65 | 100% | 81.2 | 47.7 | 46.7 | 29.4 | 32.4 | 35.6 | 36 | 31.7 | 37.4 | 48.1 | 39.5 | 36 | 41.2 | 32 |
| 66 | 83% | 50.1 | 47 | 42.2 | Missing | 27.6 | 28.5 | 28.4 | 33.1 | 37.7 | Missing | 40.6 | 28.4 | 37.2 | 29 |
| 67 | 100% | 69.1 | 46.7 | 48.8 | 35.3 | 38.5 | 36.9 | 35.8 | 41.5 | 38.7 | 55.4 | 49 | 35.8 | 43.9 | 34 |
| 68 | 100% | 76.8 | 46.3 | 51.9 | 12.9 | 38.3 | 45.2 | 36.8 | 40.5 | 39.1 | 50.8 | 46.4 | 36.8 | 43 | 33 |
| 69 | 100% | 81.2 | 67.8 | 55.2 | 40.8 | 45.2 | 50.4 | 43.4 | 47.7 | 51 | 67.8 | 54.7 | 43.4 | 53.6 | **41** |
| 72 | 100% | 74.6 | 57.4 | 51.2 | 47.5 | 49.9 | 50.3 | 45.9 | 48.7 | 55.5 | 48.4 | 52.3 | 45.9 | 52 | **40** |
| 73 | 92% | 76.2 | 51.2 | 55.7 | 39.4 | 42.2 | Missing | 43.3 | 42.6 | 74.4 | 55.8 | 58.4 | 43.3 | 51.8 | **40** |
| 75 | 83% | 74.1 | Missing | 46.1 | 33.5 | Missing | 30.4 | 41.8 | 34.4 | 44.6 | 54.2 | 55.4 | 41.8 | 44.7 | 34 |
| 76 | 92% | 83.8 | 65.3 | 69.1 | 57.2 | 67.7 | 54 | 62.3 | 59.6 | Missing | 67.2 | 62.6 | 62.3 | 64.1 | **49** |
| 77 | 100% | 81.2 | 56 | 52.6 | 37.6 | 45.8 | 40.8 | 44.1 | 45 | 58.5 | 69.2 | 48.2 | 44.1 | 51.3 | **40** |
| 78 | 100% | 85.9 | 69.7 | 68.7 | 52.5 | 59.2 | 52.6 | 59.2 | 57.5 | 36 | 69.4 | 65.9 | 59.2 | 60.8 | **47** |
| 79 | 100% | 69.9 | 50.7 | 47.6 | 32.2 | 35.3 | 37 | 35.5 | 37 | 59.3 | 43.6 | 43.6 | 35.5 | 43.2 | 33 |
| 80 | 100% | 77.2 | 61.2 | 60.6 | 51 | 45.8 | 53.1 | 45.5 | 46.5 | 51.3 | 57.5 | 52.5 | 45.5 | 52.5 | **40** |
| 81 | 100% | 78.6 | 59.8 | 58 | 41.7 | 42.8 | 48 | 45.2 | 42.8 | 47.7 | 48 | 45.5 | 45.2 | 49.6 | 38 |
| 82 | | 92.7 | Missing | 66.9 | 56.4 | 58.4 | 56.8 | 58.5 | 56.8 | 44.9 | 76.3 | 67 | 58.5 | 62 | 48 |

| 83 | 100% | 123.3 | 79.6 | 86.9 | 72.5 | 82.5 | 93.7 | 79.8 | 79.4 | 50.7 | 76.9 | 69.4 | 79.8 | 80.4 | **62** |
|----|------|-------|------|------|------|------|------|------|------|------|------|------|------|------|--------|
| 84 | 100% | 85.2 | 85.6 | 77.8 | 51.3 | 59.1 | 60.8 | 63.8 | 65.6 | 76.2 | 78 | 62.1 | 63.8 | 68 | **52** |
| 85 | 100% | 84.2 | 75.2 | 72.2 | 49.6 | 54.5 | 60.5 | 53.9 | 50.7 | 59.1 | 73.6 | 61 | 53.9 | 62.3 | **48** |
| 86 | 100% | 64.3 | 51 | 46.4 | 31.8 | 37.9 | 42.4 | 38.2 | 39 | 40.5 | 55.5 | 42.1 | 38.2 | 43.3 | 33 |
| 89 | 100% | 69.3 | 41.6 | 39.6 | 25.3 | 29.4 | 36.3 | 32.2 | 34.1 | 34.9 | 41.5 | 44.4 | 32.2 | 37.8 | 29 |
| 90 | 92% | 58.6 | 37.1 | 34.7 | 24.6 | 23.9 | 26 | 30.9 | 28.9 | 35.3 | Missing | 81.4 | 30.9 | 36.5 | 28 |

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

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

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

[c] Means should be "annualised" in accordance with LLAQM Technical Guidance, if valid data capture is less than 75%