

Appendix 1

Air Quality Annual Status Summary Report for 2019

1. Air Quality Monitoring

Nitrogen Dioxide (NO₂)

Nitrogen dioxide is measured at three locations using continuous (or automatic) analysers: Sir John Cass's Foundation Primary School, Beech Street and Upper Thames Street. In 2019, it was also measured at a further 110 locations using low-cost diffusion tubes.

Air quality in the City has gradually been improving year on year. However, in 2019 there was a significant drop in annual average concentrations of nitrogen dioxide at roadside when compared to 2018. In Upper Thames Street NO₂ reduced by 14µg/m³ (16%) and in Beech Street it reduced by 7µg/m³ (10%). Despite this improvement levels of nitrogen dioxide along busy roads remain above the annual EU limit and World Health Organisation Guideline of 40 µg/m³.

Background concentrations stayed at similar levels, well below the EU limit with Sir John Cass's Foundation Primary School measuring an annual average of 33µg/m³ in 2019. The hourly EU limit for nitrogen dioxide was met at all three sites for the first time since monitoring began.

Small particles PM₁₀

PM₁₀ is measured at three locations using continuous (automatic) analysers: Sir John Cass's Foundation Primary School, Beech Street and Upper Thames Street. Levels of PM₁₀ are very influenced by weather conditions. In 2019, levels of PM₁₀ decreased at all sites when compared to 2018. The largest decrease was 5µg/m³ along Upper Thames Street. All sites are below the annual and daily EU limit values, but above World Health Organisation Guidelines.

Fine particles PM_{2.5}

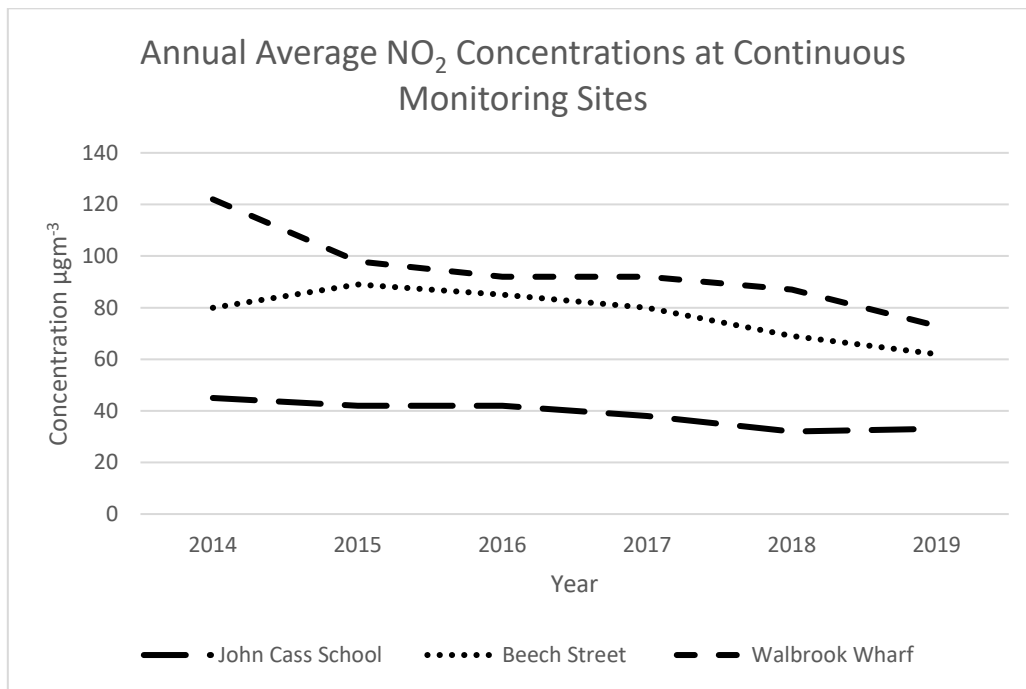
PM_{2.5} is measured at two locations, Farringdon Street and Sir John Cass's Foundation Primary School, using continuous (automatic) analysers. Concentrations are similar at both sites as it is a regional pollutant and strongly influenced by weather conditions. In 2019 there was a slight decrease in concentration at the roadside site (Farringdon) and levels stayed the same at the background site (John Cass). Both sites are below the annual and daily EU limit value but above World Health Organisation Guidelines.

2. Nitrogen Dioxide Data

The EU Limit Value and World Health Organisation Guideline is an annual mean of $40\mu\text{g}/\text{m}^3$

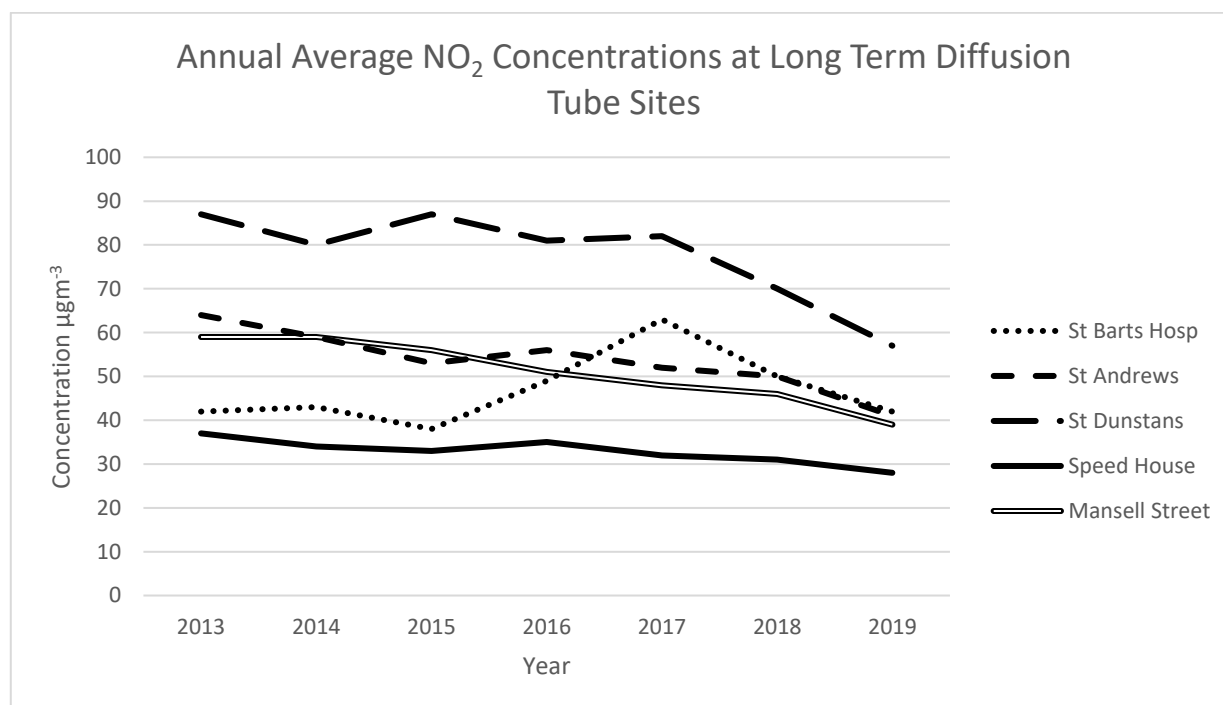
Long term continuous analysers

Site	Site type	Annual Mean ($\mu\text{g}/\text{m}^3$)						
		2013	2014	2015	2016	2017	2018	2019
John Cass's Foundation Primary School	Urban Background	47	45	42	42	38	32	33
Beech St	Roadside	81	80	89	85	80	69	62
Walbrook Wharf	Roadside	122	122	98	92	92	87	73



Long term diffusion tube sites

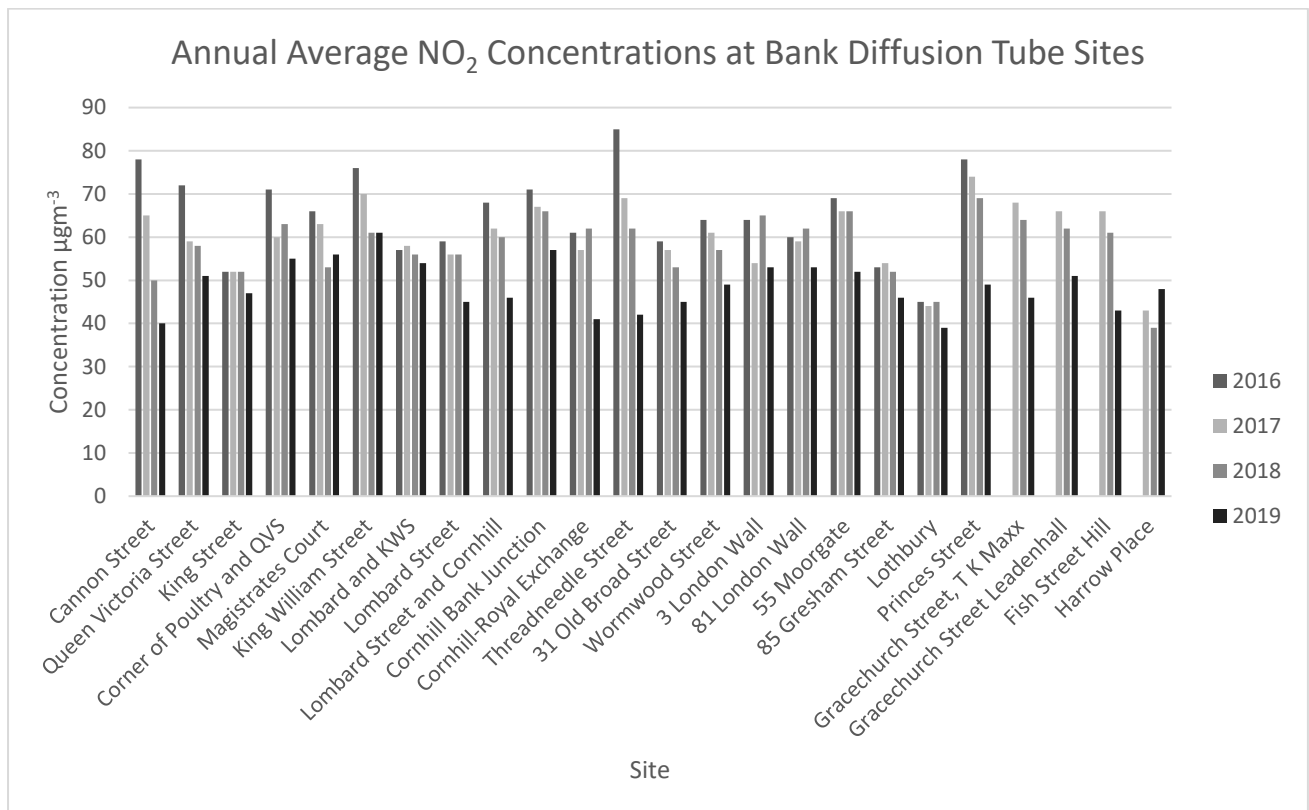
Site	Site type	Annual Mean ($\mu\text{g}/\text{m}^3$)						
		2013	2014	2015	2016	2017	2018	2019
St Bartholomew's Hospital Courtyard	Urban Background	42	43	38	49	63	50	42
St. Andrew's Church, Queen Victoria St	Roadside	64	59	53	56	52	50	41
Fleet Street	Roadside	87	80	87	81	82	70	57
Speed House, Barbican Estate	Urban Background	37	34	33	35	32	31	28
Guinness Trust Estate, Mansell St	Roadside	59	59	56	51	48	46	39



Diffusion tube sites measuring the impact of the Bank on Safety traffic scheme

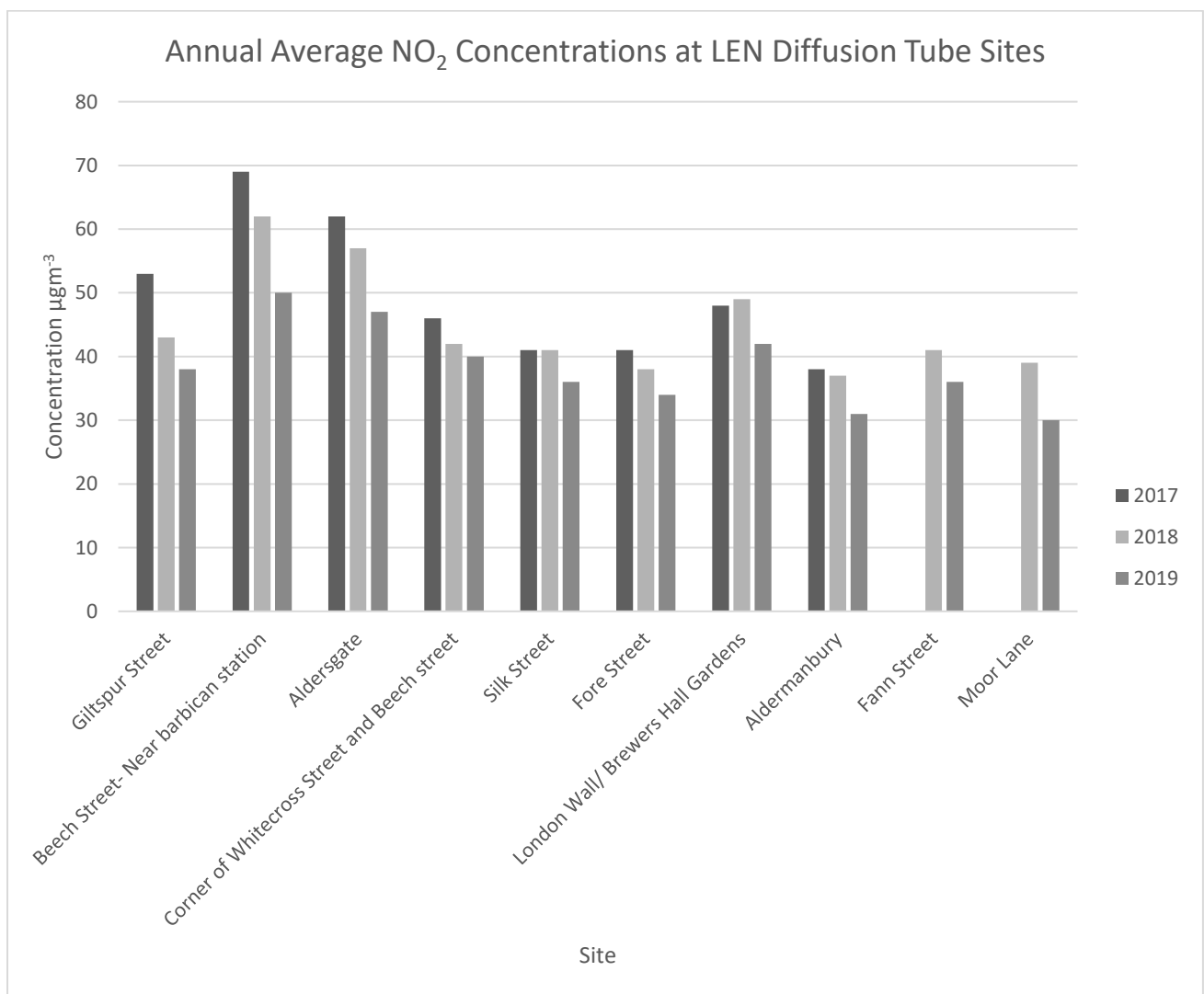
Site	Annual Mean ($\mu\text{g}/\text{m}^3$)			
	2016	2017	2018	2019
Cannon Street	78	65	50	40
Queen Victoria Street	72	59	58	51
King Street	52	52	52	47
Corner of Poultry and QVS	71	60	63	55
Magistrates Court	66	63	53	56

King William Street	76	70	61	61
Lombard and KWS	57	58	56	54
Lombard Street	59	56	56	45
Lombard Street and Cornhill	68	62	60	46
Cornhill Bank Junction	71	67	66	57
Cornhill-Royal Exchange	61	57	62	41
Threadneedle Street	85	69	62	42
31 Old Broad Street	59	57	53	45
Wormwood Street	64	61	57	49
3 London Wall	64	54	65	53
81 London Wall	60	59	62	53
55 Moorgate	69	66	66	52
85 Gresham Street	53	54	52	46
Lothbury	45	44	45	39
Princes Street	78	74	69	49
Gracechurch Street, T K Maxx	-	68	64	46
Gracechurch Street Leadenhall	-	66	62	51
Fish Street Hill	-	66	61	43
Harrow Place	-	43	39	48



Diffusion tube sites measuring the impact of the Low Emission Neighbourhood

Site	Annual Mean ($\mu\text{g}/\text{m}^3$)		
	2017	2018	2019
Giltspur Street	53	43	38
Beech Street- Near barbican station	69	62	50
Aldersgate	62	57	47
Corner of Whitecross Street and Beech street	46	42	40
Silk Street	41	41	36
Fore Street	41	38	34
London Wall/ Brewers Hall Gardens	48	49	42
Aldermanbury	38	37	31
Fann Street	-	41	36
Moor Lane	-	39	30

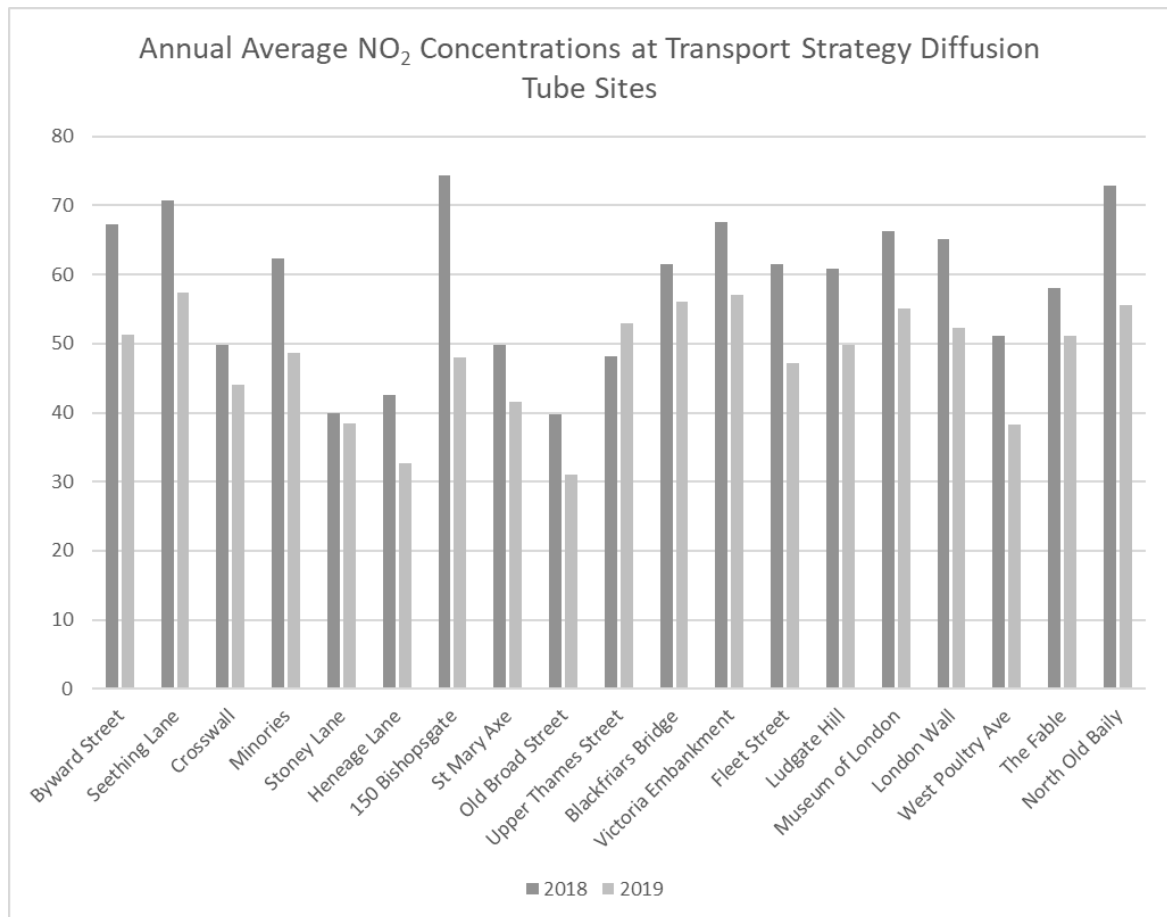


Diffusion tube sites - other

Site	Annual Mean ($\mu\text{g}/\text{m}^3$)	
	2018	2019
Sir John Cass School rear playground (co-location)	39	33
Sir John Cass School Front playground	40	37
Southwark Bridge	41	35
London Bridge	37	35
Liverpool Street	71	52
Fenchurch Avenue	36	35
Fetter Lane	56	44
St Mary at Hill's Churchyard	33	31
St Pauls	41	39
Whittington Gardens	42	37
Goodmans Yard	-	44

Diffusion tube sites to support the Transport Strategy

Site	Annual Mean ($\mu\text{g}/\text{m}^3$)	
	2018	2019
Byward Street	67	51
Seething Lane	71	57
Crosswall	50	44
Minories	62	49
Stoney Lane	40	39
Heneage Lane	42	33
150 Bishopsgate	74	48
St Mary Axe	50	42
Old Broad Street	40	31
Upper Thames Street	48	53
Blackfriars Bridge	62	56
Victoria Embankment	68	57
Fleet Street	62	47
Ludgate Hill	61	50
Museum of London	66	55
London Wall	65	52
West Poultry Ave	51	38
The Fable	58	51
North Old Baily	73	56



Diffusion tube sites to support the Beech Street Zero Emissions Street Project

Site	Annual Mean (µg/m ³)
	2019
Aldersgate Street	47
Bunhill Row/Chiswell Street	40
Moore Lane/Ropemaker Street	34
Moorgate	52
London Wall/ Moorgate	52
London Wall	49
Wood Street	29

Diffusion tube sites to support the St Pauls Gyrary Project

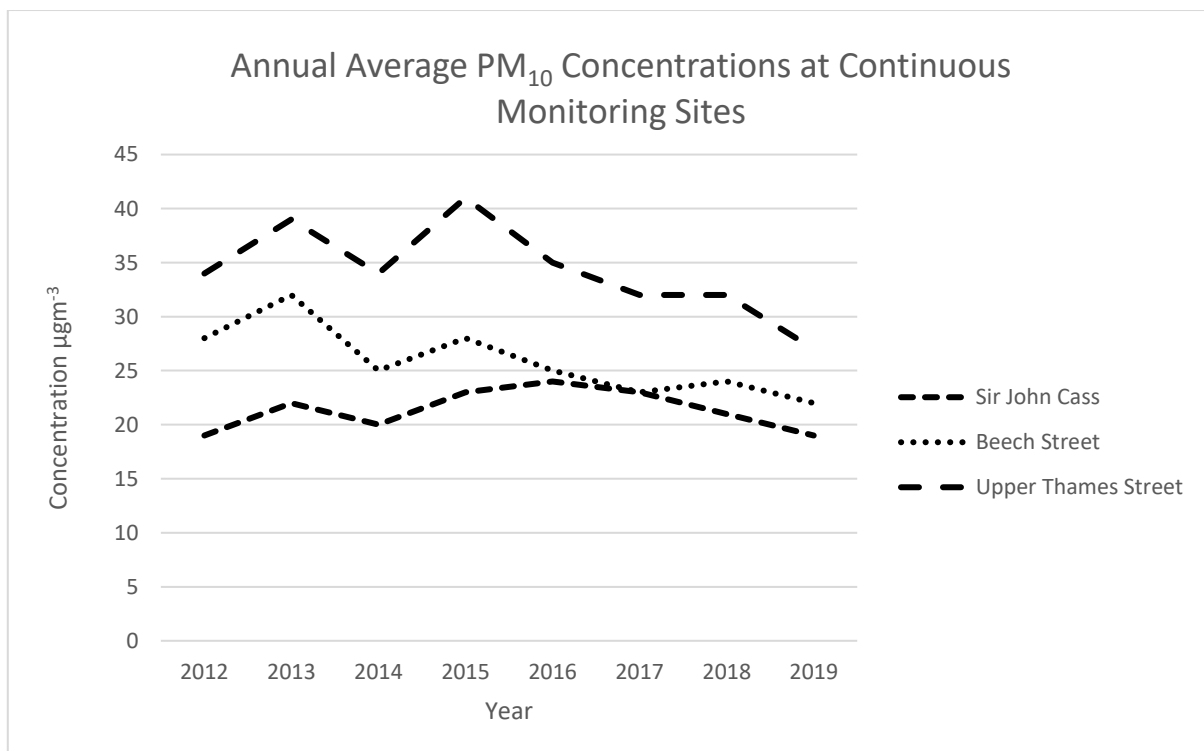
Site	Annual Mean (µg/m ³)
	2019
Montague Street	49
King Edward St/Angel St	48
Angel St	45

Angel Street/St Martins le Grand	44
Cheapside (underground entrance)	42
Cheapside/Foster Lane	45
New Change	50
Cheapside	48
Newgate/Warwick Lane	51
Newside, Warwick Lane	55
King Edward Street/Newgate	59

3. PM₁₀ Data

The annual average EU limit value is 40µg/m³, World Health Organisation Guideline is 20µg/m³

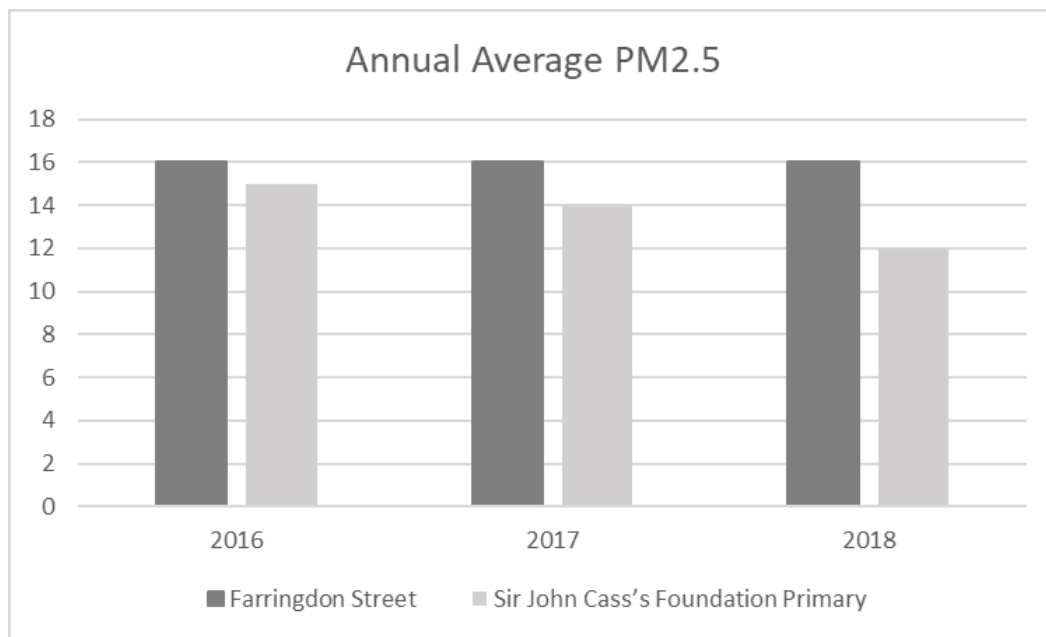
Site	Annual Mean (µg/m ³)						
	2013	2014	2015	2016	2017	2018	2019
John Cass's Foundation Primary School	22	20	23	24	23	21	19
Beech St	32	25	28	25	23	24	22
Upper Thames St	39	34	41	35	32	32	27



4. PM_{2.5} Data

The annual average EU limit value is 25µg/m³, World Health Organisation Guideline is 10µg/m³

Site	Annual Mean (µg/m ³)			
	2016	2017	2018	2019
Farringdon Street	16	16	16	14
Sir John Cass's Foundation Primary	15	14	12	12



5. Monitoring locations

Air quality monitoring locations are reviewed annually. There are a number of core monitoring sites that are maintained. Other sites are added and removed according to the needs of research projects, planned programmes and local investigations or concerns. Locations where monitoring took place during 2019 are shown in Figure 1 overleaf.

Figure 1: Air quality monitoring locations, 2019

