

Air Quality Monitoring Networks in Hammersmith & Fulham

There are currently two types of air quality monitoring networks across the borough of Hammersmith & Fulham. The data from H & F Air Quality Monitoring Stations and H&F Breathe London Air Quality Sensors are included in the council's Annual Air Quality Status Report that are submitted to GLA and DEFRA (See <https://www.lbhf.gov.uk/environment/pollution-and-air-quality/air-quality#reports>)

1. Air Quality Monitoring Stations (AQMS)

There are currently six automatic Air Quality Monitoring Stations (AQMS) in the borough of Hammersmith & Fulham that provide real-time 24 hours a day air quality monitoring data. They are

- Shepherds Bush Town Centre (HF4) -Roadside
- Hammersmith Town Centre (HF5) - Roadside
- Fulham Town Centre (HF6) - Roadside
- Riverwalk (Frank Banfield Park) (HF7) - Urban Background
- Wormwood Scrubs (Du Cane Road) (HF8) - Roadside
- Sands End (Philpot Square) (HF9) - Roadside

Further information can be found on the [Air Quality England website](#)

Roadside Sites (within 1 – 5m of a busy Road) give a better idea of public exposure. Roadside sites are useful for identifying potential health hazards from traffic hotspots - especially those frequented by large numbers of pedestrians.

Background sites (more than 10m away from a main road) should not be dominated by one single nearby pollution source. They are located more than 10m away from a main road and 5 m away from anywhere vehicles stop with their engines idling. Quiet roads within residential areas, schools and other public buildings can be used as background sites if open space such as parks are not available.

The AQMS contains reference compliant equipment that continuously monitors and measures the Air Pollutants Nitrogen Dioxide (NO₂), Particulates (PM_{2.5}, PM₁₀) and Ozone (O₃) in a typical roadside cabinet (See Figure 1). The term 'reference' is applied to instruments which have demonstrated compliance with Defra's minimum performance requirements and data quality objectives.

The AQMS contains reference compliant equipment that continuously monitors and measures the Air Pollutants Nitrogen Dioxide (NO₂), Particulates (PM_{2.5}, PM₁₀) and Ozone (O₃) in a typical roadside cabinet (See below). The term 'reference' is applied to instruments which have demonstrated compliance with Defra's minimum performance requirements and data quality objectives.

For gaseous analysers and particulate analysers, reference instruments must achieve a measurement uncertainty of $\pm 10\%$ at the relevant limit value.

Figure 1: Typical Air Quality Monitoring Station



2. Air Quality Sensor Networks

For the last few decades, most air quality monitoring around the world has been undertaken by central or local governments using reference-grade instruments. These reference networks have served as the foundation stone for research, policy development, health impact analysis and continue to play a vital role in our understanding of air quality.

Though this new generation of small automatic Air Quality sensors are improving and provide 24 hour data collection none of them have yet achieved 'reference equivalent' status. Instead, these sensors are assessed against a standard known as 'indicative'.

These indicative Air Quality Sensors have to meet the minimum EU Air Quality Directive for indicative (Class 1) methods for the monitoring of nitrogen dioxide (NO₂) and particulate matter (PM_{2.5}) which is:

Nitrogen Dioxide (NO₂) $\pm 25\%$
Particulates (PM_{2.5}) $\pm 50\%$

Hammersmith & Fulham Council have installed a Breathe London Air Quality Sensor network across the borough.

Breathe London Air Quality Sensors

The Breathe London network was run by the Environmental Research Group at Imperial College London - the same group who run the [London Air Quality Network](#). All Breathe London Air Quality Sensors are co-located with reference grade air quality monitors before being deployed.

A total of 60 breathe London Air Quality sensors have been installed across the borough during 2021-2025. These Air Quality Sensors are powered by solar panels and have been installed on lampposts at a height of between 2.5 - 3 metres.

As part of the Clean Air Neighbourhood Programme 48 of these Air Quality Sensors have been installed near the student entrances of Primary, Nursery and Secondary Schools across Hammersmith & Fulham. These locations were selected to monitor the impact of the Clean Air Neighbourhood Programme on the concentrations of the health impacting air pollutants NO₂ and PM_{2.5} near to Schools. (See Table 1 and map below)



Breathe London Air Quality Sensor installed at Langford Primary School

There is also a Breathe London Air Quality sensor installed near Charing Cross Hospital as part of the Breathe London Community Programme.

The most recent network accuracy report for the Breathe London Air Quality Sensors during the period April-June 2024 indicated the data uncertainty of 19% for NO₂ and 10% data uncertainty for PM_{2.5}.

The data from these Breathe London Air Quality Sensors is freely available to the public on the [Breathe London website](#).

Table 1: Location of Breathe London Air Quality Sensors in Hammersmith & Fulham

Site ID	Location	Installation Year
HF_BL-AQS_001	Bayonne Nursery School & Children's Centre	2022
HF_BL-AQS_002	James Lee Nursery School	2022
HF_BL-AQS_003	Vanessa Nursery School	2022
HF_BL-AQS_004	Addison Primary School	2022
HF_BL-AQS_005	All Saints C of E Primary School	2022
HF_BL-AQS_006	Ark Bentworth Primary Academy	2022
HF_BL-AQS_007	Ark Conway Primary Academy	2022
HF_BL-AQS_008	Ark White City Primary Academy	2022
HF_BL-AQS_009	Avonmore Primary School	2022
HF_BL-AQS_010	Brackenbury Primary School	2022
HF_BL-AQS_011	Earls Court Primary School	2022
HF_BL-AQS_012	Flora Gardens Primary School	2022
HF_BL-AQS_013	Fulham Primary School	2022
HF_BL-AQS_014	Good Shepherd RC Primary School	2022
HF_BL-AQS_015	Greenside Primary School	2022
HF_BL-AQS_016	Holy Cross Roman Catholic School	2023
HF_BL-AQS_017	Jack Tizard School	2022
HF_BL-AQS_018	John Betts Primary School	2022
HF_BL-AQS_019	Kenmont Primary School	2022
HF_BL-AQS_020	Langford Primary School	2022
HF_BL-AQS_021	Larmerier and Sacred Heart Catholic Primary School	2022
HF_BL-AQS_022	Miles Coverdale Primary School	2022
HF_BL-AQS_023	Normand Croft Community School	2022
HF_BL-AQS_024	Old Oak Primary School	2022
HF_BL-AQS_025	Queen's Manor School	2022
HF_BL-AQS_026	Sir John Lillie Primary School, (Lillie Road)	2022
HF_BL-AQS_027	St Augustine's Catholic Primary School	2022
HF_BL-AQS_028	St John XXIII Catholic Primary School	2022
HF_BL-AQS_029	St John's Walham Green C of E Primary School	2022
HF_BL-AQS_030	St Mary's Catholic Primary School	2022
HF_BL-AQS_031	St Pauls Cofe Primary School	2022
HF_BL-AQS_032	St Peter's Primary School	2022
HF_BL-AQS_033	St Stephen's Primary School	2022
HF_BL-AQS_034	St Thomas of Canterbury Catholic Primary School	2022
HF_BL-AQS_035	Sullivan Primary School	2022
HF_BL-AQS_036	Thomas's Academy	2021
HF_BL-AQS_037	Wendell Park Primary School	2023
HF_BL-AQS_038	Wormholt Park Primary School	2023
HF_BL-AQS_039	Ark Burlington Danes Academy	2025

Site ID	Location	Installation Date
HF_BL-AQS_040	The Fulham Boys School	2023
HF_BL-AQS_041	Fulham Cross Girls School	2023
HF_BL-AQS_042	Hammersmith Academy	2023
HF_BL-AQS_043	Hurlingham Academy	2023
HF_BL-AQS_044	Lady Margaret School	2023
HF_BL-AQS_045	Phoenix Academy	2023
HF_BL-AQS_046	Queensmill School	2023
HF_BL-AQS_047	West London Free School	2023
HF_BL-AQS_048	Woodlane High School	2023
HF_BL-AQS_049	Beaumont Avenue	2025
HF_BL-AQS_050	King Street (A315)	2022
HF_BL-AQS_051	Edward Woods Estate	2025
HF_BL-AQS_052	North End Road (B317)	2025
HF_BL-AQS_053	Wandsworth Bridge Road (A217)	2025
HF_BL-AQS_054	Putney Bridge Approach (A219)	2025
HF_BL-AQS_055	Fulham Palace Road (A219)	2025
HF_BL-AQS_056	Shepherds Bush Road (A219)	2025
HF_BL-AQS_057	Goldhawk Road (A402)	2025
HF_BL-AQS_058	Askew Road (B408)	2025
HF_BL-AQS_059	Old Oak Common Lane	2025
HF_BL-AQS_060	Harrow Road (A404)	2025

