



SOUTHWARK AIR QUALITY ACTION PLAN

2023 – 2027

DRAFT

If you have any comments on this AQAP please send them to Southwark Environmental Protection at:

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SUMMARY

This Air Quality Action Plan (AQAP) has been produced as part of our duty under London Local Air Quality Management. It outlines the action we will take to improve air quality in Southwark between 2023 and 2027.

This action plan replaces the previous action plan which ran from 2017 to 2022. Successful projects delivered through the last action plan include:

- Expansion of Southwark's Air Quality Monitoring Network.
- Reduced the council's pension investment in fossil fuels.
- Production of Air Quality Planning Technical guidance document.
- Improved cycling and walking provisions in the Borough.
- Introduction of Low Transport Neighbourhoods in the Borough.
- Introduction of electric pool vehicles.
- Production of an Air Quality Joint Strategy Needs Assessment.
- The Southwark fleet procurement policy worked on the following hierarchy: - is the vehicle necessary, if so, the vehicle should be electrically powered. If an electric option is not available, the vehicle should be petrol fuelled. Diesel is only permitted when it is the only viable option.
- 2 Primary Schools and 3 nurseries in the Borough received a Mayor's Air Quality audit.
- Produced Air Quality / Health Information Sheets
- Completed or taking part in the following Mayor's Air Quality Fund projects, details can be found on [Southwark's website](#).
 - Cleaner Air for Schools Projects Phase 1 and 2
 - Anti – idling project at Tower Bridge
 - Anti – idling project: 'Idling Action London' in conjunction London Borough of Camden / City of London
 - Air quality issues awareness raising
 - Construction site dust suppressant trial
 - Trial of Nitrogen Dioxide reducing reactive surface coatings on new developments.
 - Regulation of construction site Non-Road Mobile Machinery in conjunction with London Borough of Merton
- Emission based vehicle parking charges for on street parking and permits.
- Worked with TfL to reduce emissions from Rotherhithe Tunnel.
- GLA Air Quality Focus Area air quality projects.

Air pollution causes adverse health impacts, and contributes to the onset of respiratory, heart disease and cancer. Air pollution particularly affects the most vulnerable in society: children and older people,

and those with heart and lung conditions. Air quality is an equalities issue, because areas with poor air quality are often also the less affluent areas.^{1 2}

[Southwark's Air Quality Joint Strategy Needs Assessment](#) (JSNA) on page 28 and 29 shows the GLA Air Quality Focus Areas in relationship to the number of children (0 – 15 years), number of older people aged 65+ and the percentage of deprived communities and ethnic minority. Higher percentages of deprived communities and ethnic minority are in, or adjacent to, air quality focus areas.

The annual health costs to society of the impacts of air pollution in the UK is estimated to be roughly £15 billion³. Southwark is committed to reducing the exposure to poor air quality of its residents and visitors, to improve health.

We have developed actions under seven broad topics:

- **Monitoring and other core statutory duties:** Southwark has expanded its continuous monitoring network to six sites. This improves information about changes in air quality over time. The new equipment allows the Council to monitor more of the pollutants in the air. The Council has made the information publicly available.
- **Emissions from developments and buildings:** emissions from buildings account for about 21% of the NO_x emissions across London, so are an important source of NO₂. Southwark seeks to reduce emissions from fuel combustion. This aim aligns with the Southwark Carbon strategy.
- **Public health and awareness raising:** Increasing awareness can drive behavioural change that lowers emissions, and informs the public how to reduce their exposure to air pollution;
- **Delivery servicing and freight:** Goods and service vehicles are usually diesel powered and have high NO₂ emissions. Low emission logistics requires alternatively fuelled vehicles to combat air pollution from this source;
- **Borough fleet actions:** Southwark's fleet includes light and heavy duty diesel-fuelled vehicles such as mini buses and refuse collection vehicles with high primary NO₂ emissions. Southwark can review its own fleet procurement to lead by example;
- **Localised solutions:** Supporting neighbourhoods to introduce information or undertake actions to improve air quality;
- **Cleaner transport:** Motor vehicles are the largest source of air pollution in London. There is a need to incentivise a modal shift to walking, cycling and ultra-low emission vehicles (such as electric).

¹ Environmental equity, air quality, socioeconomic status and respiratory health, 2010.

² Air quality and social deprivation in the UK: an environmental inequalities analysis, 2006.

³ Defra. Air Pollution: Action in a Changing Climate, March 2010

Southwark's themes & priorities

- 1 **Monitoring and other core statutory duties:** evaluating air quality monitoring throughout Southwark to enhance compliance with our core statutory objectives;
- 2 **Emissions from development and buildings:** emissions from construction alone accounts for approximately 40% of the PM₁₀ emissions across Southwark, and therefore work in this area is important in reducing particulate concentrations. This will focus on air quality mitigation through the planning system and aligns with the Council's sustainability objectives;
- 3 **Public health and awareness raising:** increasing awareness can drive behavioural change to lower emissions as well as reducing exposure to air pollution. For example, increasing awareness of the impact of solid fuel burning can help shift attitudes and facilitate overall behaviour change;
- 4 **Delivery servicing and freight:** re-evaluating delivery servicing and freight vehicles, as these are usually heavy-duty diesel-fuelled vehicles with high primary NO₂ emissions;
- 5 **Borough fleet:** Southwark's fleet includes a mixture of light and specialist heavy-duty vehicles, we will continue to lead by example by making improvements in our own fleet;
- 6 **Localised solutions:** these seek to improve the environment of neighbourhoods through a combination of measures such as Streetspace Measures, traffic filtering, parking schemes, biodiversity and climate change projects;
- 7 **Cleaner transport:** road transport is the main source of air pollution in London and Southwark. We will continue to reduce vehicle mileage by incentivising and facilitating changes to walking, cycling, public transport and ultra-low emission vehicles (such as electric);
- 8 **Schools and communities:** implementing initiatives that target susceptible groups to ensure those most at risk are not disproportionately affected by the impacts of poor air quality, and implement recommendations of Southwark's School Air Quality Audits;
- 9 **Lobbying:** Southwark will continue to lobby and influence regional and national organisations and stakeholders on policies and issues beyond Southwark's influence to introduce progressive measures aimed at improving air quality.

Our 10 key priorities are:-

1. Adopt the 2005 WHO guidelines for PM_{2.5} with a target of compliance by 2030, and review the emerging policies from the GLA in respect of the 2021 WHO guidelines.
2. Enforce Non-Road Mobile Machinery (NRMM) air quality policies in Southwark.
3. Minimise emissions from construction by developing Southwark's own Air Quality Supplementary Planning Document (SPD) and code of construction practice which goes above and beyond the GLA Supplementary Planning Guidance (SPG).
4. Continue to raise awareness and encourage behaviour changes through air quality campaigns.
5. Assess potential impact of installing Ultra-Low Emission Vehicle (ULEV) infrastructure (electric vehicle charging points, rapid electric vehicle charging points).
6. Provision additional electric vehicle charging infrastructure by installing a further 1000 Electric Vehicle charging points in Southwark by 2026.
7. Assess the air quality benefits of actions in the Borough's Strategies.
8. Provide new cycling and walking infrastructure and assess air quality impacts of new infrastructure.
9. Encourage people to switch to less polluting cars, with lower parking fees for zero emissions and smaller vehicles across the whole borough.
10. Lobby Central Government to control and reduce emissions that are out of Southwark's control.

This action plan sets out how we will effectively deliver against the above broad themes and key priorities, thereby improving air quality where it is within our control and through leading by example. However, these are local measures aimed at tackling air pollution, and air pollution by its very nature is transboundary.

Engagement with stakeholders and communities can make a difference to air quality in the borough. We would like to thank everyone who worked with us in the past, and we look forward to working with you again, and with new partners as we deliver this new action plan over the next five years.

This AQAP outlines how we plan to use local levers under our control to greatest effect in tackling air quality.

There are many air quality policy areas outside our influence (such as Euro standards, national vehicle taxation policy, taxis and buses), and we will continue to work with and lobby regional and central government on policies and issues beyond Southwark's direct control.

RESPONSIBILITIES AND COMMITMENT

This AQAP was prepared by the Environmental Protection Team of Southwark Council with the support and agreement of Officers from the following teams and departments:-

- Environmental Protection
- Public Health
- Planning Policy
- Sustainable Services
- Highways Policy
- Climate Change
- External Affairs
- Legal Services
- Public Realm
- Parks
- Ecology & Trees
- Development Control
- Children's Services & Educational Development
- Housing Services & Housing Energy
- Fleet Management
- Information Technology
- Communications
- Procurement

This Air Quality Action Plan has been ratified by Southwark's Cabinet, endorsed by the Cabinet Member for Transport, Parks and Sport, and approved by the Head of Public Health, and Head of Highways.

This AQAP will be subject to an annual review, appraisal of progress and reporting to the Cabinet Member for Leisure, Environment & Roads, and to the Health & Wellbeing Board. Progress each year will be reported in an Annual Status Report produced by Southwark, as part of our statutory London Local Air Quality Management duties.

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1 - INTRODUCTION

This plan outlines the actions that Southwark will deliver between 2022 and 2027 to reduce concentrations of air pollution, and exposure to air pollution; to affect positively the health and quality of life of residents and visitors to the borough.

It has been developed in recognition of the legal requirement on the local authority to work towards air quality objectives under Part IV of the Environment Act 1995 and relevant regulations made under that part and to meet the requirements of the London Local Air Quality Management statutory process⁴.

1.1 Summary of current air quality in Southwark

The 2019 UK Clean Air Strategy, provides the overarching strategic framework for air quality management in the UK and contains national air quality standards and objectives established by the Government to protect human health. The Strategy objectives take into account limit values set under EU Directives. Member states are legally required to achieve by their target dates, and on leaving the EU, the UK has incorporated this requirement into national law.

Reviewing Southwark's monitoring data over the last few years show that Southwark is meeting all of the national objectives other than for Nitrogen Dioxide (NO₂). The monitoring data in 2020 has been influenced by the reduced in traffic flows in response to the COVID-19 lockdowns. The 2016 London Atmospheric Emission Inventory concentration maps show that there are areas in Southwark that exceed the legal objectives.

For PM_{2.5} the legal objective is far higher than the World Health Organisation (WHO) recommended guideline limit. For this reason, the Mayor's London Environment Strategy commits to meeting the 2005 WHO health-based guideline limits across London by 2030. Current air quality data indicates that Southwark is exceeding World Health Organisation guideline PM_{2.5} limits. Developing measures to reduce PM_{2.5} will be important to help the Mayor achieve this 2030 target.

Particular Matter (PM) is the term for a mixture of solid particles and liquid droplets found in the air. Some particles, such as dust, dirt, soot, or smoke, are large or dark enough to be seen with the naked eye. Others are so small they can only be detected using an electron microscope.

Particle pollution includes:

- **PM₁₀** : inhalable particles, with diameters 10 micrometres and smaller; and
- **PM_{2.5}** : fine inhalable particles, with diameters 2.5 micrometres and smaller. By comparison, the diameter of a single hair is about 70 micrometres – making it about 30 times larger than the largest fine particle.

⁴ LLAQM Policy and Technical Guidance. <https://www.london.gov.uk/what-we-do/environment/pollution-and-air-quality/working-boroughs>

London Borough of Southwark Annual Mean NO₂ concentrations 2019

LAEI 2019

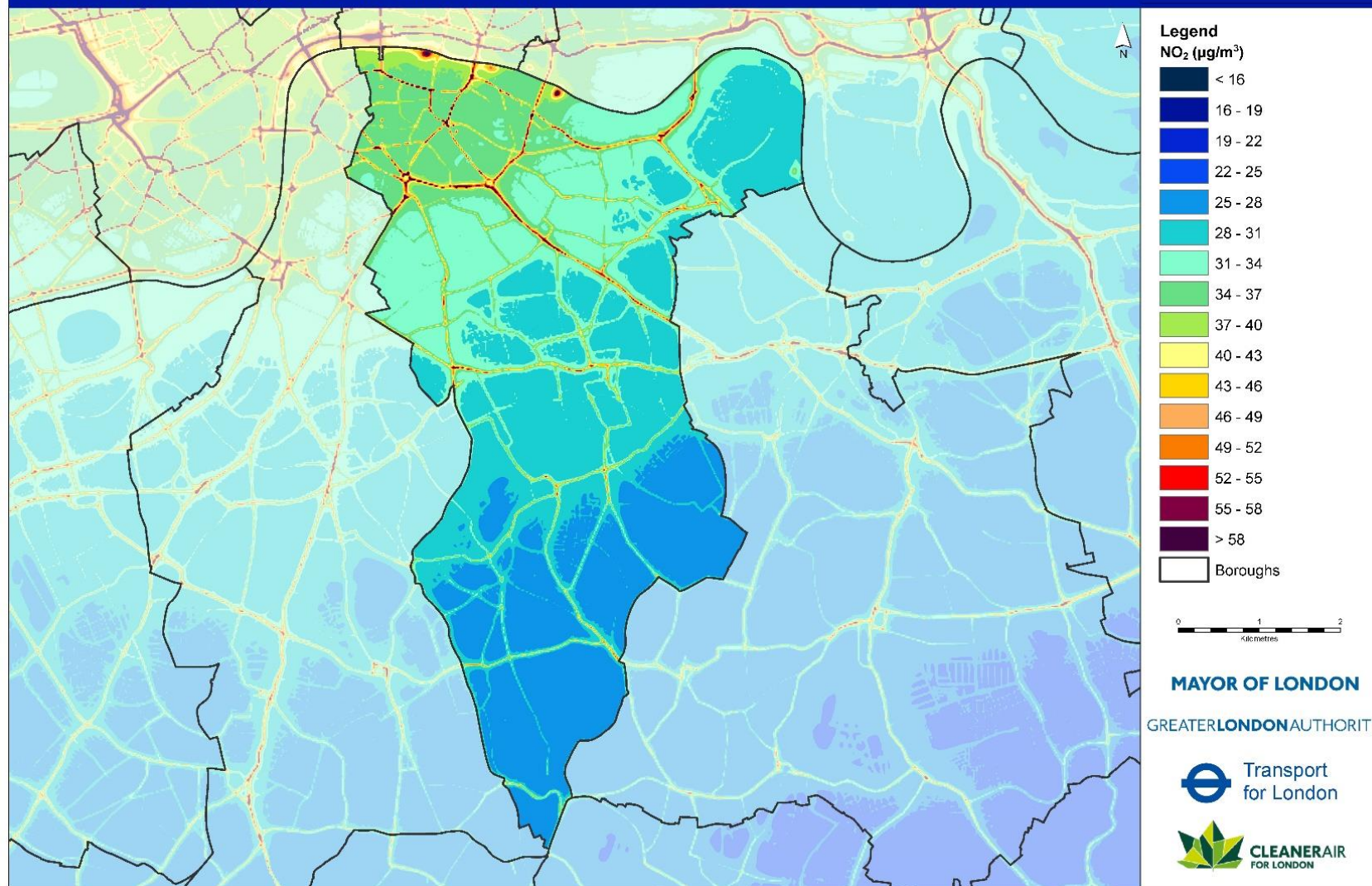


Figure 1 Modelled map of annual mean NO₂ concentrations (from the LAEI 2019)

London Borough of Southwark Annual Mean PM₁₀ concentrations 2019

LAEI 2019

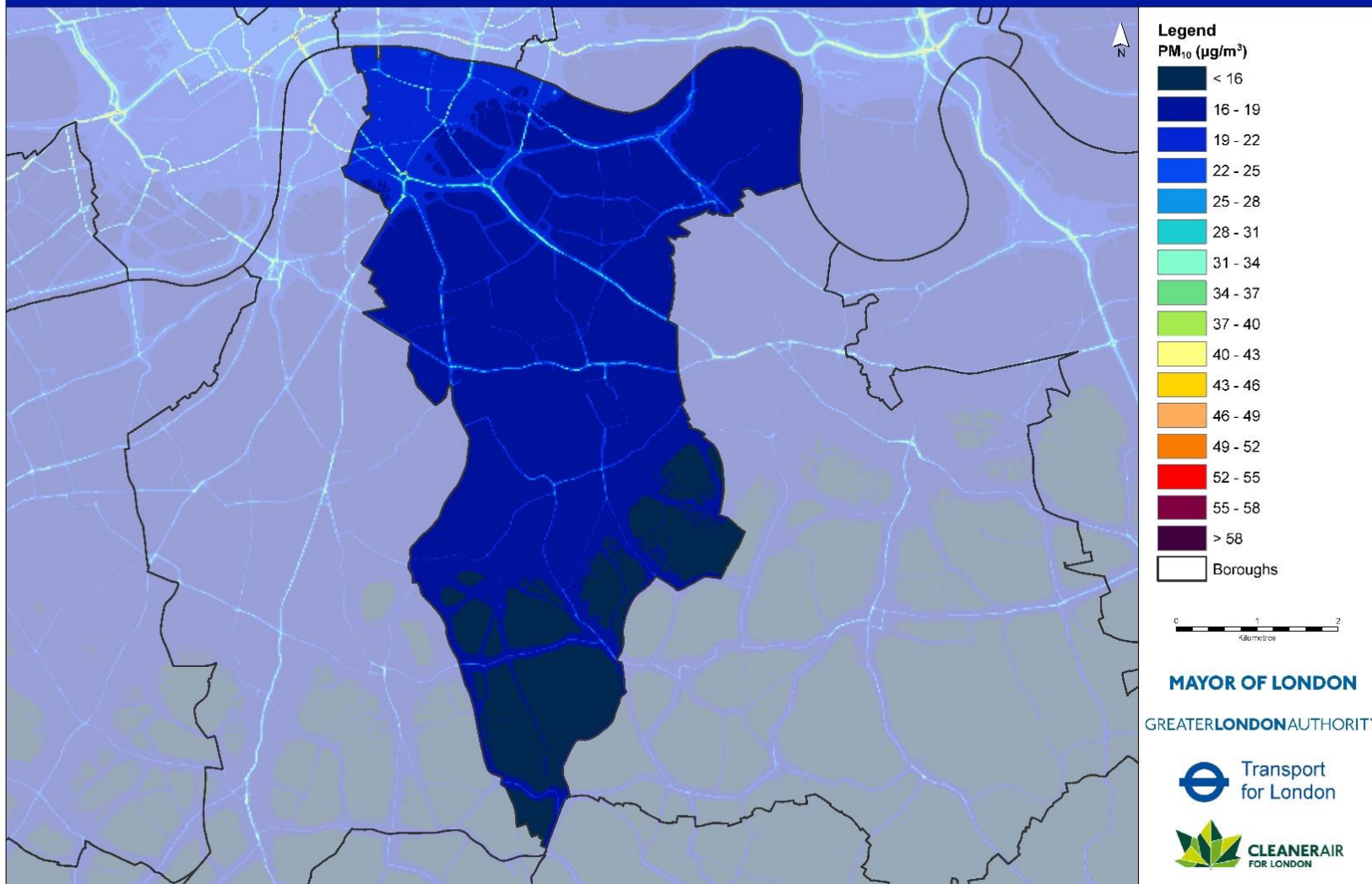


Figure 2 Modelled map of annual mean PM₁₀ (from the LAEI 2019)

London Borough of Southwark
Annual Mean PM_{2.5} concentrations 2019

LAEI 2019

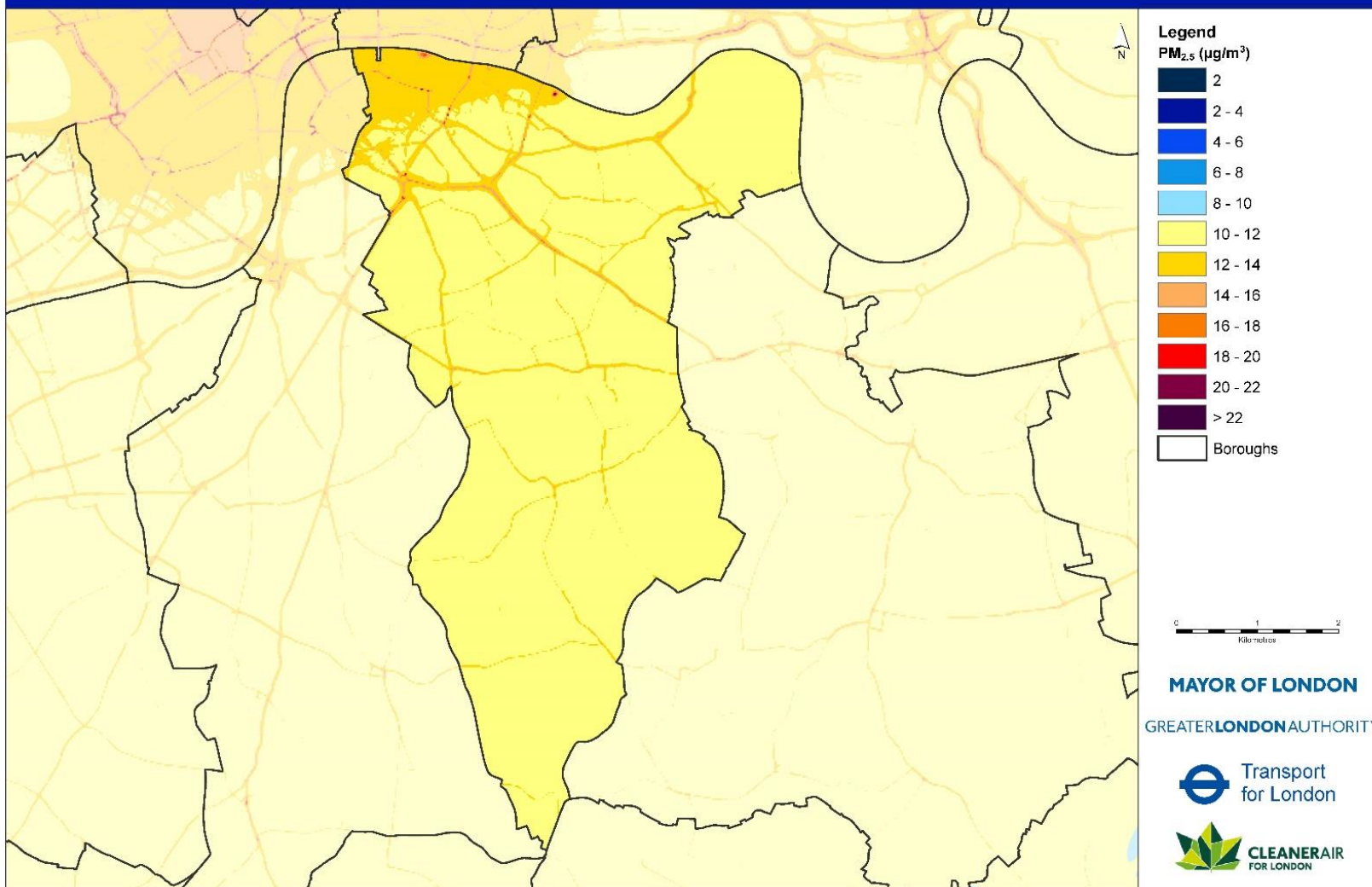


Figure 3 Modelled map of annual mean PM_{2.5} (from the LAEI 2019)

The GLA have released an updated London Atmospheric Emission Inventory in December 2021 (LAEI 2021).

Figure 1 to Figure 3 above show the concentrations of Nitrogen Dioxide and Particulate Matter (PM₁₀ & PM_{2.5}) for Southwark. These maps are based on the data from the London Atmospheric Emission Inventory for 2019 published in 2022.

In 2016, the Greater London Authority (GLA) calculated that 62% of Southwark's population was living in areas that exceed the Nitrogen Dioxide annual mean concentration objective of 40µg.m⁻³, this has reduced to 2.4% for the 2019 projections. The Population Weighted Average Concentration for PM_{2.5} in 2016 was 14.0µg.m⁻³, in 2019, the Population Weighted Average Concentration for PM_{2.5} was calculated at 11.4µg.m⁻³.

In 2016 the highest concentrations in Southwark for PM₁₀, PM_{2.5} and NO₂ were along main roads which are mostly TfL roads, and in the north-west (central London) of Southwark, where the road network is most dense.

World Health Organisation (WHO) recommends maximum levels that are lower than UK legal levels. The PM_{2.5} WHO Air Quality Guideline 2021 air quality guideline (AQG) level has been reduced from 10µg.m⁻³ to 5µg.m⁻³.

The concentrations for PM₁₀, PM_{2.5} and NO₂ identified in the London Atmospheric Emission Inventory 2019 London wide maps exceed the revised WHO annual mean air quality guidelines throughout the Borough. Southwark Council will explore what additional measures can help meet the revised air quality guidelines for the interim targets. The stricter WHO Air Quality guideline values may not be achievable.

1.2 Air Quality Management Areas

An Air Quality Management Area (AQMA) was declared in Southwark in 2003.

The AQMA was declared for:-

Nitrogen Dioxide. Southwark was failing at the time of the declaration of the Air quality management area to meet EU annual average limit for this pollutant at some of our monitoring stations, and modelling indicates failure also at a number of other locations, and

Particulate Matter (PM₁₀). Although we are meeting EU Limits we exceed the WHO air quality guideline for this pollutant, and we have a formal responsibility to work towards reductions of PM_{2.5}, which is a fraction of PM₁₀.

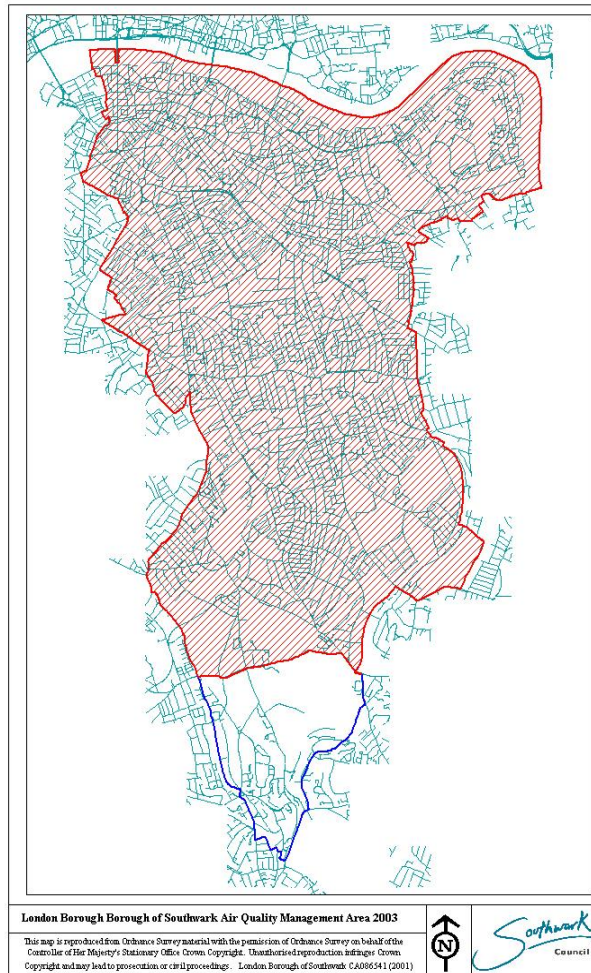


Figure 4 Map of Southwark's AQMA Boundary

1.3 Focus Areas

Air Quality Focus Areas (AQFA) are areas where high levels of pollution are combined with high levels of human exposure. There are seven AQFA in the borough. Revised AQFAs are due to be released by the GLA in autumn 2022. The only change in Southwark is expected to be a reduction in the size of area 152 at Elephant and Castle.

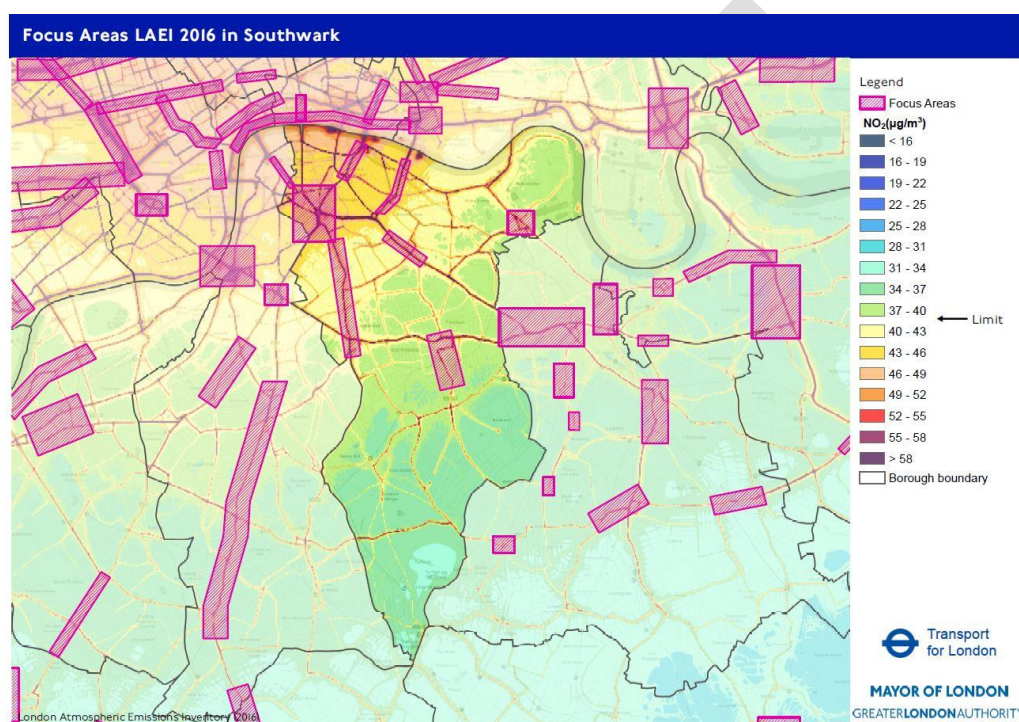


Figure 5 Air Quality Focus Areas in Southwark

These are listed in Table 1 below

GLA Focus Area ID	Name of Focus Area Description
151	A2 Old Kent Road from East Street to Trafalgar Avenue
152	Elephant and Castle to St George's Circus and Kennington Lane
153	London Bridge at Borough High Street
154	Lower Road / A200 Surrey Quays / Rotherhithe Old Road / Rotherhithe New Road
155	Peckham Town Centre
156	Tower Bridge Road A100
157	Walworth Road/Camberwell Road/Camberwell Green

Table A GLA Air Quality Focus Areas in Southwark

1.3.1 Old Kent Road

The Old Kent Road is an Opportunity Area, and will be redeveloped over the next decade, including a proposal to extend the Bakerloo Line to Lewisham from the Elephant and Castle under the Old Kent Road. As part of the planning area action plan work, Southwark has commissioned CERC to produce an air quality model for the opportunity area, to ensure that air quality improvements are incorporated in the various redevelopment projects. Southwark is taking part in the [CRP Clean Air Villages 4 project](#) - Freight Solutions for a Clean Air business recovery from COVID-19 in the Old Kent Road area.

1.3.2 Elephant & Castle

In Elephant & Castle AQFA a London Mayor's Air Quality Fund project included a dust suppressant trial on a construction site, to reduce the dust burden to neighbouring residential areas. A separate trial in this AQFA tested Nitrogen Dioxide reducing reactive surface coatings on new developments. The reports from these two trials can be found [here](#)

Transport for London have also remodelled the north and south roundabouts in this area to assist the movement of vehicles and bicycles throughout the junction.

<https://www.southwark.gov.uk/environment/air-quality/what-we-re-doing/air-quality-projects>

1.3.3 London Bridge / Borough High Street

A Business Low Emission Neighbourhood initiated by the GLA was set up in 2018 in this AQFA, as a partnership between Better Bankside Business Improvement District and Team London Bridge Business Improvement District. Some of the project benefits delivered by the BIDS can be found by following the links below:-

[Tooley Street Triangle](#)
[Orchard-Lisle Living Wall](#)
[Better Air Letters](#)

As a continuation of the Business Low Emission Neighbourhood, both BIDS have delivered the [Bikes for Business project](#) centred on the Low Line, which spans several Business Improvement Districts, and Walworth Road.

1.3.4 Lower Road

Past studies in the Canada Water / Lower Road area have considered removing the 1970's Lower Road / Rotherhithe New Road gyratory system. The latest project will introduce a segregated cycle lane and also a bus gate adjacent to Surrey Quays Station on Lower Road and the Lower Road and

Rotherhithe New Road to change the one-way system to two-way traffic. Southwark will continue to monitor air quality in the area.

1.3.5 Peckham

As part of the London Streetscape / COVID-19 project, to help social distancing and improve the environment for walking and cycling, Rye Lane was closed to all vehicles between Peckham Rye and Hanover Place, from July 2020. From the 4th October 2021, an experimental traffic order allows buses, taxis and cyclists to use Rye Lane, and allows timed deliveries between 07:00 hours and 10:00 hours. Southwark will continue air quality monitoring on Rye Lane.

1.3.6 Tower Bridge

Southwark carried out a Mayor's Air Quality Fund project at Tower Bridge. The project aimed to reduce the number of idling vehicles during Tower Bridge lifts, by requesting drivers to switch off their engines as they will be stationary for a period of time. The details of the project can be found [here](#).

The Tower Bridge Primary School has installed an ivy wall on the boundary wall adjacent to Tower Bridge Road. The funding for the wall was part of Southwark's Clean, Greener and Safer Grant scheme. This wall acts as a barrier to reduce the air pollution from Tower Bridge Road affecting the school playground.



Figure 6 Tower Bridge Primary School green wall on Tower Bridge Road boundary

1.3.7 Walworth Road

Southwark successfully applied for Low Emission Neighbourhood Air quality Fund Grant for the Walworth LEN, which will be completed in 2022. The Walworth LEN publicity is shown in Figure 7 below



Figure 7 Walworth Low Emission Neighbourhood publicity material

Further details about Walworth Low Emission Neighbourhood can be seen at <https://ourhealthylowemissionneighbourhood.com>

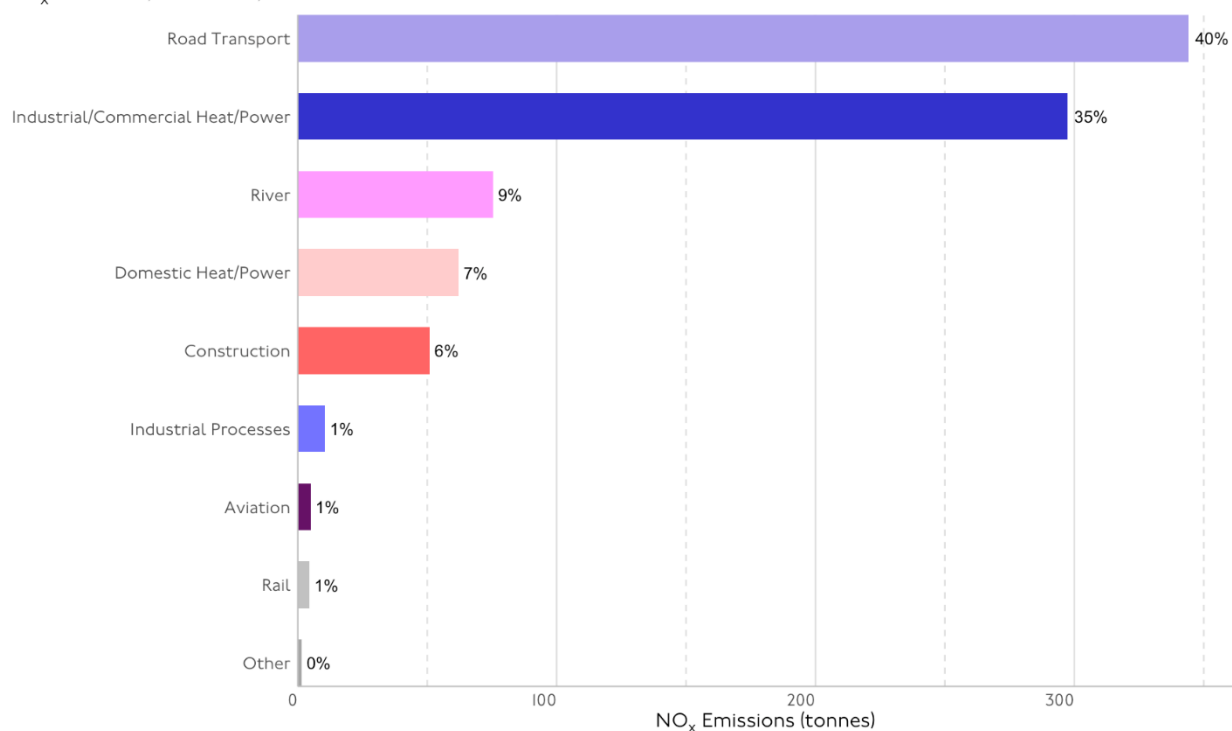
1.4 Sources of Pollution in Southwark

Pollution in Southwark comes from a variety of sources. This includes pollution from sources outside of the borough, and, in the case of particulate matter, a significant proportion of this comes from outside of London and even the UK.

Sources of Nitrogen Dioxide pollution in Southwark

The main sources of NO₂ in the borough are road transport, particularly diesel vehicles, and domestic and commercial heating. The London Mayor's Low Emission Zone and the Ultra – Low Emission Zone, will contribute to future emissions reductions from road transport due to renewal of vehicles in the transport fleet.

LAEI - Emissions by Source
NO_x Emissions, Southwark, 2019



Source: Strategic Analysis, TfL City Planning

Figure 8 NO_x Emissions by source (from the LAEI 2019)

	Southwark 2013 NO _x Emissions (tonnes per annual)	Southwark 2013 NO _x Emissions (%)	Southwark 2016 NO _x Emissions (tonnes per annual)	Southwark 2016 NO _x Emissions (%)	Southwark 2019 NO _x Emissions (tonnes per annual)	Southwark 2019 NO _x Emissions (%)
Domestic	89.89	7.04%	71.59	6.39%	63.90	7.52%
Biomass	0.00	0.00%	0.00	0.00%	0.00	0.00%
Heat and Power Generation	89.60	7.01%	71.30	6.37%	63.61	7.49%
Machinery	0.29	0.02%	0.29	0.03%	0.30	0.03%
Industrial and Commercial	361.06	28.26%	343.00	30.63%	355.06	41.80%
Heat and Power Generation	288.85	22.61%	279.70	24.97%	293.53	34.56%
Commercial Cooking	0.00	0.00%	0.00	0.00%	0.00	0.00%
Construction	63.45	4.97%	52.66	4.70%	50.98	6.00%
Gas Leakage	0.00	0.00%	0.00	0.00%	0.00	0.00%
Industrial Processes	8.73	0.68%	10.61	0.95%	10.51	1.24%
Waste	0.03	0.00%	0.03	0.00%	0.03	0.00%
Miscellaneous	1.63	0.13%	1.42	0.13%	1.19	0.14%
Accidental Fires	1.01	0.08%	0.83	0.07%	0.67	0.08%
Agriculture	0.62	0.05%	0.59	0.05%	0.52	0.06%
Forestry	0.00	0.00%	0.00	0.00%	0.00	0.00%
Resuspension						
Resuspension	0.00	0.00%	0.00	0.00%	0.00	0.00%
Transport	824.97	64.57%	703.92	62.85%	429.23	50.53%
Aviation	6.25	0.49%	6.24	0.56%	4.92	0.58%
Rail	4.55	0.36%	4.47	0.40%	4.57	0.54%
River	57.59	4.51%	75.17	6.71%	75.54	8.89%
Road Transport	756.58	59.22%	618.05	55.19%	344.19	40.52%
Grand Total	1277.56	100.00%	1119.93	100.00%	849.38	100.00%

Table B NO_x Aggregated Emissions in Southwark for 2013-2019 (LAEI 2019)

Sources of particulate (PM₁₀) pollution in Southwark

Construction work associated with the redevelopment of Southwark is the largest source of Particulate Matter (PM₁₀) emissions. Particulate Matter (PM₁₀) from road transport is the next largest source of emissions, with private cars being the largest source.

LAEI - Emissions by Source
PM₁₀ Emissions, Southwark, 2019

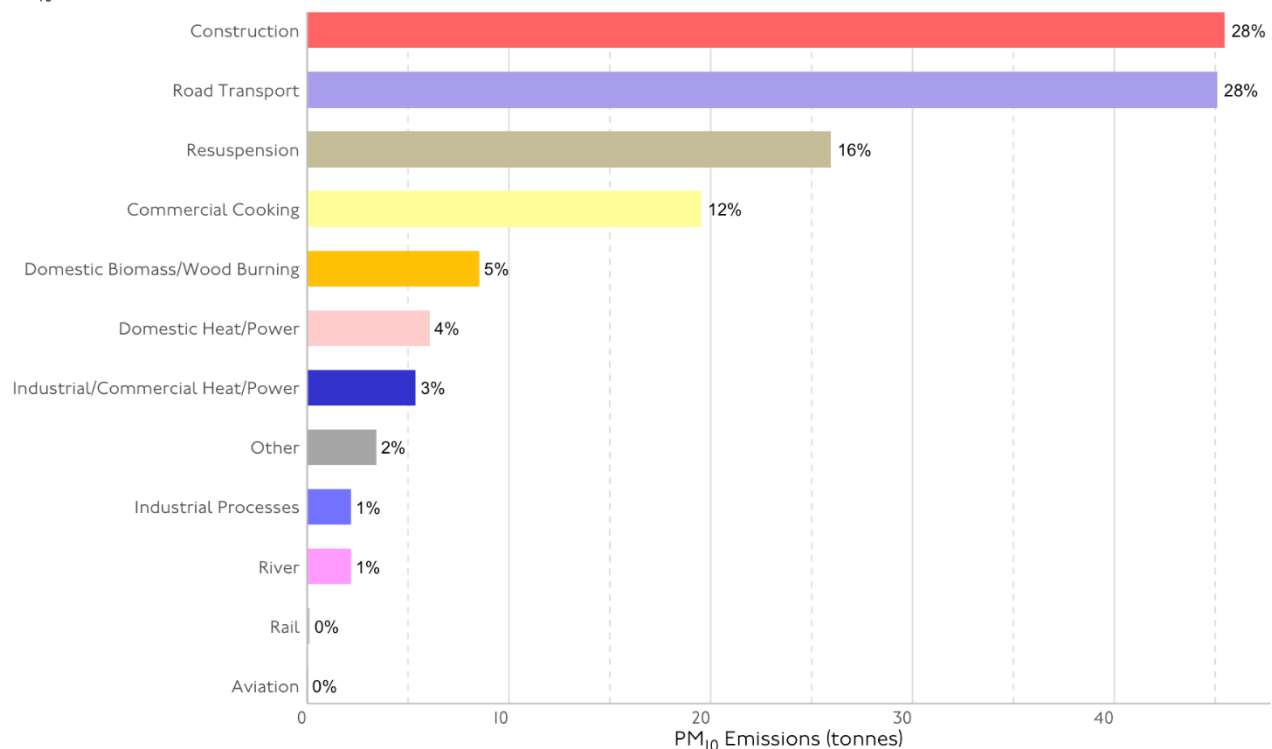


Figure 9 PM₁₀ Emissions by source and vehicle type (from the LAEI 2016)

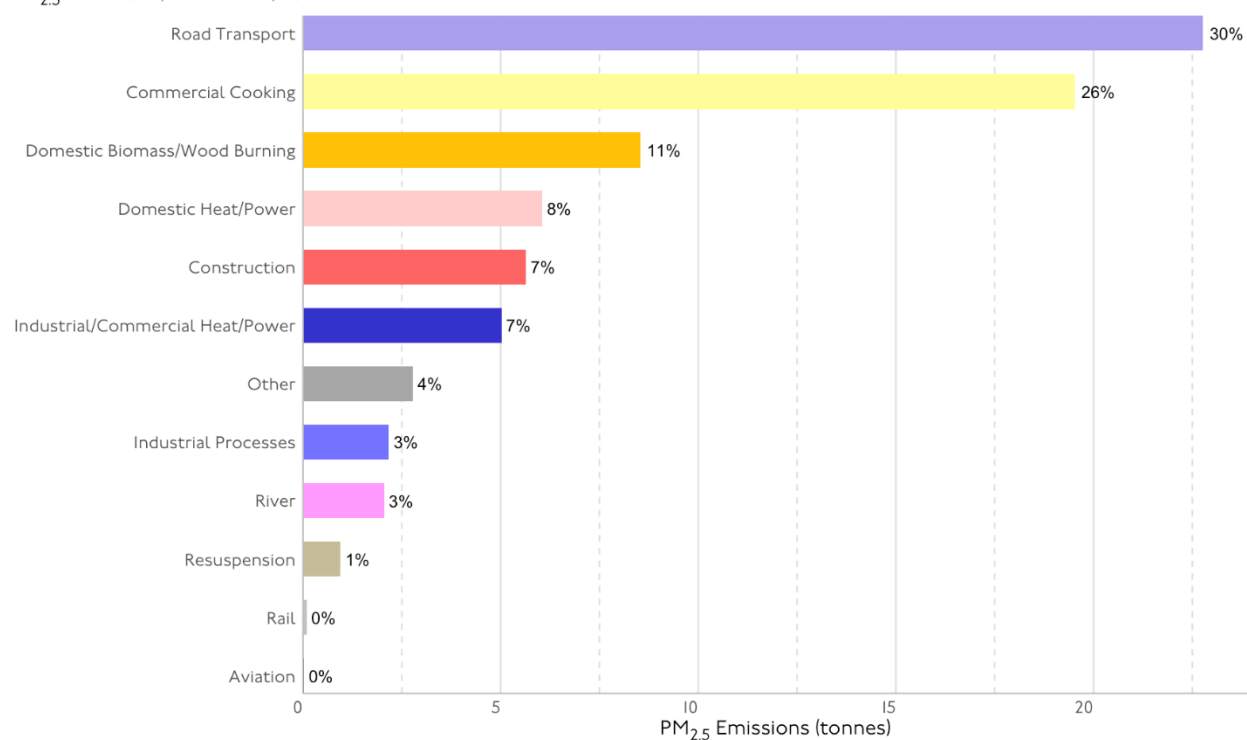
	Southwark 2013 PM ₁₀ Emissions (tonnes per annual)	Southwark 2013 PM ₁₀ Emissions (%)	Southwark 2016 PM ₁₀ Emissions (tonnes per annual)	Southwark 2016 PM ₁₀ Emissions (%)	Southwark 2019 PM ₁₀ Emissions (tonnes per annual)	Southwark 2019 PM ₁₀ Emissions (%)
Domestic	19.93	10.58%	14.46	6.99%	14.71	8.97%
Biomass	13.60	7.22%	8.53	4.12%	8.53	5.20%
Heat and Power Generation	6.32	3.36%	5.92	2.86%	6.18	3.77%
Machinery	0.01	0.00%	0.01	0.00%	0.01	0.00%
Industrial and Commercial	72.25	38.34%	101.45	49.04%	72.89	44.45%
Heat and Power Generation	5.37	2.85%	5.07	2.45%	5.33	3.25%
Commercial Cooking	18.63	9.88%	18.63	9.00%	19.52	11.90%
Construction	45.96	24.39%	75.25	36.38%	45.47	27.73%
Gas Leakage	0.00	0.00%	0.00	0.00%	0.00	0.00%
Industrial Processes	1.88	1.00%	2.10	1.01%	2.17	1.33%
Waste	0.41	0.22%	0.41	0.20%	0.41	0.25%
Miscellaneous	3.91	2.08%	3.87	1.87%	3.00	1.83%
Accidental Fires	3.58	1.90%	3.34	1.62%	2.46	1.50%
Agriculture	0.33	0.17%	0.53	0.26%	0.54	0.33%
Forestry	0.00	0.00%	0.00	0.00%	0.00	0.00%
Resuspension	29.18	14.10%	28.93	13.98%	25.94	15.82%
Resuspension	29.18	14.10%	28.93	13.98%	25.94	15.82%
Transport	63.16	33.52%	58.16	28.12%	47.43	28.92%
Aviation	0.03	0.02%	0.03	0.02%	0.02	0.01%
Rail	0.11	0.06%	0.12	0.06%	0.12	0.07%
River	2.29	1.21%	2.16	1.04%	2.16	1.32%
Road Transport	60.73	32.23%	55.85	27.00%	45.12	27.52%
Grand Total	188.44	100.00%	206.87	100.00%	163.97	100.00%

Table C PM₁₀ Aggregated Emissions in Southwark for 2013 – 2019 (LAEI 2019)

Sources of Particulate (PM_{2.5}) pollution in Southwark

The predominant sources of PM_{2.5} in Southwark is from road transport, 30% of the total emissions, with emissions from commercial cooking producing 26% of the total, heating and electricity generation producing 25% of the total emissions, and construction producing 7.5% of the total emissions. There are controls over emissions from road transport with ULEZ, and from construction sites through planning permissions. Emissions from commercial cooking and heating are controlled only through the planning process, by requiring adequate dispersion of flue gases and suitable filtration.

LAEI - Emissions by Source
PM_{2.5} Emissions, Southwark, 2019



Source: Strategic Analysis, TfL City Planning

Figure 10. PM_{2.5} Emissions by source and vehicle type (from the LAEI 2019)

	Southwark 2013 PM _{2.5} Emissions (tonnes per annual)	Southwark 2013 PM _{2.5} Emissions (%)	Southwark 2016 PM _{2.5} Emissions (tonnes per annual)	Southwark 2016 PM _{2.5} Emissions (%)	Southwark 2019 PM _{2.5} Emissions (tonnes per annual)	Southwark 2019 PM _{2.5} Emissions (%)
Domestic	19.91	21.32%	14.44	16.84%	14.69	19.42%
Biomass	13.60	14.56%	8.53	9.95%	8.53	11.27%
Heat and Power Generation	6.30	6.75%	5.91	6.89%	6.16	8.14%
Machinery	0.01	0.01%	0.01	0.01%	0.01	0.01%
Industrial and Commercial	31.97	34.24%	34.46	40.19%	32.68	43.20%
Heat and Power Generation	5.05	5.41%	4.73	5.51%	4.97	6.57%
Commercial Cooking	18.63	19.95%	18.63	21.73%	19.52	25.80%
Construction	6.05	6.48%	8.64	10.07%	5.64	7.46%
Gas Leakage	0.00	0.00%	0.00	0.00%	0.00	0.00%
Industrial Processes	1.88	2.01%	2.10	2.45%	2.17	2.87%
Waste	0.37	0.40%	0.37	0.44%	0.38	0.50%
Miscellaneous	3.43	3.68%	3.22	3.76%	2.40	3.17%
Accidental Fires	3.33	3.56%	3.10	3.62%	2.28	3.02%
Agriculture	0.10	0.11%	0.12	0.14%	0.11	0.15%
Forestry	0.00	0.00%	0.00	0.00%	0.00	0.00%
Resuspension	1.07	1.14%	1.06	1.23%	0.95	1.25%
Resuspension	1.07	1.14%	1.06	1.23%	0.95	1.25%
Transport	37.00	39.62%	32.55	37.97%	24.93	32.96%
Aviation	0.03	0.03%	0.03	0.04%	0.02	0.03%
Rail	0.08	0.09%	0.09	0.10%	0.09	0.12%
River	2.18	2.33%	2.05	2.39%	2.05	2.71%
Road Transport	34.71	37.17%	30.38	35.44%	22.77	30.09%
Grand Total	93.38	100.00%	85.73	100.00%	75.66	100.00%

Table D PM_{2.5} Aggregated Emissions in Southwark for 2013 – 2019 (LAEI 2019)

1.4 Monitoring of Air Quality in Southwark

Southwark monitors air quality with automatic continuous air quality monitors, Nitrogen dioxide diffusion tubes, and low cost air quality sensors.

The automatic continuous monitors are listed in Table E below.

Site Reference	Location of the site	Monitoring
SWK 5	Old Kent Road	Nitrogen Dioxide and Particulate Matter (PM ₁₀ & PM _{2.5})
SWK 9	Old Kent Road	Particulate Matter (PM ₁₀ & PM _{2.5})
SWK 6	Elephant & Castle	Nitrogen Dioxide, Particulate Matter (PM ₁₀ & PM _{2.5}) and Ozone
SWK 8	Tower Bridge Road	Nitrogen Dioxide and Particulate Matter (PM ₁₀ & PM _{2.5})
SWK A	Lower Road	Nitrogen Dioxide and Particulate Matter (PM ₁₀ & PM _{2.5})
SWK B	Vicarage Grove	Nitrogen Dioxide and Particulate Matter (PM ₁₀ & PM _{2.5})
SWK C	South Circular Road	Nitrogen Dioxide and Particulate Matter (PM ₁₀ & PM _{2.5})

Table E Southwark automatic continuous monitoring stations

In 2021, Southwark has 88 Nitrogen Dioxide diffusion tube monitoring locations. The location of these sites can be seen Figure 12 below.

Southwark also monitors the air quality using various low – cost sensors. These low cost sensors are not reference monitors, and they produce indicative data. They are used by highway projects to show relative variation over time in air quality data.

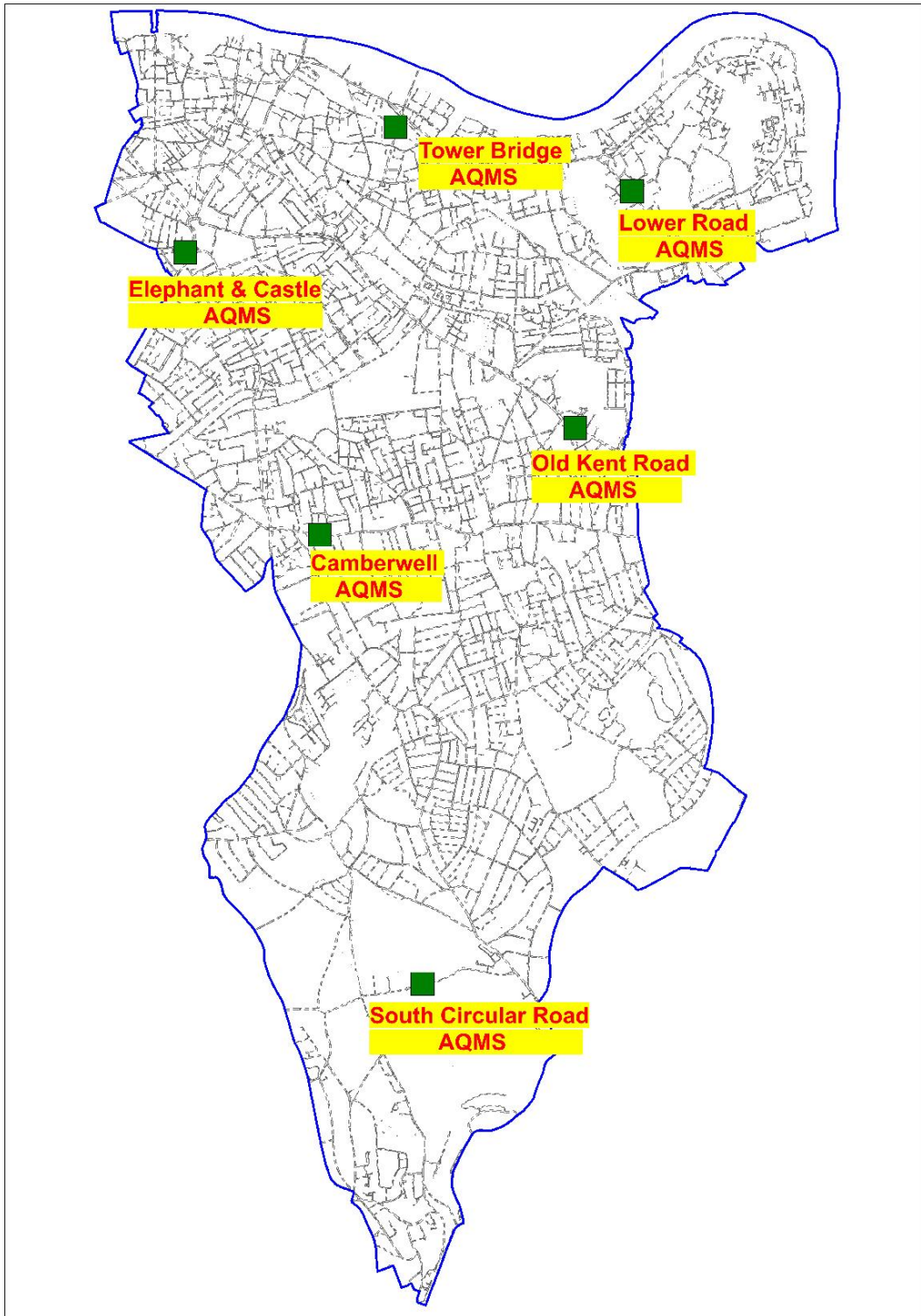


Figure 11 Map of the Southwark’s automatic continuous air quality monitoring stations

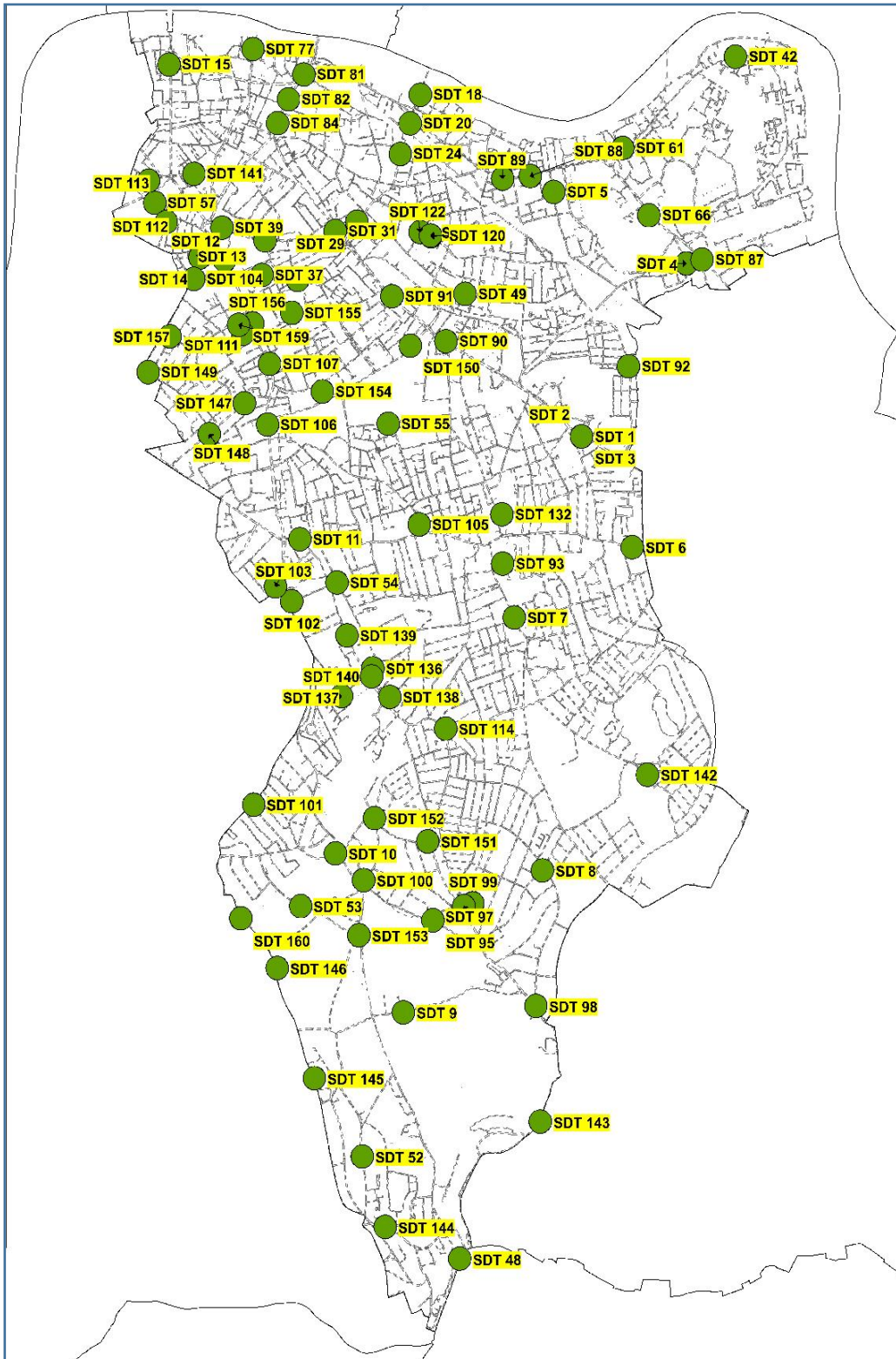


Figure 12 Southwark’s Nitrogen Dioxide diffusion tube survey 2021

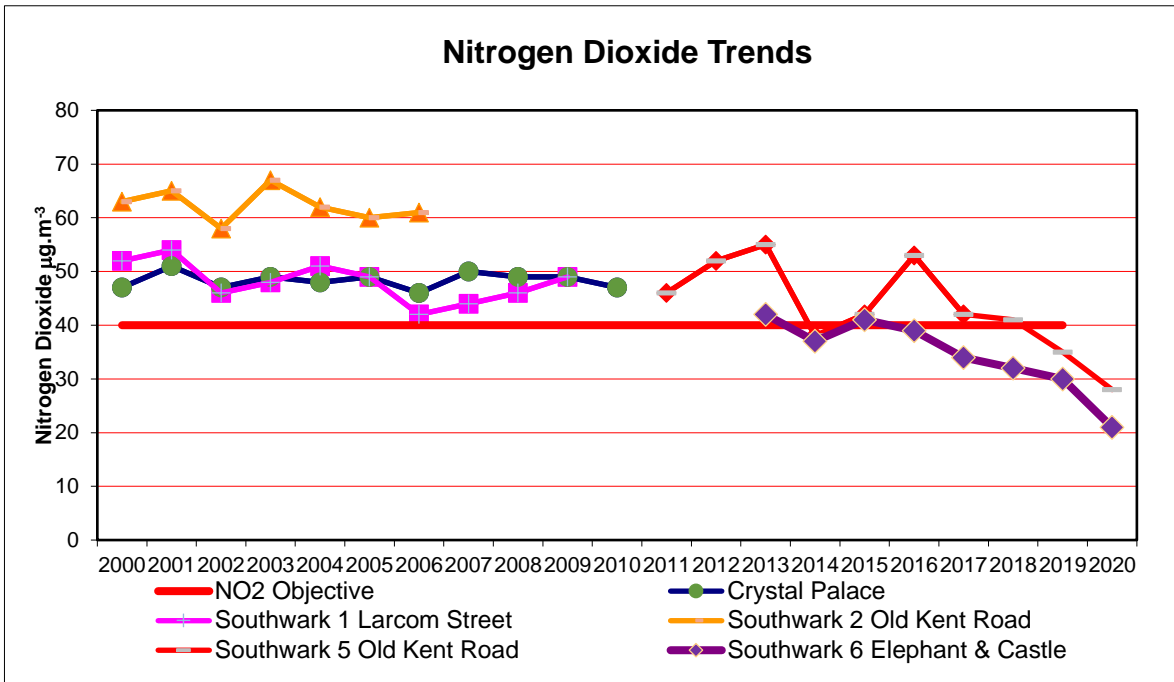


Figure 13 Trend in annual mean NO₂ concentrations at Southwark’s air quality monitoring stations

Figure 13 above shows historic NO₂ data trends from Southwark automatic air quality monitoring stations, indicating an improvement in Southwark’s air quality since 2003. This trend is also shown for PM₁₀ in Figure 14 below.

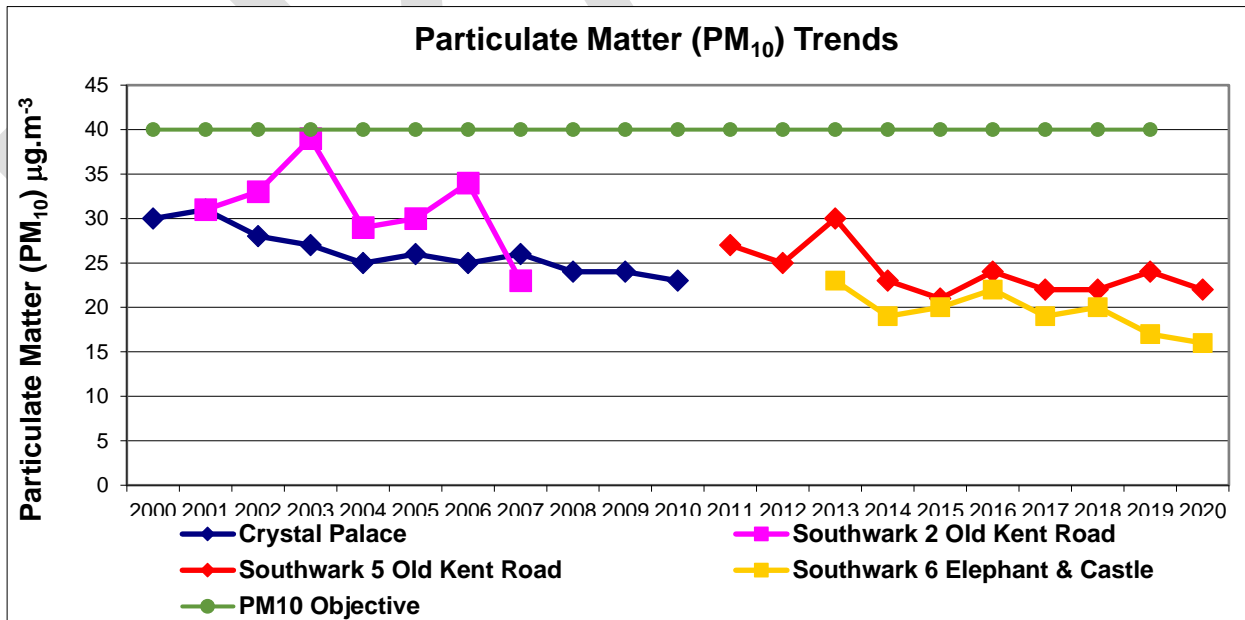


Figure 14 Trend in annual mean PM₁₀ concentrations at Southwark’s air quality monitoring stations

2 - SOUTHWARK AIR QUALITY PRIORITIES

Themes

- 1 *Monitoring and other core statutory duties:*** evaluating air quality monitoring throughout Southwark to enhance compliance with our core statutory objectives;
- 2 *Emissions from development and buildings:*** emissions from construction alone accounts for approximately 40% of the PM₁₀ emissions across Southwark, and therefore work in this area is important in reducing particulate concentrations. This will focus on air quality mitigation through the planning system and aligns with the Council's sustainability objectives;
- 3 *Public health and awareness raising:*** increasing awareness can drive behavioural change to lower emissions as well as reducing exposure to air pollution. For example, increasing awareness of the impact of solid fuel burning can help shift attitudes and facilitate overall behaviour change;
- 4 *Delivery servicing and freight:*** re-evaluating delivery servicing and freight vehicles, as these are usually heavy-duty diesel-fuelled vehicles with high primary NO₂ emissions;
- 5 *Borough fleet:*** Southwark's fleet includes a mixture of light and specialist heavy-duty vehicles, we will continue to lead by example by making improvements in our own fleet;
- 6 *Localised solutions:*** these seek to improve the environment of neighbourhoods through a combination of measures such as Streetspace Measures, traffic filtering, parking schemes, biodiversity and climate change projects;
- 7 *Cleaner transport:*** road transport is the main source of air pollution in London and Southwark. We will continue to reduce vehicle mileage by incentivising and facilitating changes to walking, cycling, public transport and ultra-low emission vehicles (such as electric);
- 8 *Schools and communities:*** implementing initiatives that target susceptible groups to ensure those most at risk are not disproportionately affected by the impacts of poor air quality, and implement recommendations of Southwark's School Air Quality Audits;
- 9 *Lobbying:*** Southwark will continue to lobby and influence regional and national organisations and stakeholders on policies and issues beyond Southwark's influence to introduce progressive measures aimed at improving air quality.

Our 10 key priorities are:-

11. Adopt the 2005 WHO guidelines for PM_{2.5} with a target of compliance by 2030, and review the emerging policies from the GLA in respect of the 2021 WHO guidelines
12. Enforce Non-Road Mobile Machinery (NRMM) air quality policies in Southwark.
13. Minimise emissions from construction by developing Southwark's own Air Quality Supplementary Planning Document (SPD) and code of construction practice which goes above and beyond the GLA Supplementary Planning Guidance (SPG);
14. Continue to raise awareness and encourage behaviour changes through air quality campaigns.
15. Assess potential impact of installing Ultra-Low Emission Vehicle (ULEV) infrastructure (electric vehicle charging points, rapid electric vehicle charging points).
16. Provision additional electric vehicle charging infrastructure by installing a further 1000 Electric Vehicle charging points in Southwark by 2026.
17. Assess the air quality benefits of actions in the Borough's Strategies.
18. Provide new cycling and walking infrastructure and assess air quality impacts of new infrastructure.
19. Encourage people to switch to less polluting cars, with lower parking fees for zero emissions and smaller vehicles across the whole borough.
20. Lobby Central Government to control and reduce emissions that are out of Southwark's control.

This action plan sets out how we will effectively deliver against the above broad themes and key priorities, thereby improving air quality where it is within our control and through leading by example. However, these are local measures aimed at tackling air pollution, and air pollution by its very nature is transboundary.

3 - DEVELOPMENT AND IMPLEMENTATION OF SOUTHWARK'S AIR QUALITY ACTION PLAN

3.1 Consultation and Stakeholder Engagement

In developing/updating the action plan we have worked with other local authorities, agencies, businesses and the local community to improve local air quality. Schedule 11 of the Environment Act 1995 requires local authorities to consult the bodies listed in Table F. In addition we have undertaken the following stakeholder engagement:

- Southwark Council consultation hub
- Public notices in Council Offices
- Advertisement in Southwark Life (council publication)
- Advertisements in Southwark News (local independent newspaper)

Yes/No	Consultee
Yes	the Environment Agency
Yes	Transport for London and the Mayor of London (who will provide a joint response)
Yes	all neighbouring local authorities
Yes	other public authorities as appropriate
Yes	bodies representing local business interests and other organisations as appropriate See Appendix A.

Table F Consultation Undertaken

3.2 Steering Group

Southwark's Steering Group, meets regularly under a formal structure, with senior officers from the following teams recruited into the group's regular membership ('primary members'):-

- Environmental Protection
- Public Health
- Planning Policy
- Sustainable Services
- Highways
- Climate Change

Other services/teams would be invited to the Air Quality Action Plan Group meetings when items relevant to their delivery responsibilities are placed on the agenda:-

- External Affairs
- Legal Services
- Public Realm
- Parks
- Ecology & Trees
- Development Control
- Children's Services & Educational Development
- Housing Services & Housing Energy
- Fleet Management
- IT
- Communications
- Procurement

The Terms of Reference of the AQAPSG:-

- 1) The Air Quality Action Plan Steering Group (AQAPSG) will meet every three months.
- 2) The first meeting of the AQAPSG will comprise of Directors or nominated representatives from the following business areas:
 - Environmental Protection
 - Public Health
 - Planning Policy
 - Sustainable Services
 - Highways
 - Climate Change

4 – AIR QUALITY ACTION PLAN

TABLE OF ACTIONS BEING FINALISED.

If you have any comments on this AQAP please send them to Southwark Environmental Protection at:

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Regulatory Services,
Environment & Leisure,
3rd Floor Hub 1, 160 Tooley Street
London. SE1 2QH

Telephone: - 020 7525 3551

Email: - environmental.protection@southwark.gov.uk