

Air quality and health in Southwark

Southwark's Joint Strategic Needs Assessment

Health Improvement & Place

Southwark Public Health Division

December 2022

 @lb_southwark  facebook.com/southwarkcouncil

GATEWAY INFORMATION

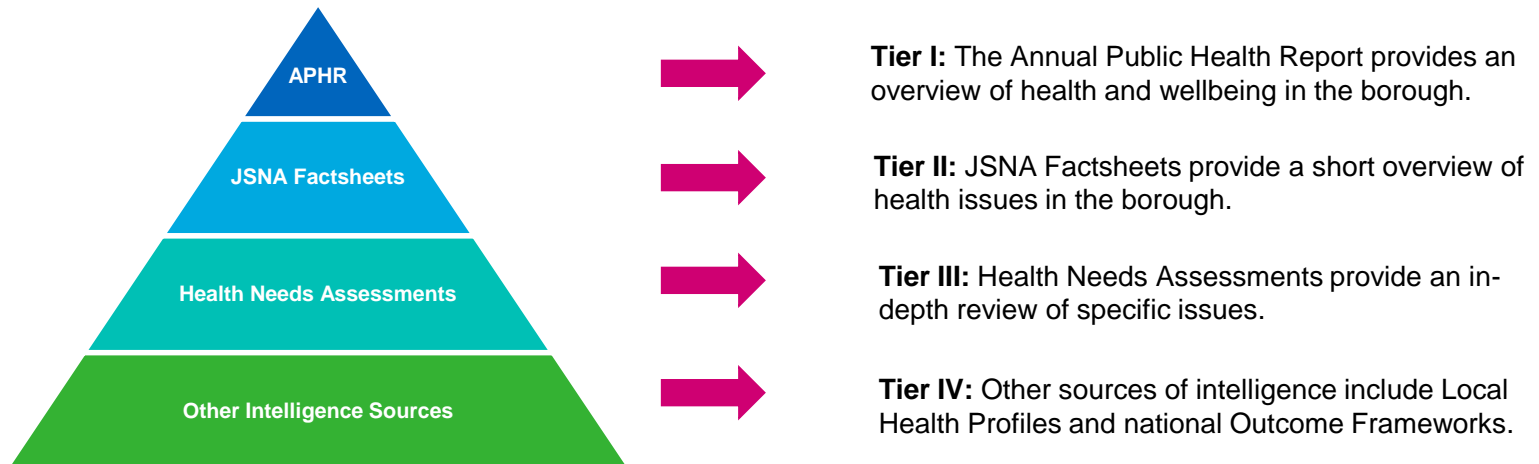
Report title:	Air quality and health in Southwark
Status:	Public
Prepared by:	N Sinclair
Contributors:	L Colledge, A Jarvis, P Newman, B Legassick, T Taylor, T DalleMuenchmeyer, K Smith
Approved by:	J Lim
Suggested citation:	Air quality and health in Southwark. Southwark's JSNA. Southwark Council: London. 2022.
Contact details:	publichealth@southwark.gov.uk
Date of publication:	December 2022

Health Needs Assessments form part of Southwark's Joint Strategic Needs Assessment process

BACKGROUND

The Joint Strategic Needs Assessment (JSNA) is the ongoing process through which we seek to identify the current and future health and wellbeing needs of our local population.

- The purpose of the JSNA is to inform and underpin the Joint Health and Wellbeing Strategy and other local plans that seek to improve the health of our residents.
- The JSNA is built from a range of resources that contribute to our understanding of need. In Southwark we have structured these resources around 4 tiers:



- This document forms part of those resources.
- All our resources are available via: www.southwark.gov.uk/JSNA

This Health Needs Assessment aims to develop a holistic understanding of air quality and health in Southwark

AIM & SCOPE

The aim of this document is to develop an up-to-date and holistic understanding of air quality in the borough and its impact on the health of local people. It provides an update to the Air Quality and Health JSNA published in 2018.

This is a high level summary of air quality in Southwark that is specific to human health and signposts further relevant information where possible.

The scope includes:

- The legislation and policy context of air quality in relation to health
- Outdoor air quality across the borough, specifically nitrogen dioxide (NO₂) and particulate matter (PM)*
- Indoor air quality, recognising the impact on health and exploring the local data available

This document will inform future local plans and any proposed actions to address the health impact of air quality. It will identify gaps in provision and list areas for improvement to reduce harm.

Other air pollutants and environmental and other legislation are outside the scope of this document.

*Only these pollutants are included for ambient air quality because these are the only pollutants with national/international targets with which Southwark is recently non-compliant

CONTENTS

Introduction

Policy Context

The Local Picture

The Local Response

Community & Stakeholder Views

Summary & Key Findings

Recommendations

Air quality is a high priority due to its impact on a range of policy areas, including health

INTRODUCTION

Air quality has become a high priority across the world

- A wealth of new evidence in recent years has shown that poor air quality affects a wide range of policy areas, including health, putting air quality on the agenda globally.

It has been estimated that the health and social care costs of air pollution could reach £5.3 billion if no action is taken².

- In just one year (in 2017), the total cost to health and social care was estimated at £157 million².

Air pollution affects everyone who lives and works in London

- The majority of pollutants within London are now at concentrations below national air quality standards, but levels of nitrogen dioxide (NO₂) and particulate matter (PM₁₀) continue to exceed these standards in some areas and locations. Central London boroughs are still failing to reach the WHO air quality guidelines.

Tackling air quality contributes to a wide range of outcomes

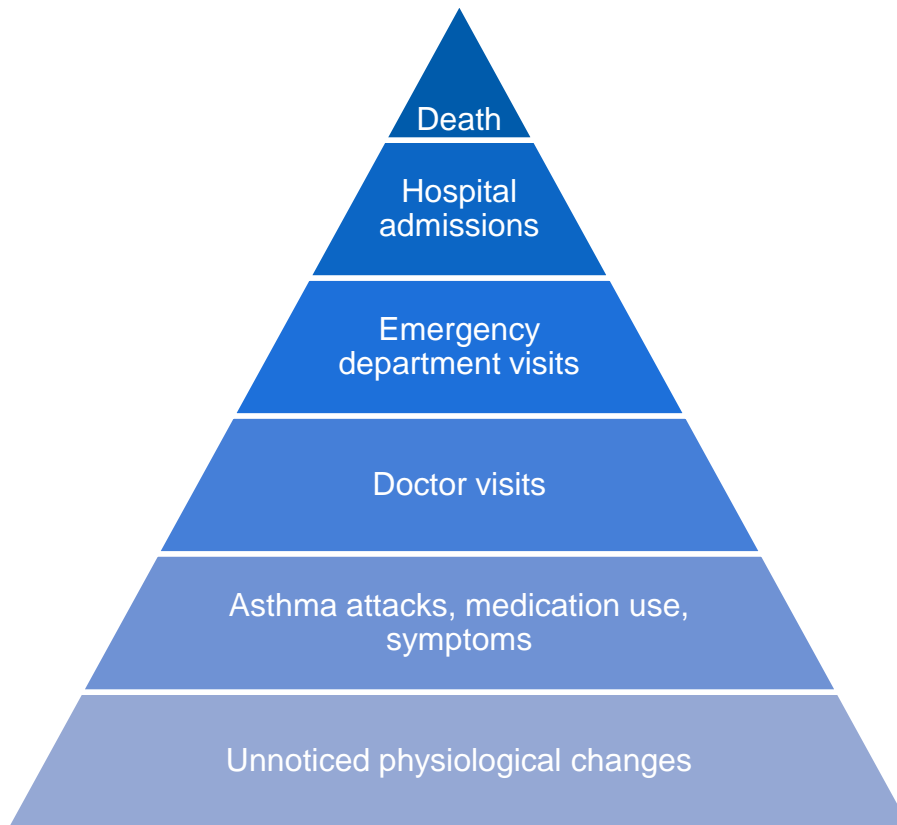
- Measures to improve air quality not only improve health and reduce health inequalities, but also assist with climate change adaptation and mitigation, and bring benefits for the economy and wider environment.

References

1. RCPCH. 2016. [Every breath we take: the lifelong impact of air pollution](#)
2. PHE. 2018. [Estimation of costs to the NHS and social care due to the health impacts of air pollution: summary report.](#)

People's health may be affected by poor air quality even if they never experience any noticeable effects

INTRODUCTION



Exposure to poor air quality is associated with both ill health and premature death¹.

- Numerous studies, replicated across the world, agree that breathing air of poor quality impacts on people's health.
- Air pollution can cause short-term symptoms and long-term effects.
- Many people will not notice the effects of air pollution on their health, but long-term exposure can contribute to the development of chronic diseases and can increase the risk of respiratory illness.
- Children, older people and those with heart and respiratory conditions are most affected and are considered vulnerable groups.
- Any improvement in air quality will have positive health consequences, but it is recognised that there is no absolutely 'safe' level of particulates².

References

1. WHO. 2000. [Quantification of the Health Effects of Exposure to Air Pollution](#)
2. WHO. 2013. Review of evidence on health aspects of air pollution – REVIHAAP Project: [technical report](#)

There is a growing evidence base on the impact of air pollution on the human body, including the brain

INTRODUCTION

While the link between air pollution and poor respiratory and cardiovascular health is well established, emerging research demonstrates that air pollution is associated with a range of long-term health impacts, including cognitive function and mental health.

- Greater exposure to PM_{2.5} and NO₂ is associated with increased risk of dementia and increased incidence of both dementia and Alzheimer's disease^{1,2}.
- Increased exposure to PM_{2.5}, PM₁₀ and NO₂ is associated with increased incidence and prevalence of Type 2 Diabetes, and air pollution also may be more likely to adversely impact the symptoms of those living with type 2 diabetes³.
- A UK-based cohort study looking at the mental health of young adults found that young people who were exposed to higher levels of outdoor NO_x during childhood experienced poorer mental health outcomes at the age of 18⁴.
- Evidence suggests that long-term air pollution exposure is linked to COVID-19 infection and poor outcomes⁵.

References

1. R. Peters et al. 2019. [Air Pollution and Dementia: A Systematic Review](#). Journal of Alzheimer's Disease.
2. L. Shi et al. 2021. [A national cohort study \(2000–2018\) of long-term air pollution exposure and incident dementia in older adults in the United States](#). Nature Communications.
3. BY. Yang et al. 2020. [Ambient air pollution and diabetes: A systematic review and meta-analysis](#). Environmental Research.
4. Kings College London. 2021. [Childhood Air Pollution Exposure Linked to Poor Mental Health at Age 18](#).
5. Environmental Research Group, Imperial College London. 2021. [Investigating the links between air pollution, COVID-19 and lower respiratory infectious diseases | Faculty of Medicine](#)

Nitrogen dioxide and particulate matter are the main pollutants of concern for outdoor air quality

INTRODUCTION

Pollutant	Sources	Health effects
Nitrogen dioxide (NO ₂)	Road transport (especially diesel vehicle emissions), domestic & commercial boilers, power stations and industry	Lung irritation and damage
Particulate matter (PM ₁₀ and PM _{2.5})	Road transport (mainly diesel vehicle emissions and tyre & brake wear), domestic & commercial boilers, power stations, industry & construction	Increased chances of respiratory disease, lung damage, cancer and premature death

NO₂ is a gas which is produced in combustion processes with other oxides of nitrogen (NO_x)

- Of all oxides of nitrogen, NO₂ has the largest impact on health
- NO_x emissions are often used as a proxy for NO₂ emissions

Particulate matter (PM) is a complex mixture of small particles

- PM₁₀ is the size of particle that is breathable and can lodge in the lungs
- PM_{2.5} is the size of particle most evidently linked to poorer health outcomes. This is because it is so small that it can pass through lungs into the bloodstream and on to other parts of the body
- Some particles are long-lived in the atmosphere and can be transported great distances

References

1. Southwark Council. 2017. [Air Quality Strategy & Action Plan](#)

Indoor air pollution is important to consider as people spend up to 90% of their time indoors

INTRODUCTION

There is a growing focus being placed on indoor air pollution.

- Indoor air pollution impacts outdoor environments. Domestic wood-burning in homes is estimated to contribute 23% to 31% of PM_{2.5} levels in outdoor air in London¹.
- Most people are unaware of the causes and effects of indoor air pollution¹.
- Indoor air quality comprises other pollutants in addition to NO₂, PM₁₀ and PM_{2.5} (which come from domestic appliances that run off carbon containing fuels).

Pollutant	Sources	Health effects
Carbon Monoxide (CO)	Domestic appliances for heating and cooking that run off carbon containing fuels (e.g. gas boilers or cookers)	High levels of exposure can be fatal. Chronic, low levels of exposure may still damage the nervous system.
Volatile Organic Compounds (VOCs)	Cleaning products, personal care products, building materials and household products	Respiratory irritation and increased risk of asthma
Damp and mould	Poor heating, insulation and ventilation	Exacerbation of asthma and respiratory irritation
Radon	Natural radioactive gas found in the ground in some locations	Lung cancer

References

1. DEFRA. 2019. Clean Air Strategy.
2. GLA. 2022. Air Quality in Southwark: A Guide for Public Health Professionals.
3. WHO. 2022. [Air Quality and Health](#).
4. PHE. 2018. [Health Matter: air pollution](#).

Air pollution also has a detrimental impact on the health of our planet, increasing the need to act

INTRODUCTION

Along with harming human health, air pollution can cause a variety of environmental impacts, harming the health of our planet.

- Large amounts of carbon dioxide and methane in the atmosphere are leading to a warming of our atmosphere, known as the Greenhouse Effect. This effect traps more of the sun's heat in the Earth's atmosphere, causing the rising temperature of the planet.
- Nitrogen compounds in the atmosphere can cause algal blooms, which in turn can kill fish and impact plant and animal diversity.
- Animals are also impacted by air pollutants alongside humans. Studies show that air toxins are contributing to birth defects, reproductive failure, and disease in animals.
- Air pollutants can lead to reduced growth and survivability of tree seedlings, and increased plant susceptibility to disease, pests and other environmental stresses.

CONTENTS

Introduction

Policy Context

- International; National; Regional; Local

The Local Picture

The Local Response

Community & Stakeholder Views

Summary & Key Findings

Recommendations

Legislation both regulates the legal limits for key pollutants and sets out proposals to improve air quality

POLICY CONTEXT: INTERNATIONAL AND NATIONAL

International

- **WHO guidelines¹** (UPDATED IN 2021)
 - Designed to offer recommended air pollutant concentration limits based on expert guidance on the health impacts of air pollution
- **EU Directive²**
 - Set legally binding limits for key pollutants. Since the UK left the EU, the limits have been incorporated into national law.

National

- **Air Quality Standards Regulations³**
 - Puts the former EU limits into national UK law
 - Determines how achievement of the objective values should be assessed
- **National Clean Air Strategy⁴** (PUBLISHED IN 2019)
 - A UK government policy framework articulating the need for action and setting out key proposals across a range of sectors for both indoor and outdoor air pollution
- **Environment Act 2021⁵** (RECEIVED ROYAL ASSENT IN 2021)
 - UK legislation setting out environmental targets, plans and policies, including on air pollution
 - New PM_{2.5} targets were set out in December 2022

References

1. WHO. [WHO global air quality guidelines](#). 2021.
2. EU. [Directive 2008/50/EC](#): Cleaner air for Europe. 2008
3. The Stationery Office Limited. [Air Quality Standards Regulations](#). 2010.
4. DEFRA. [Clean Air Strategy](#). 2019.
5. UK Government. [Environment Act](#). 2021.

UK objectives are not always as low as WHO guidelines, which have been further reduced in WHO's 2021 update

POLICY CONTEXT: INTERNATIONAL AND NATIONAL

Pollutant	Old WHO guideline ¹	New WHO guideline ²	UK objective ³	Concentration measured as
NO ₂	40 µg/m ³	10 µg/m³	40 µg/m ³	Annual mean
	200 µg/m ³		200 µg/m ³ not to be exceeded more than 18 times a year	1-hour mean
		45 µg/m³		24-hour mean
PM ₁₀	20 µg/m ³	15 µg/m³	40 µg/m ³	Annual mean
	50 µg/m ³	45 µg/m³	50 µg/m ³ not to be exceeded more than 35 times a year	24-hour mean
PM _{2.5}	10 µg/m ³	5 µg/m³	20 µg/m ³	Annual mean
	N/A		15% reduction in concentrations at urban background	
	25 µg/m ³	15 µg/m³	N/A	24-hour mean

- Evidence on the health impacts of air pollution has strengthened since the 2005 WHO guidelines.
- Plans to deliver new PM_{2.5} targets in England are due to be set out in January 2023. These are annual mean concentration at or below 10 µg/m³ by 2040, and a 35% reduction in population exposure compared to 2018 by 2040⁴.

References

1. WHO. [Air quality guidelines](#): Global update. 2005.
2. WHO. [WHO global air quality guidelines](#). 2021.
3. DEFRA. [National air quality objectives](#). 2010.
4. Written Statement. [Environment Update](#). 2022.

Pollution is a national public health priority which should be supported by local areas

POLICY CONTEXT: NATIONAL

National

- **Public Health Outcomes Framework¹**
 - Sets out the vision for public health. It includes the desired outcomes and the key indicators that help us understand how well public health is being improved and protected, including the number of deaths attributable to air pollution.
- **UK Health Security Agency (UKHSA) Priorities²** (FOR 2021 TO 2022)
 - In 2021, Public Health England was disbanded and replaced by UKHSA and the Office for Health Improvement and Disparities.
 - The UKHSA's mission is to prepare for, prevent and respond to threats to health. Air pollution is mentioned in their first annual set of priorities for 2021 to 2022.
- **Annual Report of the Chief Medical Officer 2022³** (PUBLISHED IN 2022)
 - A statutory report on the state of the public's health, with the latest edition focusing on air pollution and the evidence base for solutions to address the public health impacts of this issue.
 - The report was published in December 2022 and includes recommendations to address the health effects of air pollution.

References

1. OHID. [Public Health Outcomes Framework](#)
2. Gov.uk. 2021. [UKHSA priorities in 2021 to 2022.](#)
3. Gov.uk. 2022. [Chief Medical Officer's annual report 2022: air pollution](#)

Air quality is a priority for London and requires commitment from local areas

POLICY CONTEXT: REGIONAL

Regional

- **Mayor's Environment Strategy¹** (PUBLISHED IN 2018)
 - Brings together approaches for every aspect of London's environment
 - Sets an ambition that "London will have the best air quality of any major world city by 2050, going beyond the legal requirements to protect human health and minimise inequalities".
- **Mayor's Transport Strategy²** (PUBLISHED IN 2018)
 - Statutory document setting out Transport for London's vision
- **The London Plan³** (PUBLISHED IN 2021)
 - Air quality implications are considered throughout, and Policy SI1 focuses on improving air quality specifically
- **Air Quality Neutral (AQN) and Air Quality Positive (AQP) London Plan Guidance⁴** (UNDERGOING CONSULTATION)
 - Supplementary guidance to assist developers, London boroughs and other relevant stakeholders to ensure new developments do not worsen air quality, and instead contribute to improvements in London's air quality
- **London's COVID-19 Recovery Missions: A Green New Deal⁵** (PUBLISHED IN 2021)
 - Commitment to tackle climate change and improve air quality through London's green economy as the city recovers post-pandemic

References

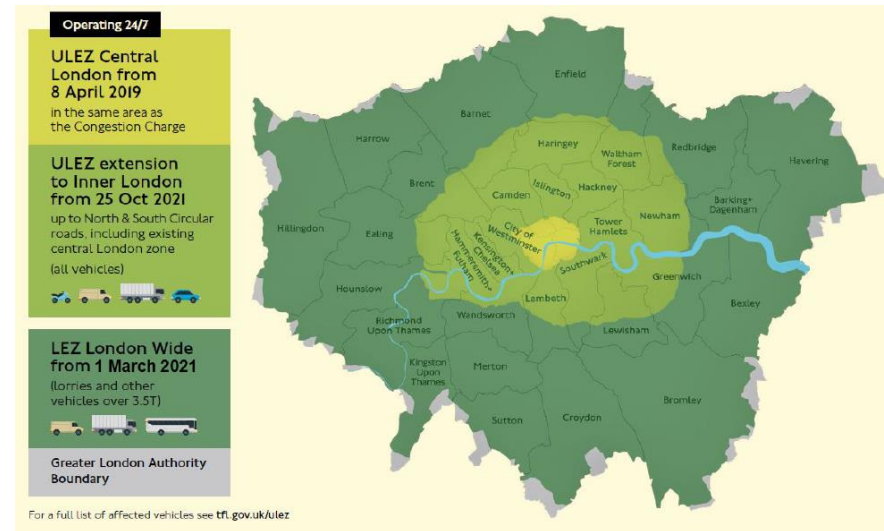
1. GLA. 2018. [London Environment Strategy](#).
2. GLA. 2018. [Mayor's Transport Strategy](#).
3. GLA. 2021. [The London Plan](#).
4. GLA. 2021. [London Plan Guidance](#).
5. GLA. 2021. [A Green New Deal](#).

London-wide transport policy has had a positive impact on emissions in recent years, with further action planned

POLICY CONTEXT: REGIONAL

In 2019, The Greater London Authority (GLA) introduced an **Ultra Low Emission Zone (ULEZ)** for Central London. Vehicles driving within the ULEZ have to adhere to specific emissions standards or pay a daily charge. As a result:

- Over 44,000 fewer polluting vehicles drive into London daily
- 44% reduction in NO₂ concentrations in the area
- 97% reduction in the number of state primary and secondary schools in locations exceeding legal NO₂ limits
- In October 2021, the ULEZ expanded up to the North and South circular roads, covering the majority of Southwark.
- In January 2022, the Mayor announced long-term plans for a simple road user charging scheme for London. In November 2022, the Mayor announced that the ULEZ will be expanded to all London boroughs from August 2023.



References

1. GLA. 2021. [The Mayor's Ultra Low Emission Zone for London.](#)
2. Map from GLA presentation Sept 2021.
3. GLA. 2022. [Mayor announces bold plans to secure a green, clean future for London.](#)
4. GLA. 2022. [The Mayor's Ultra Low Emission Zone \(ULEZ\) for London.](#)

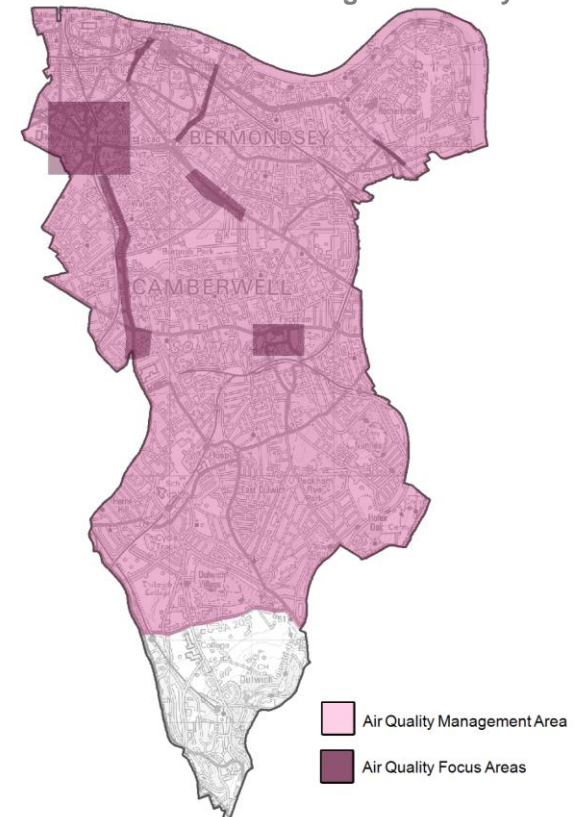
Southwark has declared an Air Quality Management Area and has updated its Air Quality Strategy and Action Plan

POLICY CONTEXT: LOCAL

Local

- **London Local Air Quality Management Framework (LLAQMF)**
 - Local authorities have a statutory responsibility to review & assess air quality on a regular basis
 - Southwark works closely with the GLA and other partner agencies to effectively improve local air quality
 - The GLA has designated seven Air Quality Focus Areas in Southwark
 - The Air Quality Management Area is due to extend to the whole borough in January 2023.
- **Southwark Air Quality Strategy & Action Plan¹**
 - States Southwark's intentions and planned actions to work towards improving local air quality
 - The new Air Quality Action Plan will be issued for 2023 to 2027.

The Air Quality Management Area in Southwark will increase to the whole borough in January 2023



References

1. Southwark Council. 2017. [Air Quality Strategy & Action Plan](#).

There have been major policy developments locally that have implications for air quality

POLICY CONTEXT: LOCAL

Locally, since the first version of the Air Quality JSNA, there have been major policy developments that have implications for air quality.

- **Movement Plan¹** (PUBLISHED IN 2019)
 - Sets out Southwark's strategy for transport for the next 20 years
 - Aims to put people and their wellbeing at the heart of policy
 - Includes actions to reduce traffic and reduce exposure to air pollution
- **Climate Change Strategy²** (PUBLISHED IN 2021)
 - Sets out Southwark's strategy to be a carbon neutral borough by 2030
 - Highlights improved air quality as a co-benefit of climate action



References

1. Southwark Council. 2019. [Movement Plan](#).
2. Southwark Council. 2021. [Climate Change Strategy](#).

Policy developments over the past five years have strengthened the importance of tackling air pollution

POLICY CONTEXT: SUMMARY

Since Southwark's last Air Quality and Health JSNA, there have been a number of developments in international, national, regional and local policies that strengthen the importance of tackling air pollution and have implications for the strategic direction of our work on air pollution and health locally.

- The new WHO guidelines published in 2021 provide significantly lower target emissions than national air pollution limits and the previous WHO guidelines, further emphasising the fact that no level of pollution is safe for public health.
- The national government published new targets for PM_{2.5} in December 2022.
- The Chief Medical Officer annual report on air pollution and health indicates that this area of work is still a priority. It sets out the scale of the challenge and provides useful recommendations for local action.
- Regionally, air pollution is high on the agenda for the Mayor of London and the GLA, with significant action being taken across London.
- Locally, Southwark has declared a climate emergency and published a Climate Change Strategy. Climate action is a big priority across Southwark Council and provides an opportunity to maximise co-benefits for air pollution and health.
- The inquest into the death of Ella Adoo Kissi-Debrah concluded that air pollution exposure had contributed to her death. The coroner's report raised concerns that should be important considerations for all London boroughs, including Southwark.

References

1. Gov.uk. 2022. [Chief Medical Officer's annual report 2022: air pollution](#)

CONTENTS

Introduction

Policy Context

The Local Picture

- Pollution levels

The Local Response

Community & Stakeholder Views

Summary & Key Findings

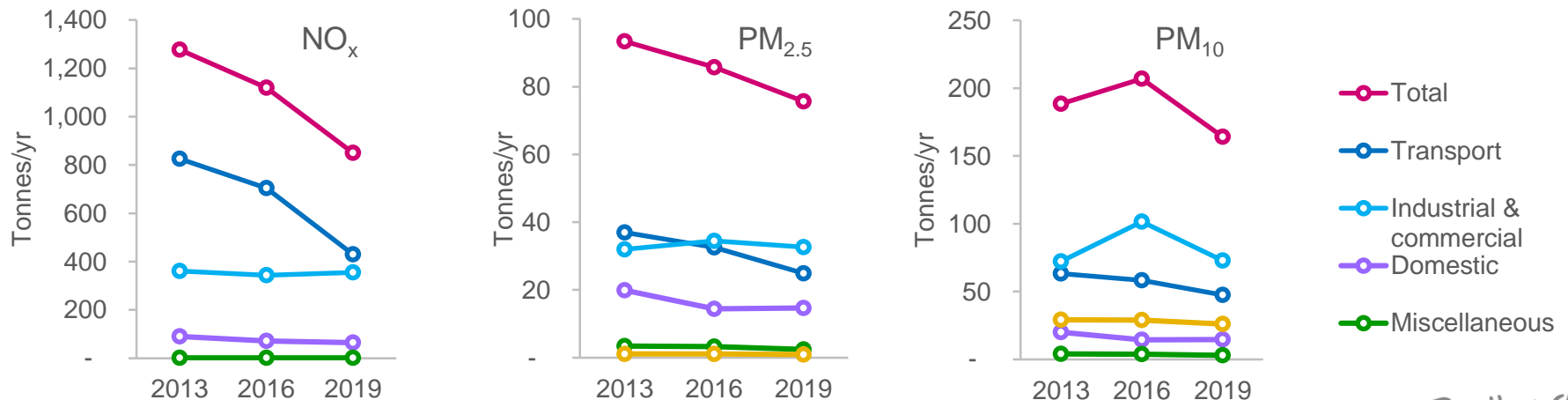
Recommendations

Southwark NO_x and PM levels have fallen substantially since 2013, mostly due to transport emission cuts

THE LOCAL PICTURE: TIME TRENDS

Current air pollution data shows a decrease in total emissions of nitrogen oxides (NO_x) and particulate matter (PM) in Southwark, driven by reduced transport emissions.

- Nitrogen oxides (NO_x, i.e. NO₂ and related compounds) are the biggest contributors to local air pollution, but local emissions fell one-third (34%) between 2013 to 2019.
- Substantial local reductions were also seen for PM_{2.5} (almost one-fifth less; 19%) and PM₁₀ (over one-eighth less; 13%).
- These changes are mostly due to less transport-related emissions. Industrial and commercial emissions are now the biggest sources of PM₁₀ and PM_{2.5}, with a similar future trend likely for NO_x.



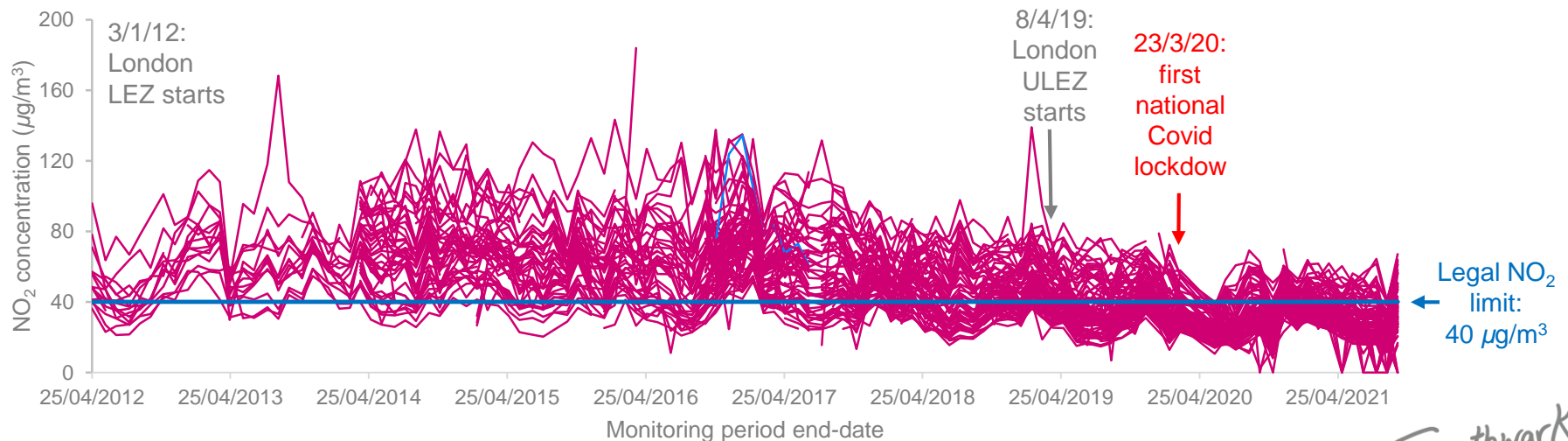
Local NO₂ pollution fell dramatically during Covid lockdown, due to large cuts in traffic emissions

THE LOCAL PICTURE: EFFECT OF COVID LOCKDOWN ON NO₂

During Covid lockdown, locally collected NO₂ data showed the effect of major traffic reduction on Southwark air pollution.

- During the first national Covid lockdown, traffic reduced by up to 70% nationally, and local air quality improved greatly. For the first time ever, all local NO₂ monitoring sites detected concentrations below the legal limit.
- Although NO₂ levels quickly returned to higher levels, the lockdown drop shows that local emissions targets can be achieved with large reductions in road traffic emissions.

Monthly NO₂ concentration recorded at individual Southwark monitoring sites*, Apr 2012 to Aug 2021



Data sources

Southwark Council, 2021. NO₂ diffusion tube monitoring site data, Apr 2021 to Aug 2021. *160 sites by Aug 2021.
Southwark Council, 2021. Southwark Air Quality Annual Status Report 2020.

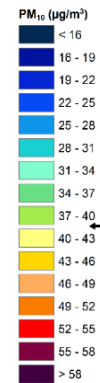
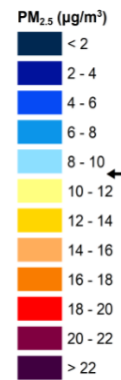
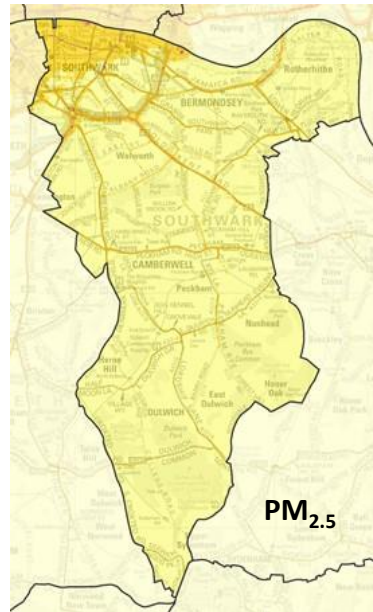
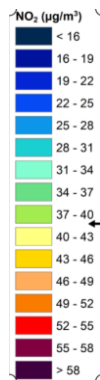
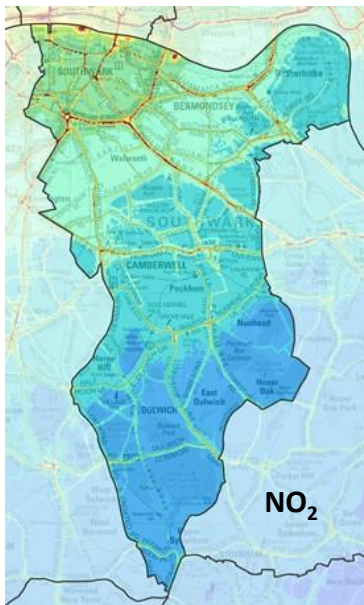
Air pollution concentrations are highest in north-west Southwark and along major roads

THE LOCAL PICTURE: GEOGRAPHICAL PATTERNS

2019 concentrations of NO₂, PM_{2.5} and PM₁₀ are highest in north-west Southwark and along main roads.

- NO₂ concentrations breaching legal limits (i.e. more than 40 µg/m³)* cover far less of Southwark in 2019 than in 2016 but still occur along many main roads, notably in north-west and central areas. (Note that there is no safe level of NO₂ exposure.)
- PM_{2.5} levels are above the guideline limit (10 µg/m³)* throughout Southwark, with highest levels in the north-west. However, concentrations are below 2016 levels borough-wide. (Note that there is no level of PM_{2.5} exposure which is safe for health.)
- Levels of PM₁₀ are well below the guideline limit (40 µg/m³)* throughout most of Southwark, but excess 'hot spot' areas occur along main roads in the north-west.

Annual mean concentration levels of key pollutants across Southwark in 2019



Data source

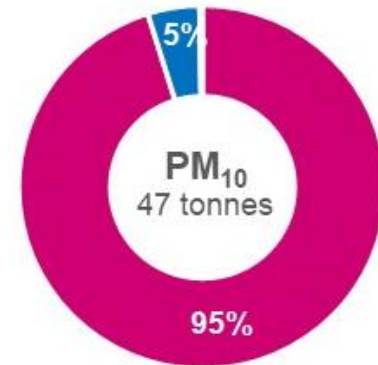
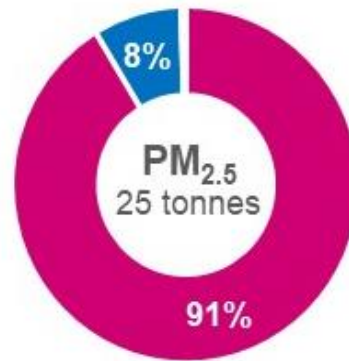
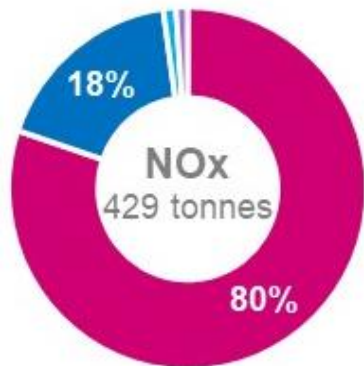
1. GLA. London Atmospheric Emissions Inventory (LAEI) 2019. *UK Air Quality Standards state a legal NO₂ limit of 40 µg/m³ (annual mean concentration), and the London Mayor's Office has committed to levels of PM_{2.5} less than 10 µg/m³ and PM₁₀ less than 40 µg/m³ by 2030; map legend arrows mark these limits.

Road traffic – mostly cars and diesel LGVs – is the largest source of Southwark’s transport-related air pollution

THE LOCAL PICTURE: TRANSPORT EMISSIONS

Current data on Southwark transport-related air pollution is based on modelled yearly estimates for 2019.

- More than four-fifths of Southwark transport-related air pollution is caused by road traffic.
- Southwark road traffic emissions:
 - Contained 429 tonnes of NO_x, 25 tonnes of PM_{2.5} and 47 tonnes of PM₁₀ in 2019.
 - Were largely caused by cars and diesel LGVs. These vehicles produced over three-fifths (63%) of NO_x, almost two-thirds (65%) of PM_{2.5} and over three-fifths (63%) of PM₁₀ related to road traffic.



■ Road ■ River ■ Aviation ■ Rail

Data source

GLA, 2022. London Atmospheric Emissions Inventory (LAEI) 2019. Cars = petrol and diesel; LGV = light goods vehicles (vans and trucks up to 3,500 kgs carrying capacity; HGV = heavy goods vehicle (rigid & articulated lorries, over 3,500 kgs carrying capacity).

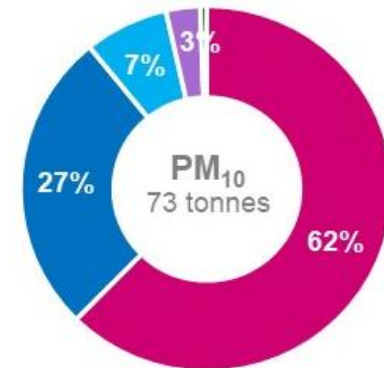
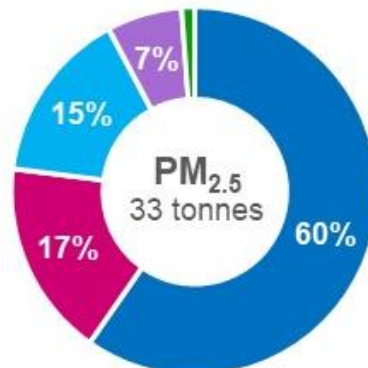
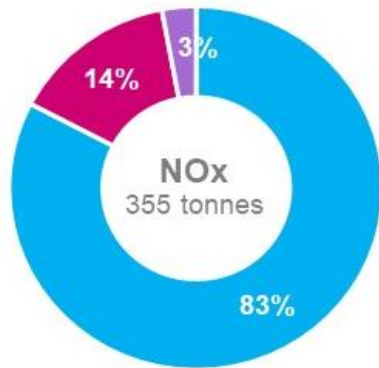
Slide 25

Southwark's industrial and commercial air pollution is largely due to gas-fuelled heat/power, cooking and construction dust

THE LOCAL PICTURE: INDUSTRIAL & COMMERCIAL EMISSIONS

Latest data on Southwark's industrial and commercial air pollution comes from modelled yearly estimates for 2019.

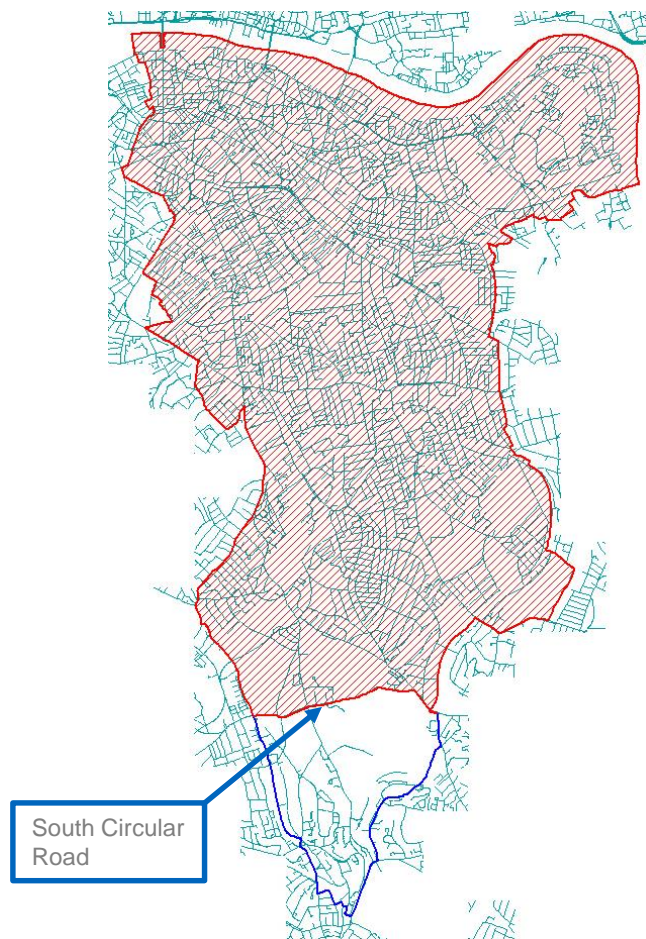
- Southwark's industry- and commerce-related air pollution comes from a range of sources.
 - NOx from industry and commercial sources totalled 355 tonnes in 2019; over four-fifths (83%) of this was from heat and power generation, almost all (88%) related to gas combustion.
 - Industry and commerce produced 33 tonnes of PM_{2.5} (mainly from commercial cooking) and 73 tonnes of PM₁₀ (mainly from construction dust) in 2019.



■ Construction ■ Commercial cooking
■ Heat & power generation ■ Industrial processes
■ Waste

Since 2003, most of Southwark has been designated an Air Quality Management Area. From 2023, this will extend to the whole borough

THE LOCAL PICTURE: SOUTHWARK AIR QUALITY MANAGEMENT AREA



Soon, all of Southwark will be designated an Air Quality Management Area (AQMA).

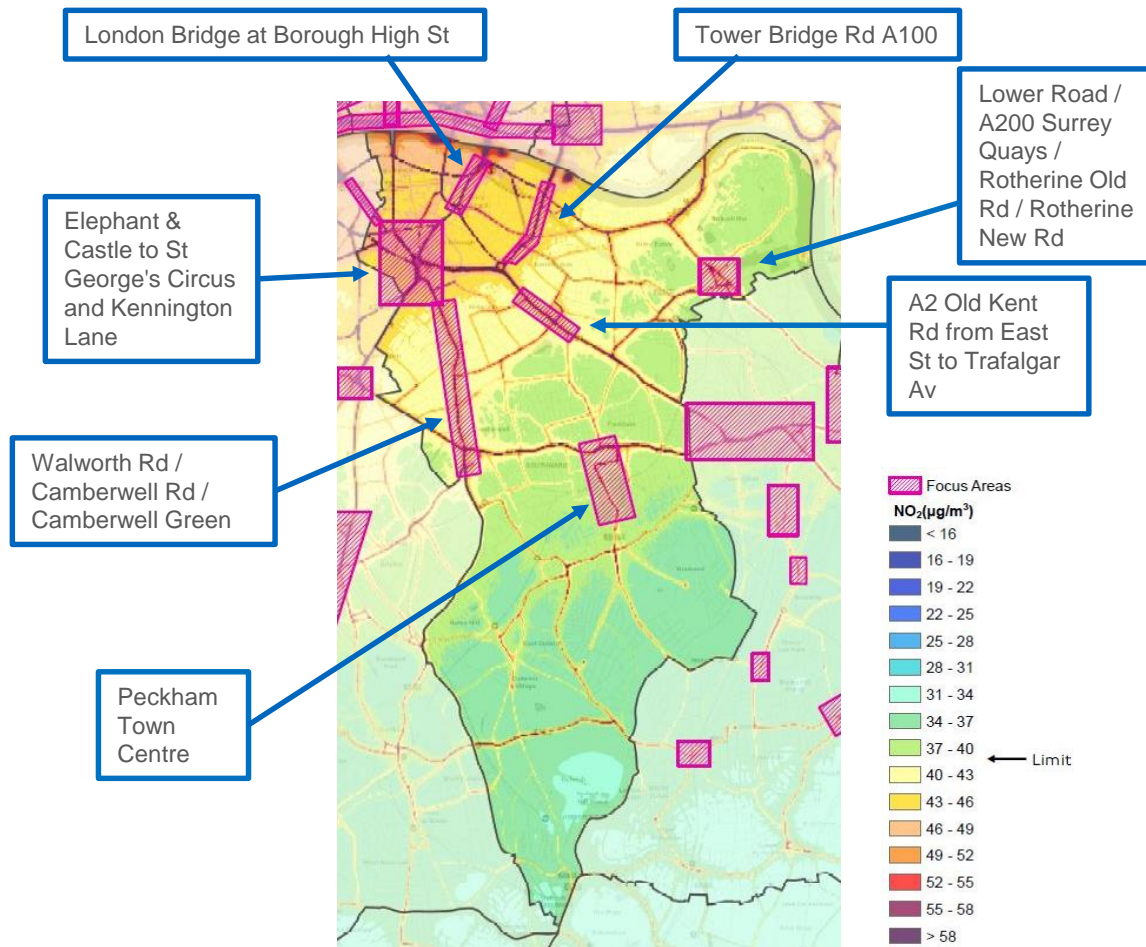
- Currently, this area comprises the whole borough north of the South Circular Road.
- AQMAs are mandatory in localities where national air quality improvement objectives are at risk.
- The AQMA will be extended to cover the whole borough from January 2023.

Data sources

Southwark Council, 2021. Southwark Air Quality Annual Status Report 2020.
GLA, 2022. Air Quality in Southwark: A Guide for Public Health Professionals.

Southwark has seven Air Quality Focus Areas, with specific objectives targeting air pollution levels and exposure

THE LOCAL PICTURE: SOUTHWARK AIR QUALITY FOCUS AREAS



Southwark's seven Air Quality Focus Areas (AQFAs) are located in the north and centre of the borough.

- AQFAs are identified areas of acute personal air pollution exposure, based on excessive emission levels plus high footfall.
- Southwark's AQFAs have been in place since 2013.
- Each has specific objectives to reduce emissions and/or pollution exposure.

Data sources

Southwark Council, 2021. Southwark Air Quality Annual Status Report 2020. Map coloration indicates 2016 NO₂ levels; this data is replaced by 2019 NO₂ data shown elsewhere in the current report.

GLA, 2022. Air Quality in Southwark: A Guide for Public Health Professionals.

London-wide, low-income groups face worse indoor air pollution

THE LOCAL PICTURE: INDOOR AIR POLLUTION

London-wide evidence suggests Southwark low-income groups are more at risk from indoor air pollution due to:



Living closer to outdoor pollution sources (fumes leak indoors)



Poorer housing, with smaller rooms and worse ventilation



Smoking and cooking more frequently



Spending more time at home (due to safety concerns and unemployment)



Greater risk of cardiovascular & lung conditions

Reference

1. Icons made by: Freepik; Smashicon (www.flaticon.com); 123 RF.

Domestic wood-burning has become the single biggest source of small particle air pollution in the UK

THE LOCAL PICTURE: INDOOR AIR POLLUTION AND WOOD-BURNING

Domestic wood-burning in the UK has become the largest source of small particle air pollution as popularity has increased. Emissions of PM_{2.5} from domestic wood-burning has more than doubled between 2003 and 2019.

- 19% of adults across the UK burned at home (either indoor or outdoors) at some point during the last year
- Out of this 19%, 8% burn indoors and 14% burn outdoors
- 12% of people who burn in the UK live in London

Domestic wood-burning is detrimental to indoor air quality. Burning just one kg of wood will pollute 500,000m³ of completely clean air to up the level of the current WHO air quality guideline for fine particulate matter (10 µg/m³)².

References

1. Kantar Public. 2021. A behavioural approach to understanding and addressing the prevalence and drivers of woodburning. Unpublished reported commissioned by Impact on Urban Health.
2. European Environment Bureau. 2021. [Where there's fire, there's smoke: Emissions from domestic heating with wood.](#)

Almost half of all UK indoor burners are from the highest social grades and 28% burn for aesthetic reasons

THE LOCAL PICTURE: INDOOR AIR POLLUTION AND WOOD-BURNING

Almost half of all UK indoor burners are from the highest social grades. Indoor burners are also more likely to own their home and are less likely to be renting than people who do not burn. There are a number of reasons people across the UK cited for choosing to burn indoors:

- 8% burn out of necessity, where burning is the main source of heat and used frequently. These people are more likely to live in rural areas.
- 24% burn to increase their self sufficiency and save money. These people are less likely to live in London.
- 23% burn to supplement their main source of heating.
- 18% burn due to tradition. They are likely to have grown up with a fire and come from an affluent background.
- **28% burn for aesthetics, to create a homely feel. These people are more likely to come from an affluent background and live in London.**

Reference

1. Kantar Public. 2021. A behavioural approach to understanding and addressing the prevalence and drivers of woodburning. Unpublished reported commissioned by Impact on Urban Health.

CONTENTS

Introduction

Policy Context

The Local Picture

- Health impact

The Local Response

Community & Stakeholder Views

Summary & Key Findings

Recommendations

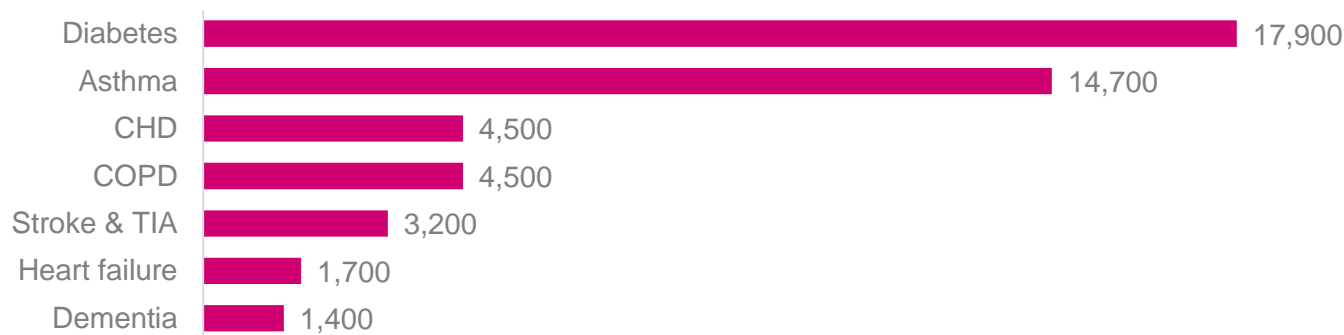
About 14,700 Southwark GP patients have known asthma; one-sixth (about 2,500) are aged under 20 years

THE LOCAL PICTURE: RELATED ILLNESS

Air pollution is associated with acute and chronic health problems, especially low birth weight, asthma, chronic obstructive pulmonary disease (COPD), lung cancer, coronary heart disease (CHD), heart failure, stroke, diabetes and dementia.

- In Jan 2020, about 14,700 Southwark GP patients had known asthma; about 2,500 (one-sixth; 17%) were aged under 20 yr (800 were under 10 yr) and about 1,500 were aged 70 yr or more.
- In addition, about 17,900 local GP patients had known diabetes (5,000 were 70 yr or older), 4,500 had known CHD and 4,500 had known COPD.
- In 2020, 3% of Southwark full-term babies had low birth weight (about 100 infants).

Number of Southwark GP patients with diagnosed long-term diseases known to be related to poor air quality, Jan 2020



Data sources

GLA, 2022. Air Quality in Southwark: a Guide for Public Health Professionals.

OHID, 2022. Maternal and Child Health Profile.

SEL CCG, 2020. Private communication (Southwark GP patients on long-term condition registers, 29 Jan 2020). TIA = transient ischaemic attack.

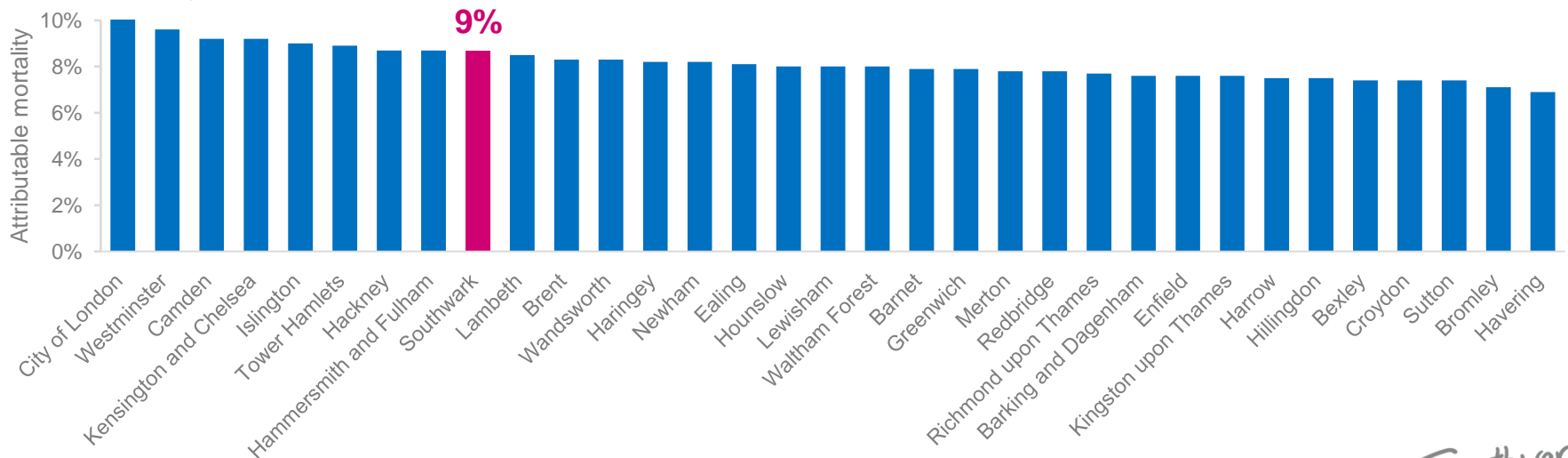
Slide 33

In 2019, almost 1 in 10 Southwark deaths were related to air pollution, mainly due to PM_{2.5} emissions

THE LOCAL PICTURE: LONDON BOROUGH AIR POLLUTION DEATHS

Across the 33 London boroughs, the proportion of all 2019 deaths which were related to long-term NO₂ and PM_{2.5} exposure can be calculated based on air pollution measurements.

- Almost 1 in 10 (9%) of all 2019 Southwark deaths were related to NO₂ or PM_{2.5} air pollution. Most of this impact was due to PM_{2.5} (7% of all deaths).
- This equates to over 100 extra deaths of Southwark residents.
- Southwark is in the top, worst third of London boroughs (ranking 9th overall) for air pollution mortality burden.



Data sources

GLA, 2022. LAEI 2019.

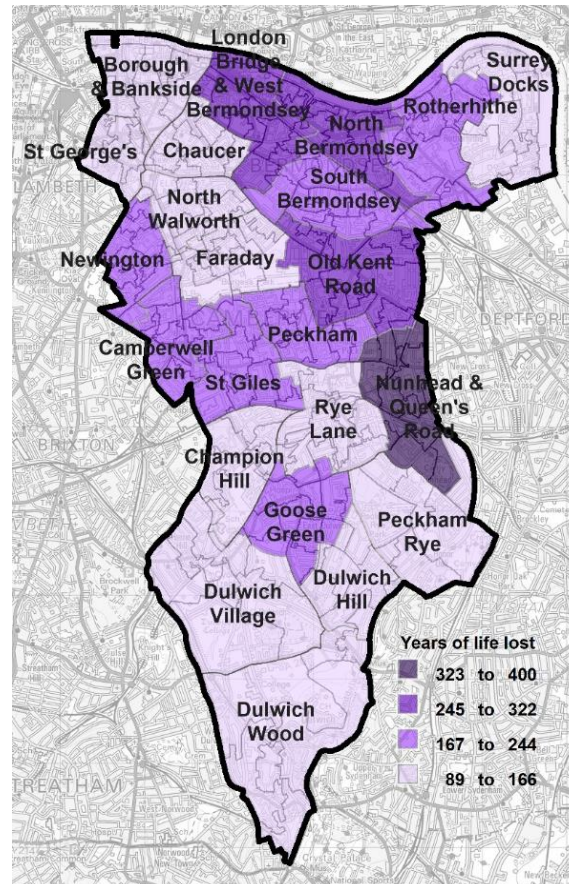
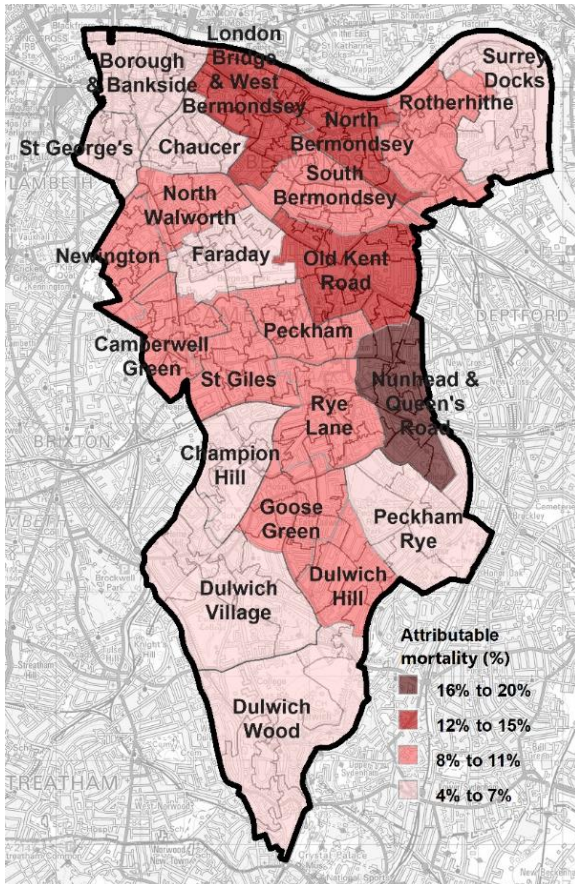
GLA, 2022. Air Quality in Southwark: A Guide for Public Health Professionals.

In Southwark's worst affected ward – Nunhead & Queen's Rd – one fifth of all deaths were attributable to air pollution

THE LOCAL PICTURE: SOUTHWARK WARD AIR POLLUTION DEATHS

Min NO₂/PM_{2.5} mortality burden (%)

Min years of life lost due to NO₂/PM_{2.5}



Southwark wards have very different mortality burdens from air pollution.

- Effects are worst in Nunhead & Queen's Road ward. In 2019, NO₂ and PM_{2.5} air pollution accounted for about one-fifth (20% to 22%) of all deaths (about 50 extra deaths).
- In comparison, St George's air quality mortality burden was less than one-quarter the size: 4–5% of all deaths (2 extra deaths).
- Nunhead & Queen's Road residents, as a group, are slightly older, more deprived and in worse health, versus St George's. This may affect their vulnerability to air-pollution-related harm.

Data source

GLA, 2022. Air Quality in Southwark: A Guide for Public Health Professionals. Min = minimum. Air pollution mortality burden and life years lost calculated for 30+ yrs population. Slide 35

All Southwark children are exposed to harmful PM_{2.5} levels. An estimated 8,000 live in known poor air quality areas

THE LOCAL PICTURE: CHILDREN & YOUNG PEOPLE'S EXPOSURE

Over one-sixth (16%) of Southwark residents are aged under 15 yr, and are thus more vulnerable to poor air quality.

- Children are more vulnerable to air pollution than adults because their lungs are still developing and they breathe more air per minute (for their size) than adults.
- In 2019, all Southwark 0–18 yr olds (100%; 68,800) were exposed to excessive, harmful levels of PM_{2.5} (the most damaging air pollutant, for which there is no safe level).
- In 2019, 3% of Southwark 0–18 yr olds (about 1,300) were exposed to NO₂ levels which breached legal limits (down from 64% in 2016). Southwark ranked 8th highest of all London boroughs.
- Early Census 2021 population figures* indicate that, in 2021, over 61,000 0–18 yr olds faced harmful levels of PM_{2.5} and over 1,500 faced NO₂ levels breaching legal limits.
- All schools and nurseries face excessive PM_{2.5}. Two schools are in areas where NO₂ breaches legal limits.
- In Southwark, about 8,000 0–18 yr olds (and about 6,000 0–14 yr olds) are estimated to live in Air Quality Focus Areas (AQFAs), with recognised poor air quality, targeted for reduction.

Data sources

ONS, 2022. Population & Household Estimates, England & Wales: Census 2021. *Note: Census 2021 reported a 10% drop in the Southwark 0-19 yr population, versus 2020 mid-year estimates, but it is uncertain how much this was affected by Covid pandemic-related population movement which may subsequently have been reversed. 2021 pollutant exposure numbers are based on 2019 pollutant exposure proportions.

GLA, 2022. NO₂, PM_{2.5} and PM₁₀ population exposure data (part of LAEI 2019 data publication).

GLA, 2022. Air Quality in Southwark: A Guide for Public Health Professionals.

ONS, 2020. Mid-2019 Population Estimates for Lower Layer Super Output Areas in England and Wales by Single Year of Age & Sex. Slide 36

Southwark Council, 2022. Proportion of LSOAs within Air Quality Focus Areas.

All Southwark older people face harmful air pollution levels, as do all Southwark hospitals and care homes

THE LOCAL PICTURE: OLDER PEOPLE'S EXPOSURE

An additional 1 in 12 (8%) Southwark residents are more vulnerable to air pollution due to older age: about 25,800 people are aged 65+ yr (predicted to rise by one-third by 2030).

- Older people are more vulnerable to air pollution than younger adults because their lungs are less elastic and so less able to filter out polluted air, and they are more likely to have long-term conditions that can be exacerbated by air pollution.
- In 2019, all Southwark 65+ yr olds (100%; about 27,900 people) were exposed to excessive, harmful PM_{2.5} levels.
- In 2019, 2% of Southwark 65+ yr olds (about 500 people) were exposed to high NO₂ levels breaching legal limits (down from 56% in 2016). Southwark ranked 9th of all London boroughs.
- Early Census 2021 figures* indicate that, in 2021, almost 26,000 Southwark 65+ yr olds faced harmful PM_{2.5} levels, and about 500 faced NO₂ levels breaching legal limits.
- All Southwark hospitals and care homes face excessive, harmful PM_{2.5}. Two Southwark hospitals are in areas where NO₂ breaches legal limits.
- Around 3,000 65+ yr olds are estimated to live in Air Quality Focus Areas, with known poor air quality.

Data sources

ONS, 2022. Population & Household Estimates, England & Wales: Census 2021. *Note: Census 2021 reported an 8% drop in the Southwark 65+ yr population, versus 2020 mid-year estimates, but it is uncertain how much this was affected by Covid pandemic-related population movement which may subsequently have been reversed. 2021 pollutant exposure numbers are based on 2019 pollutant exposure proportions.

ONS, 2021. GLA 2019-based BPO population projections.

GLA, 2022. NO₂, PM_{2.5} and PM₁₀ population exposure data (part of LAEI 2019 data publication).

ONS, 2020. Mid-2019 Population Estimates for Lower Layer Super Output Areas in England and Wales by Single Year of Age & Sex.

GLA, 2022. Air Quality in Southwark: A Guide for Public Health Professionals.

Southwark Council, 2022. Proportion of LSOAs within Air Quality Focus Areas.

Low income groups face a “triple jeopardy” and are likely to disproportionately suffer from indoor air pollution

THE LOCAL PICTURE: INDOOR AIR POLLUTION AND LOW INCOME GROUPS

Low income groups face a “triple jeopardy”¹ when it comes to indoor air pollution so they are likely to disproportionately suffer from the health impacts of indoor pollutants.

- People on low incomes are more likely to have greater exposure to indoor air pollution
- They are more likely to have increased vulnerability to the health impacts of air pollution due to higher rates of pre-existing health conditions
- They are less able to change their circumstances and make choices to protect their health

Children from low income households are particularly vulnerable, facing the above issues with increased vulnerability due to their age and stage of physical development. 43% of children in Southwark were living in poverty in 2019/2020, after housing costs².

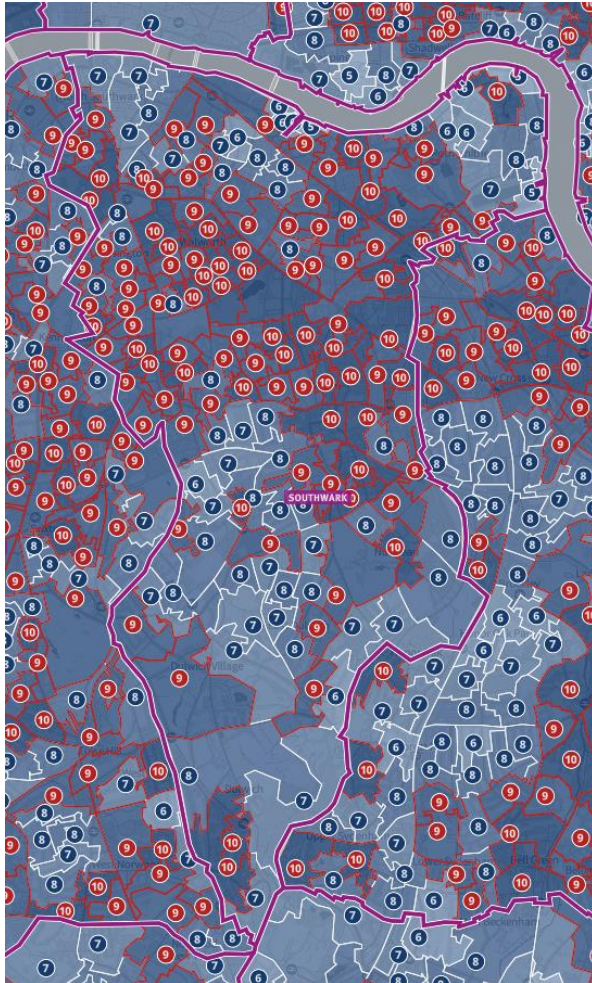
“Children from low income households, they are in a catch 22. They are more susceptible due to underlying health, spend more time at home, and are exposed to higher concentrations of air pollution due to features of their home and the surrounding neighbourhood” – Lauren Ferguson, UCL

References

1. Ferguson et al. 2021. Systemic inequalities in indoor air pollution in London, UK. Build Cities. 2021. 2(1). 425-488.
2. London Borough of Southwark. 2022. State of the Borough Report.

Faraday, St George's, Old Kent Road, Camberwell Green and Peckham are especially vulnerable to NO₂ air pollution

THE LOCAL PICTURE: VULNERABILITY TO NO₂



OHID has created a composite indicator of neighbourhood NO₂ air pollution vulnerability.

- This is based on modelled 2018 NO₂ concentration plus local vulnerable populations (0–15 yrs or 65+ yrs, 2018), vulnerable sites (hospitals, care homes, schools and nurseries) and 2019 deprivation levels.
- Neighbourhoods are compared across England and scored by deciles (1/10ths): 1st = least vulnerable to NO₂; 10th = most vulnerable to NO₂.
- Based on this, over half (61%) of Southwark neighbourhoods are in the most vulnerable fifth of England neighbourhoods, for NO₂ harm.
- Faraday ward has the highest number of neighbourhoods (6) ranked in the most vulnerable 1/10th England-wide for NO₂.
- All neighbourhoods in St Georges, Old Kent Road, Camberwell Green and Peckham wards are ranked in the most vulnerable fifth England-wide.
- The map shows a red dot for neighbourhoods in the most vulnerable fifth England-wide.

Data source

OHID, 2022. SHAPE Place Atlas. Neighbourhood = Lower Super Output Area. Score of 10 = most vulnerable 1/10th of England neighbourhoods; score of 9 = next most vulnerable 1/10th of England neighbourhoods..

Faraday, St George's, Old Kent Road, Camberwell Green and Peckham are especially vulnerable to PM_{2.5} air pollution

THE LOCAL PICTURE: VULNERABILITY TO PM_{2.5}



A similar composite indicator has been created for neighbourhood vulnerability to PM_{2.5} air pollution.

- Over half (61%) of Southwark neighbourhoods are in the most vulnerable fifth of England neighbourhoods for PM_{2.5} harm.
- Faraday ward has the highest number of neighbourhoods (6) ranked in the most vulnerable 1/10th England-wide for PM_{2.5}.
- All neighbourhoods in St Georges, Old Kent Road, Camberwell Green and Peckham wards are ranked in the most vulnerable fifth England-wide.
- The map shows a red dot for neighbourhoods ranked in the most vulnerable fifth England-wide.

Data source

OHID, 2022. SHAPE Place Atlas. Neighbourhood = Lower Super Output Area. Score of 10 = most vulnerable 1/10th of England neighbourhoods; score of 9 = next most vulnerable 1/10th of England neighbourhoods.

Modelling suggests that if air pollution levels remain static, the local burden of disease will continue to grow

THE LOCAL PICTURE: HEALTH LUMEN MODELLING

Modelling undertaken by Health Lumen suggests that if air pollution levels remain static, there will be a significant increase in the burden of relevant diseases in Southwark between 2020 and 2024.

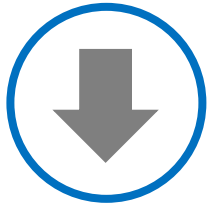
- **15,529** new cases of disease associated with NO₂ emissions.
- **2,922** new cases of disease associated with PM_{2.5} emissions.
- **Over £9 million** in savings to the NHS could be achieved over the course of four years if levels of NO₂ were reduced to the same as those in Havering and PM_{2.5} levels met the 2013 WHO objective.

References

1. Health Lumen. 2020. [Health impacts of air pollution. Modelling the health impact of air pollution in Lambeth and Southwark.](#)

Despite large reductions, excessive air pollution in Southwark is linked to ill-health and excess death, mostly from PM_{2.5}

THE LOCAL PICTURE: SUMMARY



Levels of the three main air pollutants fell substantially in Southwark between 2013 and 2019.



All Southwark children and older people are exposed to harmful PM_{2.5} levels, as are all local schools, nurseries, hospitals and care homes.



The biggest air pollution sources in Southwark are road transport and industrial/commercial activity.



Data on indoor air pollution is lacking. However, research indicates there are systemic inequalities with low income groups most affected.



All parts of Southwark are exposed to harmful levels of PM_{2.5}. Especially high levels occur in the north-west of the borough and along major roads.



Almost 1 in 10 (9%) deaths in Southwark are related to NO₂ or PM_{2.5} air pollution, equating to over 100 extra deaths a year.

CONTENTS

Introduction

Policy Context

The Local Picture

The Local Response

Community & Stakeholder Views

Summary & Key Findings

Recommendations

The GLA has set out 25 actions that London boroughs are expected to deliver, including 9 key selected actions

THE LOCAL RESPONSE

In 2019, the GLA set out 25 actions that London boroughs are expected to deliver through Air Quality Action Plans as part of their London Local Air Quality Management (LLAQM) duties. Of the 25 actions in total, 9 have been chosen as key selected measures that boroughs should have a strong focus on:

1. Enforcing the Non-Road Mobile Machinery (NRMM) Low Emission Zone
2. Promoting and enforcing smoke control zones
3. Promoting and delivering energy efficiency retrofitting projects in workplaces and homes
4. Supporting alerts services such as Airtext, and promoting the Mayor's air pollution forecasts
5. Reducing pollution in and around schools, and extending school audits to other schools in polluted areas
6. Installing Ultra Low Emission Vehicle (ULEV) infrastructure
7. Improving walking and cycling infrastructure
8. Regular Car Free days/temporary road closures in high footfall areas
9. Reducing emissions from council fleets

Reference

1. GLA. 2019. LLAQM Borough Air Quality Action Matrix.

Southwark's current Air Quality Action Plan requires input from a range of policy areas

THE LOCAL RESPONSE

Southwark's current Air Quality Strategy and Action Plan¹ runs until the end of 2022 and has eight strategic aims:



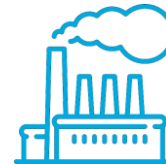
Monitor and report on local air quality



Reduce carbon emissions



Reduce emissions from buildings using planning process



Regulate and control emissions from commercial and domestic sources



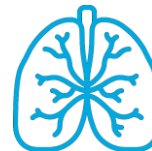
Increase public awareness through communications, campaigns and engagement



Support the GLA's actions and policies, including ULEZ extension



Reduce emissions from road traffic, particularly diesel vehicles



Maintain air quality as a local public health priority

References

1. Southwark Council. [Air Quality Strategy & Action Plan](#) 2017
2. Icons from photo3idea-studio, Freepik, itim2120, Smashicons, and Smartline

Since 2017, Southwark has delivered a number of successful projects to reduce emissions and exposure

THE LOCAL RESPONSE

Whilst the Southwark Environmental Protection Team continues to improve air quality monitoring, the 2017-2022 AQAP saw a shift away from just trying to understand the problem, to taking action to reduce emissions and people's exposure. Progress has been made across a number of key areas:

- **Monitoring**
 - Expanded the reference monitoring station networks from 2 to 6 monitors
- **Air Quality Focus Areas**
 - Introduced a Low Emission Neighbourhood in Walworth
- **Transport and Highways**
 - Introduced 11 Low Traffic Neighbourhoods across the borough
 - Introduced emission based vehicle parking charges for on street parking and permits
 - Implemented a new Southwark fleet procurement policy that prioritises electric vehicles and ensures diesel is a last resort
- **Planning**
 - Produced an Air Quality Planning Technical guidance document
- **Schools**
 - 2 Primary Schools and 3 nurseries in the Borough received a Mayor's Air Quality Audit
 - Launched Southwark's own Schools Air Quality Audit programme

There are 9 priorities in Southwark's Air Quality Action Plan 2023-2027

THE LOCAL RESPONSE: PRIORITIES FOR THE NEW ACTION PLAN

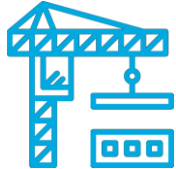
Southwark's Environmental Protection Team have been developing Southwark's new Air Quality Action Plan 2023-2027. There are 9 draft priorities:



Monitoring and other core statutory duties



Borough fleet



Emissions from developments and buildings



Localised solutions



Public health and awareness raising



Cleaner transport



Delivery servicing and freight



Schools and communities



Lobbying

References

1. Southwark Council. 2022. Draft Air Quality Strategy & Action Plan.
2. Icons from photo3idea_studio, smalllikeart, Freepik, itim2120, Smashicons, and Smartline

Impact on Urban Health, a local place-based foundation, are also focused on the health impacts of air pollution

THE LOCAL RESPONSE: IMPACT ON URBAN HEALTH

Impact on Urban Health (part of Guy's and St Thomas' Foundation) are a local place-based foundation in Lambeth and Southwark that aims to tackle the most complex health issues that impact inner urban areas. One of their programmes of work is the Health Effects of Air Pollution (HEAP).

- The HEAP programme aims to address the impact of poor air quality on the health of those deemed most vulnerable, including children, older people and people with heart and lung conditions.
- The programme has three core strands where they aim to have an impact locally:
 - **Engaging and amplifying the voices of people who are most impacted**
 - **Reducing people's exposure to air pollution in the environments where they spend most of their time**
 - Working with businesses to find equitable solutions to reducing emissions

References

1. Impact on Urban Health. 2022. [About Us](#).
2. Impact on Urban Health. 2022. [Health effects of air pollution](#).

CONTENTS

Introduction

Policy Context

The Local Picture

The Local Response

Community & Stakeholder Views

Summary & Key Findings

Recommendations

The local community want to improve air quality, but often do not know how to get involved as individuals

COMMUNITY & STAKEHOLDER VIEWS: PERCEPTIONS OF AIR POLLUTION

People in Southwark have explained their perceptions of air pollution and how it impacts on their health. The key themes discovered are shown below.

- 72% were interested in becoming involved in improving air quality, however only 7% said they were actively involved already¹.
- The UK government was seen as responsible for improving air quality over individuals².
 - For example, 89% identified traffic as the main cause of air pollution, but often this was not linked to people's own actions (e.g. driving a car)².
- People prioritise other issues over air pollution (e.g. rent, crime and heavy traffic)².
 - Air pollution was seen as less important by older people and parents with young children (two groups greatly impacted by air pollution)².
- People were more concerned about air quality if their own health was affected by it.
 - Those with lung conditions were 35% more likely to think air quality was impacting on their health, compared to those with heart conditions³.

“Feel like my voice won't make a difference”
Joseph, survey respondent¹.

“For me pollution goes last, because obviously the price of the rent is a daily thing for me.”
Café Business².

References

1. Impact on Urban Health. A Breath of Clean Air: Insights from Lambeth and Southwark.
2. Global Action Plan, Opinium and LSx. Global Action Plan: Our Lives, Our Planet.
3. <https://urbanhealth.org.uk/insights/reports/air-pollution-and-people-with-heart-and-lung-conditions>

Residents want long-term and inclusive actions to be put in place to improve the air quality in Southwark

COMMUNITY & STAKEHOLDER VIEWS: COMMUNITY RECOMMENDATIONS

Reducing Traffic:



- People generally agreed with road closures and congestion charges (e.g. ULEZ), as ways to reduce the traffic in Southwark.
- 59% support the idea of expanding time-restricted road closures¹.
- However, people said these measures can disproportionately affect those with lower incomes, and often just move traffic and air pollution elsewhere.

“The congestion charge does not deter people coming in... I agree with it but at the same time it affects people who cannot afford a new car”²

Information on Air Quality:



- People wanted accessible information on air quality, from trusted sources³.
 - Daily air quality information on digital screens with audio (for people who are visually impaired) and images (for those who do not speak English).
 - Use culturally aligned human stories to engage and represent all of the community.

More Involvement:



- People want to be more involved in improving air quality. They want to hold the council accountable, and ensure long-term actions are put in place.
- Black communities want to be more represented in decision-making. Collaborations with local Black organisations were suggested to do this.

References

1. Southwark Council. Movement Plan - Consultation Summary Report
2. Opinium and LSx. Global Action Plan: Our Lives, Our Planet.
3. Southwark Council, Impact on Urban Health, Cleaner Air Borough, Rooted by Design, and DXW. Southwark Air Quality Discovery – a Breath of Fresh Air.
4. Flaticon: Freepik and Smashicon.

Residents want long-term and inclusive actions to be put in place to improve the air quality in Southwark

COMMUNITY & STAKEHOLDER VIEWS: COMMUNITY RECOMMENDATIONS 2

Encourage Active Travel and Public Transport:

- People preferred positive actions (e.g. incentivising active travel or reducing the cost of public transport)².
- Barriers to active travel and public transport were: **safety**, **accessibility** and **reliability**¹.



“Simplify street crossings and making pedestrian traffic the priority”¹

Safety	Accessibility	Reliability
Better street lighting.	Wider pavements with benches and less clutter.	Information on live public transport (e.g. live digital boards at bus stops).
Better walking and cycling infrastructure available.	Step-free access and audio announcements at stations – mostly mentioned by older people and wheelchair users ¹ .	Technological issues accessing live transport information -mostly mentioned by older people ¹ .

More Green Spaces:

- Having more green space was stated frequently as a way to encourage active travel¹.
- It was also suggested that these were made more accessible and inclusive (e.g. give ownership back to local communities and hold events focusing on Black culture in these spaces)².



“We don’t have a garden so we go to the local park to get fresh air...It would be nice if there were more”²

References

1. Southwark Council. Movement Plan - Consultation Summary Report
2. Southwark Council, Impact on Urban Health, Cleaner Air Borough, Rooted by Design, and DXW. Southwark Air Quality Discovery – a Breath of Fresh Air.
3. Flaticon: Freepik and Smashicon.

Interviews with expert stakeholders highlighted common areas of focus in order to reduce air pollution emissions

COMMUNITY & STAKEHOLDER VIEWS: REDUCING EMISSIONS

Eight expert stakeholders across academia, policy, campaigning and health were interviewed for the JSNA. Across the interviews, common themes emerged around where Councils should focus to reduce air pollution emissions:

- The climate emergency is a driving force across organisations, viewed as a bigger priority than air pollution. Southwark should ensure air pollution is integrated into climate action, focusing on **interventions that give a win-win scenario for both carbon and air pollution reduction**.
- NO₂ trends are set to decrease over time whilst particulate matter levels have been stagnant. **An overt focus is needed on reducing particulate matter emissions** within the most polluting industries and activities, such as construction and domestic wood-burning.
- Policy and regulation around air quality is crucial to ensure stakeholders are compelled to act. **Enforcement, often at the local level, is essential** to ensure policy translates into practice.
- Control over **parking is a lever that Councils are currently underexploiting**. Southwark should explore how policies on parking can be strengthened to reduce car ownership and the use of polluting vehicles.

“Climate change is higher on the agenda, but air pollution is a threat here and now” – Rupert George, UK100

References

1. Southwark Council. 2022. Expert stakeholder interviews for JSNA.

Experts recognised the need to raise awareness of and protect people from the health impacts of air pollution

COMMUNITY & STAKEHOLDER VIEWS: PROTECTING HEALTH

Expert stakeholders also recognised that local Councils have a role to play in both raising awareness of and protecting people from the health impacts of air pollution. Three key themes emerged:

- **Public awareness of the health effects of air pollution needs to be increased** so that people understand the risks to their health. This should also help build understanding of why Southwark Council is taking action on air pollution, increasing support for these changes and compelling more people to act themselves.
- **Health professionals are key stakeholders** that Councils should partner with to support vulnerable groups. Whilst COVID-19 has hampered engagement, the Ella Kissi-Debrah coroner's report has highlighted the important trusted role of health practitioners in providing advice and support to patients.
- To help vulnerable groups reduce their exposure to air pollution, Southwark should focus on **targeted measures that aim to reduce pollution in places where vulnerable groups spend their time**, like School Streets.

“People need to understand that the elderly, the young and the vulnerable have most to gain from better air” – Jemima Harthorn – Mums for Lungs

“What we are asking vulnerable groups to do should still allow them to live their full and free life” – Rob Day, Asthma and Lung UK

References

1. Southwark Council. 2022. Expert stakeholder interviews for JSNA.

Communities and experts agreed on the importance of transport interventions and raising awareness

COMMUNITY & STAKEHOLDER VIEWS: SUMMARY

There were a wide range of ideas from both communities and expert stakeholders on where Southwark should focus its efforts, with two clear areas of commonality:



Transport interventions

- Both community members and expert stakeholders saw reducing traffic and increasing active travel as a key priority.
- Community members were generally supportive of ‘stick’ measures such as road closures but felt more positive about ‘carrot’ measures such as reducing the cost of public transport.
- Experts focused on parking as a unique lever that local Councils should explore to reduce car ownership and use.
- Whilst community members were supportive of measures to reduce traffic, they did not highlight the need to reduce car ownership.



Providing information and raising awareness

- Both community members and expert stakeholders saw this as an importance part of the puzzle, ensuring local people understand the risks associated with air pollution and how they can protect their health and can get involved to reduce emissions.

CONTENTS

Introduction

Policy Context

The Local Picture

The Local Response

Community & Stakeholder Views

Summary & Key Findings

Recommendations

Whilst London's ULEZ has contributed to reduced emissions, excessive air pollution persists in Southwark

SUMMARY & KEY FINDINGS

Whilst London's Ultra Low Emission zone (ULEZ) has contributed to reduced emissions across the borough, excessive air pollution persists with further action needed.

- Levels of the three main air pollutants fell substantially in Southwark between 2013 and 2019: NO₂ by one-third (34%), PM_{2.5} by one-fifth (19%) and PM₁₀ by one-eighth (13%). This drop was mainly due to reduced road traffic emissions since implementation of the central London ULEZ.
- In 2019, the biggest air pollution sources in Southwark were road transport (especially cars, diesel vans and small trucks) and industrial/commercial activity (especially gas-fuelled heat/power, cooking and construction dust).
- All parts of Southwark are exposed to excessive, harmful levels of PM_{2.5}. Especially high levels occur in the north-west of the borough and along major roads. Despite much improvement, excessive levels of NO₂ and PM₁₀ persist along major roads.

Air pollution is a health inequalities issue. Action to protect vulnerable groups must be a priority

SUMMARY & KEY FINDINGS

There are systemic inequalities associated with both indoor and outdoor air pollution, with some groups worst affected by the health impacts of air pollution such as children, older people and people living in low income areas.

- Data on indoor air pollution is lacking. However, research in London indicates that there are systemic inequalities associated with indoor air pollution with low income groups most affected.
- All Southwark children and older people are exposed to excessive, harmful PM_{2.5} levels, as are all local schools, nurseries, hospitals and care homes. Large numbers of children and older people also face levels of NO₂ that breach legal limits.
- In 2019, almost 1 in 10 (9%) of all Southwark resident deaths were related to NO₂ or PM_{2.5} air pollution, equating to over 100 extra deaths. Most of these (7% of all deaths) were due to PM_{2.5}.
- Southwark is in the worst third of London boroughs (ranked 9th) for proportion of deaths due to air pollution.
- This mortality burden falls unequally. The worst ward, Nunhead & Queen's Road, has four times the air pollution mortality burden (1 in 5 deaths related to NO₂/PM_{2.5}), compared with the best ward (St George's; 1 in 20 deaths) (ward population differences may also contribute to this difference).

Whilst action on transport emissions remains important, there are other priority areas emerging

SUMMARY & KEY FINDINGS

Whilst action on transport emissions remains important, there are other priority areas emerging, in particular, those that have the potential to reduce particulate matter emissions.

- Commercial heat and power
 - Significant contributor to NOx emissions and also a big contributor of carbon emissions, representing a win-win in terms of co-benefits.
- Construction
 - Contributes to significant amounts of particulate matter and is viewed as a priority area by the GLA and Southwark Environmental Protection.
- Indoor air quality
 - Tackling domestic wood-burning is important in order to reduce particulate matter emissions both indoors and outdoors.

Addressing emissions from transport should still be an essential part of the strategy given that the sector remains the biggest contributor to local emissions. Most attention should be given to addressing emissions from freight and private car use.

Collaboration across the Council, with local stakeholders and residents is extremely important

SUMMARY & KEY FINDINGS

To achieve impact on air pollution and health locally, collaboration across council departments, with local stakeholders and involving residents will be extremely important.

- Collaborating with the Climate Change team and aligning this work with the Climate Change strategy will be crucial to maximise co-benefits and avoid unintended consequences.
- Continuing work with Transport Policy and Highways departments to reduce emissions from the transport sector.
- Working in partnership with Public Health to ensure action on air pollution prioritises those most impacted and contributes to work to reduce health inequities locally.
- Partnering with local health partners and systems to raise awareness of the impact of air pollution on people's health and to support NHS organisations to reduce their emissions whilst they work towards a Greener NHS in terms of carbon emissions.
- Consistently involving local residents and community groups in the conversation, getting their input into plans for long term change and supporting residents to take their own action to reduce emissions and reduce their exposure.

CONTENTS

Introduction

Policy Context

The Local Picture

The Local Response

Community & Stakeholder Views

Summary & Key Findings

Recommendations

There is much activity that should be continued and strengthened through the AQAP 2023-2027

RECOMMENDATIONS

- **Integrate action on air pollution and climate change to ensure co-benefits are maximised and unintended consequences are avoided**
 - Undertake a comprehensive audit of the Climate Change Strategy and Action Plan to systematically pull out priority areas for air pollution and health
 - *Partners: **Climate Change**, **Environmental Protection**, Public Health, Impact on Urban Health*
 - Assess ways to maximise positive impacts on air pollution through our work to decarbonise buildings in Southwark, set out in the Southwark Plan
 - *Partners: **Climate Change**, **Environmental Protection**, Public Health, Planning*
- **Continue work to tackle transport-related emissions with a particular focus on reducing private car use, car ownership and unsustainable freight**
 - Evaluate how Southwark's current parking policies are designed to reduce private car use and ownership, in particular of the most polluting vehicles, and set out clear plans to strengthen these
 - *Partners: **Transport Policy**, **Highways**, **Environmental Protection**, Impact on Urban Health*
 - Develop a clear vision for sustainable freight in the borough and explore which council levers may help accelerate progress in this space, including consolidation of council services
 - *Partners: **Transport Policy**, **Environmental Protection**, Impact on Urban Health, Highways, Local Economy*
- **Ramp up activity on sectors that contribute the most to particulate matter emissions**
 - Including construction, commercial heat and power, commercial cooking and domestic wood-burning
 - *Partners: **Environmental Protection**, Climate Change, Regeneration, Planning, Communications, Impact on Urban Health, GLA*

An overt focus on health and health inequalities should be developed to maximise impact

RECOMMENDATIONS

- **Commit to tougher targets on ambient air pollution for Southwark based on the WHO's 2021 guidelines**
 - Go further than the GLA commitment to meet the 2005 WHO guidelines by 2030 and set targets for Southwark based on the new WHO guidelines published in 2021, working towards one of the interim targets by 2030
 - *Partners: Environmental Protection, Public Health*
- **Develop a programme of work that aims to increase people's awareness of the health impacts of ambient air pollution and their agency to reduce their exposure**
 - Explore opportunities to develop and deliver tailored messaging to key community groups, building on the airTEXT Discovery project insights
 - *Partners: Public Health, Environmental Protection, Impact on Urban Health, Local Residents*
 - DEFRA funded project to explore how the airTEXT service can be improved to reach groups most vulnerable to the health impacts of air pollution, through local schools and health care providers
 - *Partners: Environmental Protection, Public Health, Cambridge Environmental Research Consortium (CERC), Guy's and St Thomas' NHS Foundation Trust, Impact on Urban Health*
- **Strengthen collaboration with local health partners, exploring ways that the local health sector can reduce air pollution emissions and protect patients and staff**
 - Work closely with South East London Integrated Care System (SEL ICS) to ensure air pollution and resulting health inequalities are seen as a priority within their Green Plan
 - *Partners: SEL ICS, Southwark Council, Guy's and St Thomas' NHS Foundation Trust*

Exploring indoor air pollution and involving communities are two new strands of work for the action plan

RECOMMENDATIONS

- **Develop a prioritisation framework that ensures cost-effective and impactful actions that focus on reducing health inequity are selected first**
 - Commission the development of a local tool to assess the potential air quality and health impacts of proposed actions, supporting better prioritisation
 - *Partners: **Environmental Protection, Public Health, Impact on Urban Health, Lambeth Council***
- **Invest in better understanding of indoor air pollution locally with a focus on homes, schools, care homes and hospitals, and explore council levers for impact**
 - Pilot monitoring of indoor air quality on a council estate in an Air Quality Focus Area to better understand the scale of the problem locally
 - *Partners: **Public Health, Environmental Protection, Impact on Urban Health***
 - Explore opportunities to address indoor air pollution within our work on fuel poverty and healthy housing, through our role as a social housing landlord and licensing of private sector landlords
 - *Partners: **Public Health, Environmental Protection, Housing, Climate Change, Impact on Urban Health***
 - Learn from a Guy's and St Thomas' NHS Foundation Trust project on indoor air pollution affecting the most vulnerable in hospital settings, and the transferability of findings to other settings
 - *Partners: **Public Health, Environmental Protection, Guy's and St Thomas' NHS Foundation Trust***
- **Embed a new approach to collaborating with communities in the air pollution agenda**
 - Gather learning from the Climate Change Citizen's Jury, assess whether community involvement on air pollution should be integrated into the climate change agenda or whether a separate process should be run for air quality that builds on what works
 - *Partners: **Environmental Protection, Climate Change, Public Health***

Find out more at
southwark.gov.uk/JSNA

Health Improvement & Place
Southwark Public Health Division

 [@lb_southwark](https://twitter.com/lb_southwark)  facebook.com/southwarkcouncil