Solihull
METROPOLITAN
BOROUGH COUNCIL

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AIR QUALITY STRATEGY

2024 - 2028

Contents

Foreword

The quality of the air that we breathe has an impact on all of us. Some people are more exposed to poor air quality than others, and some people are more vulnerable to its impacts than others, but improving air quality is an important issue for us all and continues to be the biggest environmental risk to human health.

Although air quality is generally good in Solihull compared to national levels, it is in everyone's interests to make it even better.

It is my pleasure to present this new Air Quality Strategy. The strategy includes key actions that we will be taking over the next few years to achieve better air quality across Solihull, with benefits for everyone's health both now and in the future.

The strategy outlines how we will improve the way we monitor air quality and how we provide information to the public, making sure that robust air quality data is available to view online. It also details how we will work with a range of partners to tackle air pollution from transport, housing and other areas as well as how we support Schools & Businesses to reduce their levels of air pollution.

We all have a role to play in improving the air we breathe; this is not something that the council can do alone.

Collaboration is very much at the heart of this strategy, working with and supporting residents, local partners, and businesses, to bring about meaningful improvements in air quality.

Councillor Andy Mackiewicz

Cabinet Member for Climate Change & Planning

I hope you will support us in delivering this Air Quality Strategy. By working together we can make a real difference and create a cleaner and healthier environment for us all.

Introduction

Clean air is one of the most basic requirements for us all. It is essential for our good health and wellbeing, and for the natural environment. Poor air quality is still the largest environmental risk to public health in the UK. It shortens lives and reduces quality of life, particularly amongst the most vulnerable, the young and old, and those living with health conditions. The annual mortality of human-made air pollution in the UK is roughly equivalent to between 26,000 and 38,000 deaths every year[1].

Poor air quality also damages the economy and is bad for business. Between 2017 and 2025, the total cost to the NHS and social care of air pollution was estimated to be £1.60 billion for particulate matter and nitrogen dioxide ($PM_{2.5}$ and NO_2) combined[2]. Research has shown that the economic benefits of improving air quality outweigh the cost of action[3]. For some pollutants there is no clear evidence of a safe level of exposure below which there is no risk of adverse health effects, and any reduction in pollutant exposure will have a positive impact on public health. Reducing air pollution could have several associated benefits such as increasing active travel and consequently physical activity, whilst also helping to tackle health inequalities experienced by children, the elderly, people living in areas of deprivation, and those with chronic conditions such as asthma and other respiratory diseases.
In light of the increasing awareness of the dangers posed by poor air quality, and the introduction of World Health Organisation's Global Guidelines[4], the Council wants to do more. Accordingly, we have developed this strategy to update the previous 2019 Air Quality Strategy with a continued focus on improving air quality across the borough, using the latest legislation and guidance and examples of best practice as a basis for ensuring 'Clean air for all'.

[1] Chief Medical Officer's Annual Report 2022 Air pollution https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1124738/chief-medical-officers-annual-report-air-pollution-dec-2022.pdf
[2] Estimation of costs to the NHS and social care due to the health impacts of air pollution: summary report (publishing.service.gov.uk)
[3] CBI Economics (2020), Breathing life into the UK economy: Quantifying the economic benefits of cleaner air. https://www.cbi.org.uk/media/5539/2020-09-cbi-economics-caf-report.pdf
[4] World Health Organisation's Global Guidelines. WHO global air quality guidelines: particulate matter (PM2.5 and PM10), ozone, nitrogen dioxide, sulfur dioxide and carbon monoxide

Air quality legislation

The air quality strategy for England

This revised strategy[5] sets out the actions that Defra expects local authorities to take in support of national long-term air quality goals, including new $PM_{2.5}$ targets. The strategy provides a framework to enable local authorities to make the best use of their powers and make improvements for their communities.

The Government have set two new legally binding $PM_{2.5}$ targets[6]

- 10µg/m3 annual mean concentration for $PM_{2.5}$ nationwide by 2040.
- 35% reduction in average population exposure by 2040 (compared to a base year of 2018).

Table 1 shows the National air quality limits for $PM_{2.5}$, PM_{10} and NO_2

Local air quality management framework

The local air quality management framework (LAQMF)[7] sets out what local authorities must do with regards to air pollution levels in their region. The Environment Act 2021 has amended the previous 1995 Act to strengthen LAQMF mechanisms. They aim to enable greater cooperation between designated relevant public authorities, at a local level, and broaden the range of organisations that play a key role in air quality actions and improvements.

All local authorities in the UK are required to review and assess air quality in their area. Associated regulations set national objectives for air pollutants. If standards are exceeded or are unlikely to be met by the required date, then that area should be designated an air quality management area (AQMA) and an action plan developed to tackle exceedances.

[5] The air quality strategy for England - GOV.UK (www.gov.uk)
[6] The Environmental Targets (Fine Particulate Matter) (England) Regulations
[7] Local Air Quality Management (LAQM) Support Website | DEFRA

World Health Organisation guidance

As well as the national air quality targets, there is also international guidance developed by the World Health Organisation (WHO)[8]. The WHO health-based guidelines provide guidance on thresholds and limits for key air pollutants that pose health risks. These are only guidelines and are not legally binding unless a country chooses to adopt them into its own legislation. The WHO guideline levels for the main air pollutants of concern are shown in table 1, along with comparison to the current and future UK legal target values.

On-going monitoring of air quality in Solihull shows there is no requirement to declare an AQMA based on national limits. However concentrations for NO_2 and modelled concentrations for $PM_{2.5}$ for Solihull (and other parts of the West Midlands) are likely to exceed the WHO annual mean air quality guidelines. Solihull Council will explore what additional measures can help meet the WHO air quality guidelines.

Table 1 National air quality limits and WHO air quality guidelines (AQG)

Pollutant	Averaging time	UK legal target value	WHO Guideline
$PM_{2.5}$	Annual mean	10 µg/m^3 (by 2040)	5 µg/m^3
		35% reduction in population exposure by 2040	NA
	24 hour	N/A	15 µg/m^3
PM_{10}	Annual	40 µg/m^3	15 µg/m^3
	24 hour	50 µg/m^3	45 µg/m^3
NO_2	Annual	40 µg/m^3	10 µg/m^3
	Hourly	200 µg/m^3 (not to be exceeded more than 18 times per year)	200 µg/m^3 (2005 WHO Guidelines)
	24 hour	N/A	25 µg/m^3

[8] What are the WHO Air quality guidelines?

Air pollution and sources

What is air pollution?

Everyone is exposed to air pollution to some extent[9]. Air pollutants are generated by a mixture of natural and non-natural processes and are released into the air, where they can travel long distances and combine with each other to create different pollutants. Pollutants from other parts of the UK, and elsewhere in the world, as well as closer sources can build up into local concentrations.

Different air pollutants should be considered and tackled together. They are rarely independent of each other, either in their production or resulting exposures. Although most sources of outdoor air pollution are beyond the control of individuals, everyone has a role to play. Concerted action by local, national, and regional level policymakers working in sectors like energy, transport, waste management, urban planning, and agriculture are key to making progress.

Ambient air pollution

Vehicles are sometimes regarded as the sole cause of pollution. However there are many other sources of harmful emissions including biomass, domestic wood burning, agriculture and industry. Elevated concentrations can occur where pollutants build up in a particular location, such as a busy road or close to an emission source. Pollution from distant sources can affect local concentrations of pollution if wind direction and weather systems carry this across regions.

Cleaner technologies and changes in individual behaviour will contribute to improved air quality for everyone.

[9] Health matters: air pollution - GOV.UK (www.gov.uk)

Indoor air pollution

People spend increasingly more of their lives indoors. Children and people with respiratory conditions are particularly susceptible to health problems caused by poor indoor air quality. Both short- and long-term exposure to indoor air pollution can cause a range of health issues. Poor indoor air quality has been linked to lung diseases like asthma and lung cancer and has also been linked to an increased risk of heart disease and strokes[10]. Smoke, vapours, mould, and chemicals used in certain paints, furnishings, and cleaners can all affect indoor air quality and our health. There are a number of sources of indoor air pollutants that can harm health including:

- Carbon monoxide, nitrogen dioxide and particulates from cooking, and domestic appliances (boilers, heaters, fires, stoves, and ovens), which burn carbon containing fuels (coal, coke, gas, kerosene, and wood).
- Volatile organic compounds from cleaning and personal care products, building materials and household consumer products (paints, glues, carpets, laminate furniture, cleaning products, air fresheners, polish).
- Environmental tobacco smoke and second-hand smoke.

Types of pollution

There are many pollutants that can impact on health. The major air pollutants in the UK are:

- Particulate matter (PM)
- Nitrogen dioxide (NO2)
- Ammonia (NH_3)
- Sulphur dioxide (SO_2)
- Non-methane volatile organic compounds (NMVOCs)

[10] Air pollution at home | Asthma + Lung UK (asthmaandlung.org.uk)

Particulate matter (PM)

PM is a generic term used to describe a complex mixture of solid and liquid particles of varying size, shape, and composition.

PM is often classified by aerodynamic size and referred to as:

- coarse particles (PM_{10}; particles that are less than 10 microns (µm) in diameter)
- fine particles ($PM_{2.5}$; particles that are less than 2.5 µm in diameter)
- ultrafine particles ($PM_{0.1}$; particles that are less than 0.1 µm in diameter)

The size of particles and the duration of exposure are key determinants of potential adverse health effects. Particles larger than 10 µm are mainly deposited in the nose or throat, whereas particles smaller than 10 µm pose the greater risk to health because they can be drawn deeper into the lung.

The main sources of man-made PM are from the burning of fossil fuels (for example in vehicle engines, or from other combustion processes). PM can also be produced when building materials are crushed or broken on construction sites, and by friction between surfaces such as tyres on roads. Natural sources include wind-blown soil and dust. For indoor exposure, the main sources are likely to be from open fireplaces and wood-burning stoves. Mould, by-products from smoking, cleaning products, air fresheners and cooking are all sources of indoor particulate. In domestic settings outdoor fires (such as garden bonfires) are also a source of PM.

There is an extensive body of evidence that long-term exposure to PM increases mortality and morbidity from cardiovascular and respiratory diseases. PM has also been classified by the International Agency for Research on Cancer (IARC) as carcinogenic to humans (a Group 1 carcinogen) and a cause of lung cancer. The strongest evidence for effects on health is associated with ultra fine particles of PM which can pass through the lungs into the bloodstream.

Nitrogen oxides (NOx)

Nitrogen oxides (NOx) are a group of gases including Nitrogen Dioxide (NO_2) that are mainly produced when fossil fuels, such as gas, petrol, and diesel, are burned in air. Road transport is estimated to be responsible for about 50% of total emissions of nitrogen oxides. Nitrogen dioxide[11] is harmful to health, with the most common symptoms being shortness of breath and coughs. Nitrogen dioxide inflames the lining of the lung and reduces immunity to lung infections such as bronchitis and lung disease. Studies also suggest a causal association with childhood asthma. The health effects from nitrogen dioxide are more significant for people with asthma compared to healthy individuals.

Non-methane volatile organic compounds (NMVOCs)

Non-methane volatile organic compounds (NMVOCs) describe a large group of airborne chemical substances[12] which are released from various products, including adhesives (glues), paints, cleaning products, and air fresheners. Reactions between different NMVOCs and chemicals from combustion processes such as smoking, cooking, solid fuel or candle burning can produce dangerous chemicals like formaldehyde and can contribute to concentration levels of airborne particulate matter.

Ammonia (NH_3)

Ammonia is a gas that is released into the atmosphere, mostly from agricultural sources like slurry or other rotting farm waste and fertiliser. Ammonia (NH3) is a gas that only stays in the atmosphere for a few hours once emitted. Ammonia depositing in the environment can cause significant long-term harm to eco-systems and sensitive habitats.

Sulphur dioxide (SO_2)

Sulphur dioxide (SO_2) is an acidic gas which can combine with water vapour in the atmosphere to produce acid rain. Sulphur dioxide is an irritant that can affect airways, particularly in those who have asthma. Sulphur dioxide was historically a pollutant of concern, but because industrial emissions have reduced so much, SO_2 no longer poses a risk for health in Solihull.

[11] COMEAP_The_evidence_for_the_effects_of_nitrogen_dioxide.pdf (publishing.service.gov.uk)

[12] 2006240803_Non_Methane_Volatile_Organic_Compounds_in_the_UK.pdf (defra.gov.uk)

Health impacts of air pollution

Air pollution has a significant effect on public health and presents the largest environmental risk to public health in the UK[13]. When air pollutants enter the body, they can have effects on various organs increasing the risk of some cancers, respiratory and cardiovascular diseases, whilst potentially exacerbating existing conditions, such as asthma. Emerging evidence suggests that air pollution may be linked to dementia and cognitive decline[14], as well as early life effects such as low birth weight[15].

In recent years we have also seen how air pollution has a tragic and direct impact upon individuals and families. It is now clear that exposure to air pollution is not an abstract threat, but something that really can trigger deadly illness. Following the landmark inquest into the death of Ella Kissi-Debrah[16], the coroner identified three significant matters of concern for air quality management:

- Legal air quality limits in the UK are set far higher than the WHO guideline limits, despite the Government's knowledge about the impact of air pollution on health.
- The general public has only a limited awareness of air pollution or the sources of information about how to protect health by reducing exposure.
- The health effects of air pollution are not being sufficiently communicated to patients and carers by medical and nursing professionals.

Short-term exposure to the respiratory irritant NO_2, particularly at high concentrations can cause inflammation of the airways, potentially leading to coughing, production of mucus and shortness of breath. Short-term exposure (over hours or days) to elevated levels of air pollution can also have a range of health impacts, including effects on lung function, exacerbation of asthma, increases in respiratory and cardiovascular hospital admissions as well as mortality.

[13] Health matters: air pollution - GOV.UK (www.gov.uk)
[14] Air pollution and dementia | The BMJ
[15] Impact of London's road traffic air and noise pollution on birth weight: retrospective population based cohort study | The BMJ
[16] Ella Kissi-Debrah death: Mum continues clean air fight 10 years on - BBC News

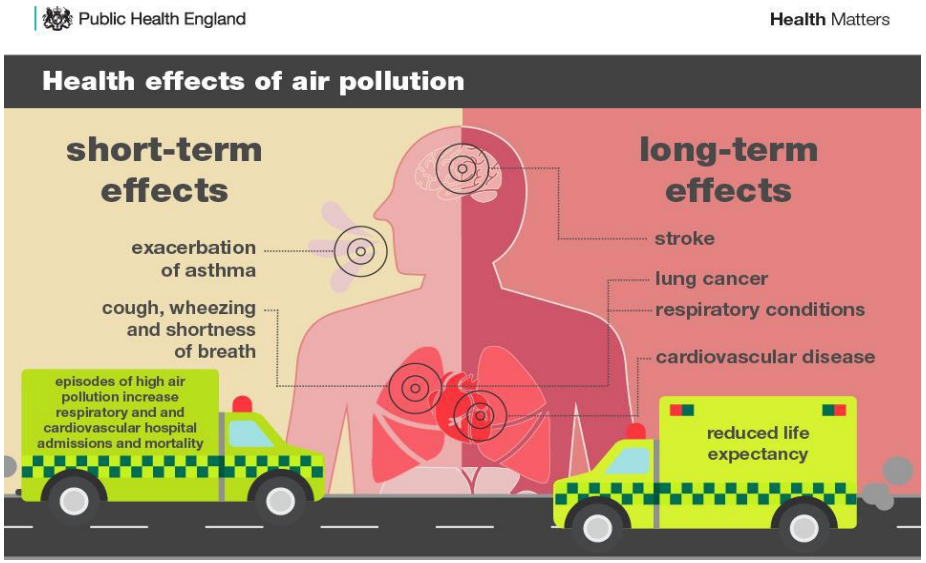
Studies have shown that long-term exposure to air pollution (over years or lifetimes) reduces life expectancy, mainly due to cardiovascular and respiratory diseases and lung cancer.

Inequalities

We are all affected by the quality of the air we breathe so the whole population is at risk. Some groups, especially children, older people, pregnant women, and people who already have long term illnesses and conditions, are more vulnerable than others.

Those who live in deprived areas, poor quality and badly designed housing, or live, work or learn near busy roads are also more vulnerable to health effects, even though they are less likely to have caused the pollution.
In the worst affected areas, life-expectancy may be reduced by as much as nine years.
This happens on a local and global scale, with those who are most polluting being least likely to have harm from its effects[17].

The known health effects of air pollution are summarised in the figure below (PHE, 2018).



[17] Microsoft Word - AQinequalitiesFNL_AEAT_0506.doc (defra.gov.uk)

Environmental impacts of air pollution

Air pollution has direct impacts on the natural environment, contributing to climate change, reducing crop yields, and polluting oceans and waters. Cleaner air will directly benefit animals and habitats as well as creating a better environment for everyone to live, work and thrive in.

Poor air quality, particularly ammonia and oxides of Nitrogen are major contributors to the long-term decline of biodiversity in the UK. Pollutant deposition can overload land and water, acidify soils, and affect natural habitats and freshwaters. These effects reduce biodiversity in sensitive habitats, creating a knock-on effect for wildflowers and wildlife, like butterflies and bees.

Solihull Council understands the need to address these risks and to conserve and enhance biodiversity as outlined in the Natural Environment and Rural Communities Act 2006.

Through the Environment Act 2021, local authorities are required to produce local nature recovery strategies. We know that local nature recovery strategies will not be a primary delivery mechanism for air quality measures. However, air quality impacts on habitats should be considered in combination with protected sites strategies and shared nitrogen action plans to form a holistic approach to alleviating impacts of air pollution on nature.

Climate change

It is now widely agreed that climate change poses an unprecedented threat, and that action is required across all aspects of society. Solihull Council aspires to meet a borough-wide net zero target of 2041 in-line with the West Midlands Combined Authority (WMCA) ambition. As an organisation, the Council itself has a 2030 net zero ambition.

In November 2021 the Council adopted its net zero strategy. 'Our air quality and transport' is one of the six climate change action themes defined within the strategy. Our net zero action plan[18] details the actions Solihull will need to consider to meet its ambition of a net zero borough. The Council will use this work to help inform the nature and extent of action. The report is a key element in planning the borough's response to the climate emergency.

The combination of net-zero actions to tackle climate change will support this air quality strategy, providing opportunities to choose win-wins for climate and clean air and avoiding measures which could have a detrimental effect on the air we breathe. The continued shift away from fossil fuel-powered transport and energy production towards walking, cycling, public transport and electric vehicles will lead to lower nitrogen dioxide emissions and particulates.

Published in November 2021 the net zero action plan seeks to:

- Identify actions Solihull Council can take to reduce greenhouse gas emissions across the Borough.
- Estimate the carbon savings, costs or payback and co-benefits associated with implementing the actions.
- Explore a method of prioritising actions needed to enable the net zero transition.

The Net Zero Action Plan seeks to help the Council understand which stakeholders in the borough will need to be engaged and to help focus resourcing and funding towards actions with the greatest positive impact. Where stakeholders across society can contribute; it stands to make the plan more relevant, more deliverable, and more likely to unlock the various health, environmental, social & economic co-benefits that climate change mitigation can offer.

[18] Your future Solihull | solihull.gov.uk

Air quality in Solihull

Air quality is monitored by the council, via a network of passive diffusion tubes, to identify areas within the borough where there may be potentially elevated levels of pollutants. Each year, an annual status report[19] (ASR) is produced to determine if the health-based objectives are being achieved. (Copies of previous ASR's for Solihull can be accessed on the Council web page for air quality[20])

Solihull Council undertake non- automatic (i.e. passive) monitoring of NO_2 at approximately 30 sites. (There are a total of approximately 46 monthly tubes with some sites accommodating triplicate tubes). Results from the NO_2 diffusion tubes indicate Solihull residents (and their homes) fall below the national NO_2 air quality objective level (40 µg/m3) with most areas being well below the level. Since 2019 most exposures have been around half that value (20 µg/m3). Levels have generally been on a downward trend now for some time, though they rose slightly post-pandemic.

The public health outcomes framework (PHOF) is a Department of Health tool which sets out key indicators on the state of public health. It includes an indicator relating to air pollution from fine particulate matter, ($PM_{2.5}$) which reports the estimated fraction of all cause adult mortality attributable to anthropogenic particulate air pollution. The latest published figures for Solihull (6.03%) are for 2022. This figure is slightly higher than the figure reported for the West Midlands region (5.68%) and marginally higher than the average figure reported for England in 2020 (5.82%).

We recognise that pollution from fine particulate matter is important. In order to understand the geographical distribution across the borough Solihull have worked with researchers at the University of Birmingham's 'West Midlands air quality improvement programme (WM AIR) to undertake a piece of research to explore and model the air quality context for the Solihull area. Modelled outputs have enabled a review of PM2.5 levels across the borough and further work is ongoing.

[19] 2022 Air Quality Annual Status Report (ASR) (solihull.gov.uk)

[20] Air quality monitoring in Solihull | solihull.gov.uk

Main sources of air pollution

Road transport represents a major source of air pollution in Solihull and is also the main source of carbon emissions, contributing to the borough's carbon footprint. Eliminating these harmful impacts from transport is therefore a core priority of the Council. This will be achieved through a wider approach to sustainable travel that incorporates measures to reduce travel demand, increasing levels of walking and cycling as well as developing new models of demand-responsive public transport.

As with our transport networks, pollution passes across geographical boundaries. Solihull Council is committed to collaborating with neighbouring local authorities, the West Midlands Combined Authority (WMCA), and Transport for West Midlands (TfWM) to secure improvements in air quality across the region.

The rail network is also responsible for air pollution, particularly from stationary diesel trains. The ambitious target within the UK's Clean Air Strategy 2019 of removing all diesel only trains by 2040 should significantly improve air quality at railway stations. The enabling works for High Speed Two Ltd (HS2) have now largely been completed and main works will continue in our borough until the new line opens. By insisting that all construction vehicles working on the project comply with the project's standards, HS2 Ltd has encouraged its contractors and suppliers to invest in new, cleaner, and more efficient vehicles and equipment.

Air quality in the area surrounding Birmingham Airport is affected by a wide range of emission sources, the most significant of which is road traffic pollution from local roads and the motorway network. However, airport operations cause emissions which can also impact local air quality. Airports generate air pollution from a number of sources including on-site power and heating, equipment to service aircraft, on-site vehicles, airport-related traffic on surrounding roads (staff, passengers, and freight) and aircraft.

By working collaboratively, our aim is to ensure the airport does not cause air quality emission exceedances in the region, and to work proactively to reduce emissions at the airport. The airport has set out how it is working to achieve this aim in its most recent Sustainability Strategy.

Most individuals spend 80-90 % of their time indoors so are exposed to indoor air to a much greater extent than outdoor air. Often the people most at risk from the adverse effects of poor indoor air quality spend even more time indoors, such as the very young, the elderly and those with existing health conditions.

Burning wood, coal and other solid fuels affects not only the health of those who choose to burn it but also pollutes the air in their neighbourhoods. Domestic solid fuel burning can be both a contributor to outdoor air pollution and a cause of indoor air pollution. Levels of PM2.5 pollution can be three times higher in homes using wood burning stoves. This can have a significant impact on those who are most vulnerable to the effects of poor air quality. We will raise awareness of the health effects of wood burning and the impacts upon air pollution.

Strategic objectives

This strategy updates the previous 2019-24 air quality strategy. This air quality strategy specifies how we will strive to improve air quality across the borough and how we will monitor the effectiveness of the actions and measures being taken to reduce the pollutant levels. This strategy supports the Council's strategic objectives for improving the health and wellbeing of our residents and communities, taking action on the climate emergency, protecting the environment, and tackling health inequalities.

The main objectives of this strategy are:

1	2	3	4	5	6
Improving our approach to air quality monitoring.	Leading by example, influencing others whilst protecting our environment and minimising our own emissions.	Raising awareness, providing quality information and guidance to members of the public.	Supporting Schools & Businesses, promoting initiatives to reduce air pollution.	Managing emissions from developments and buildings.	Cleaner road, rail and air transport.

What do we want to achieve?

Improving our approach to monitoring air quality

We will use good science to collate quality monitoring data to identify pollution hotspots, and provide regular updates to the public

- Improving our capabilities for monitoring air quality across the borough (in particular PM2.5).
- Improving public access to the latest, regular air quality monitoring information.
- Ensuring a focus on risk areas and increased exposure potential.
- Working with partners to secure monitoring at sensitive receptors like schools, care homes and hospitals.
- Utilising results from modelling and prediction tools to help better understand pollution levels across the borough .
- Improving the focus on indoor air quality issues and their health effects.
- Exploring the installation of air quality monitoring equipment on lighting columns and street furniture.

Air pollution is all around us, indoors and outdoors. Even short-term exposure can lead to some serious health problems. We know that when air quality is poor it is unhealthy, especially for people who are sensitive to it such as children, older adults, or people with heart disease, asthma, and other respiratory ailments.

Because different areas have different levels of air quality at different times, it is important for us to monitor what is happening. Monitoring helps us identify priority areas and ensure that we are taking the right actions in the right areas. Timely air pollution information gives vulnerable people a chance to act to protect themselves, for example by reducing their exposure.

Leading by example whilst protecting our environment and minimising our own emissions.

The Council will continue to provide leadership for air quality policy and action across Solihull, whilst working with other organisations and the public to encourage dialogue, and commitment, for action on air quality.

- Increasing the proportion of clean vehicles in the Council's fleet.
- Increasing the number of electric vehicle (EV) charging points across the borough.
- Providing leadership for air quality policy and action across Solihull encouraging businesses to become air quality champions and support our work for cleaner air.
- Supporting research and development into measures to improve both indoor and outdoor air quality.
- Protecting and enhancing Solihull's environment and biodiversity
- Focusing on pollution sources that the Council has control over, whilst working with other partners to tackle issues that we do not have control over both within and outside the borough.

The Council clearly has an essential role to play in assessing air quality and to take proactive action where and when issues arise. However, local authorities will not always have control over all sources of emissions. It is important that as a council we provide leadership for air quality policy and action across Solihull, working with other organisations, businesses, agencies, and the public to encourage dialogue, and commitment, for action on air quality.

There is a risk that unintended consequences can arise if climate and air quality policies are developed in isolation. We must therefore ensure that our policies and strategies align and ideally all come with positive co- benefits.

Raising awareness, providing quality information and guidance to members of the public.

Raising public awareness on the health impact of air pollution, encouraging the community to take actions to reduce their contributions to local air quality emissions and protecting the most vulnerable.

- Developing and launching a new air quality webpage.
- Focusing on raising awareness of the impact of wood burners and other indoor sources of air pollution.
- Working in partnership with the health and care sector to improve communication to the most vulnerable residents.

Creating awareness about air pollution is vital. The choices made by individuals, both in relation to their personal lives and in the workplace, have a huge impact on overall air quality, so it is essential that air quality continues to be kept in the public consciousness and that the right messages are consistently and clearly put across.

In addition to external air quality it is important that our residents, particularly those most vulnerable, know about the sources of indoor air pollutants, how they can affect health and have access to advice on how to avoid activities that increase the level of indoor air pollutants along with advice on how to improve ventilation if the source of the pollutant cannot be controlled.

Supporting schools and businesses, promoting initiatives to reduce air pollution.

Supporting schools, and businesses to develop and promote initiatives to reduce air pollution	• Delivering anti idling action events and increasing enforcement around those places where idling is an issue. • Supporting and encouraging schools to promote actions and deliver initiatives to help improve air quality. • Supporting schools to encourage sustainable travel. • Supporting businesses to encourage sustainable travel. • Supporting commuters to make smart choices about sustainable travel options. • Supporting and encouraging businesses to help improve air quality.

Educational establishments and local businesses have a vital role in helping to progress air quality improvement.

Working with whole school communities we will promote education and behaviour change interventions for both pupils and parents coupled with initiatives to tackle nearby vehicle idling and reduce exhaust pollution at drop off or pick up points.

Protecting and educating our children at school, empowering them to be part of the solution and giving them the knowledge to make the best decisions growing up is important. Encouraging primary school children to be sustainable travellers can contribute to whole families changing their travel habits. Investing time with children transitioning to secondary school, can influence a child's travel habits as they become more independent.

We will continue to work with businesses to consider practical ways that they can minimise their contributions to air pollution in the borough along with an offer of support and guidance to encourage businesses to promote sustainable travel.

Managing emissions from developments and buildings

We will ensure our planning process considers air quality and promotes initiatives to reduce air pollution.

- Delivering developments and environments that minimise and mitigate pollution and promote health and wellbeing.
- Ensuring air quality screening and assessments identify potential impacts on air quality.
- Encouraging developers to consider and adopt measures to improve air quality and appropriate mitigation measures (including sustainable forms of travel).
- Ensuring all planning consents have appropriate air quality and dust conditions imposed where necessary.
- Exploring and promoting the use of green infrastructure ensuring that the right type of green infrastructure is used in the right place.
- Protecting and enhancing Solihull's environment and biodiversity.

The role of planning in shaping the social, economic, and environmental circumstances in which we live is inextricably linked to our health across the life course. Carefully planned and accessible urban green spaces can enhance local air quality and boost the well-being of residents. That is why we need to plan positively for healthy developments and better living and working environments.

Air quality should be considered at the earliest stages of planning and design before the position of infrastructure and buildings is decided. The integration of air quality considerations with land-use planning decisions is essential to ensure that developers fully understand the air quality impacts created by their development. Developments should therefore seek to minimise or mitigate adverse impacts on air quality, as well as enabling improvements to air quality, where appropriate. In addition to the effect of more substantial developments, consideration should be given to the potential cumulative impact of smaller developments on air quality, including their implications for vehicle emissions.

Cleaner road, rail and air transport

We will work towards a transport network that supports sustainable transport modes (walking, cycling, car share and public transport), enables a greener future, growing a sustainable economy, and tackling health inequality

- Providing infrastructure to support walking and cycling with a focus on access to town, district, and local centres.
- Promoting the uptake of electric vehicles.
- Providing a range of effective, attractive, sustainable travel options for residents.
- Explore opportunities to optimise traffic flow and movement in areas of congestion whilst taking a long term view of air quality
- Work with Transport for West Midlands in the development and delivery of the Metro.
- Working with Transport for West Midlands to reduce emissions from public transport.
- Working with Transport for West Midlands to develop and promote public transport options.
- Working proactively with Birmingham Airport to reduce emissions and ensure the airport does not cause air quality emission exceedances in the region.

The Council's transport strategy, Solihull Connected, looks at why and how we travel and sets out the policies, initiatives and interventions that can be taken to improve travel and transport across the borough. We must continue to work towards a cleaner, less polluting transport network that supports sustainable transport modes (walking, cycling, car share and public transport) by continuously improving the quality of our walking, cycling and public transport infrastructure, making maximum use of existing resources through effective highway and transport planning.

Promoting a switch from petrol and diesel road vehicles to electric and other ultra-low emission power is an essential element of our approach to tackle transport CO2 emissions and reducing air pollutants. Whilst electric vehicles have the potential to greatly reduce emissions of air pollutants through eliminating exhaust emissions, there are other considerations such as brake and tyre wear.

By providing people with options to choose sustainable modes for everyday local transport choices, we can influence the quality of our lives, the air we breathe, and help boost economic growth by facilitating access to local jobs.

Working in partnership

Birmingham University

The University of Birmingham's WM-Air team are a new and integral member of the Solihull air quality technical officers group, bringing a unique scientific and academic perspective that will enhance our abilities to effectively utilise the latest technologies and evidence base for improving air quality across the borough.

In addition to assisting us by reviewing and shaping this strategy, we will explore potential opportunities for joint working on a range of projects and initiatives. Their advice and particular understanding of air quality is an important element to ensuring that our efforts and use of resources are best placed and properly informed.

West Midland Combined Authority

West Midland Combined Authority (WMCA) are also a new member of the Solihull air quality technical officers group. The WMCA have developed a West Midlands air quality framework which outlines a range of possible interventions to improve regional air quality.

The work of the WMCA and the implementation of the framework will be an important element of the Solihull air quality action plan over the next few years.

United Kingdom Health Security Agency

The United Kingdom Health Security Agency (UKHSA) is responsible for protecting everyone from health threats, working in partnership with a wide range of organisations nationally and internationally. Working with the UKHSA will enable the air quality technical officers group access to a range of unique resources and capabilities. The group will also benefit from UKHSA's work across the country and its links with other local authorities sharing best practice and ideas.

Regional

Solihull Council will continue to work with local authorities across the Midlands sharing best practice and ideas. As a partner organisation working with the WM air team and as an active member of the West Midlands environmental protection group (WMEPG) and Coventry & Warwickshire air quality alliance the Council will continue to explore potential opportunities for tackling air quality across the region.

Birmingham Airport

Birmingham Airport work closely with Solihull Council on a number of key environmental themes and targets. The airport consultative committee (ACC) represents the interests of local authorities, resident groups, industry bodies and airport users, and plays a vital role as a communication channel between the airport and its many stakeholders. It seeks to ensure anyone who might be affected by the airport has an opportunity to comment on and shape decisions. The airport publishes its Sustainability Strategy (2020 – 2025) every five years, providing a dedicated section on air quality review at the airport. The airport employs continuous air pollution monitoring on its site which monitors ambient air quality levels and key pollutants, 24 hours a day. The results are made publicly available via the Birmingham Airport website and are published in the annual Section 106 planning agreement report prepared by the council.

Glossary

ACC	Airport consultative committee
AQG	Air quality guidelines
AQM	Air quality management
AQMA	Air quality management area
ASR	Annual status report
CDA	Continuous descent approaches
CO2	Carbon dioxide
DEFRA	Department for environment, food and rural affairs
EV	Electric vehicle
HS2	High speed Two Ltd
IARC	International agency for research on cancer
JAQU	Joint air quality unit
LAQMF	Local air quality management framework
NH_3	Ammonia
NMVOCs	Non-methane volatile organic compounds
NO_x	Nitrogen oxides
NO2	Nitrogen dioxide
NZAP	Net zero action plan
PHOF	Public health outcomes framework
PM	Particulate matter
SEN	Special educational needs
SO_2	Sulphur dioxide
TfWM	Transport for West Midlands
UKC	United Kingdom central
UKHSA	The United Kingdom Health Security Agency
WHO	World health organisation
WM AIR	West midlands air quality improvement programme
WMCA	West midlands combined authority
WMEPG	West midlands environmental protection group

Action plan

Improving our approach to monitoring air quality

Theme	Improving our capabilities for monitoring air quality across the borough (in particular PM2.5)	
REF	**Action**	**Timescale**
	Work with the WMCA to deliver low cost sensors in Solihull as part of the new West Midlands sensor network	Oct 2024
	Undertake an annual review of NO2 monitoring locations (with DEFRA/JAQU)	Annually (Dec 2024)
	Identify opportunities for enhancing monitoring capabilities	Ongoing

Theme	Improving public access to the latest, regular air quality monitoring information.	
REF	**Action**	**Timescale**
	Deploy monitoring equipment that enables remote data transfer	Nov 2024
	Liaise and enable a sensor network that provides meaningful real-time data that can be easily accessed by the public	Jan 2025

Theme	Ensuring a focus on risk areas and increased exposure potential.	
REF	**Action**	**Timescale**
	Investigate areas of elevated pollution levels	Review Dec 2024
	Ensure the delivery of additional DEFRA mandated air quality improvements (A45 ministerial direction improvements) are completed	April 2025

Solihull Air Quality Strategy 2024-2028

Theme	Working with partners to secure monitoring at sensitive receptors like schools, care homes and hospitals.	
REF	**Action**	**Timescale**
	Work with partners to explore opportunities to build upon current monitoring locations at sensitive receptors	Ongoing

Theme	Utilising results from modelling and prediction tools to help better understand pollution levels across the borough.	
REF	**Action**	**Timescale**
	Work with Birmingham University (WM air) to review data from regional modelling exercise.	Dec 2024

Theme	Improving the focus on indoor air quality issues and their health effects.	
REF	**Action**	**Timescale**
	Explore opportunities for securing indoor air quality assessments and monitoring equipment	Oct 2024

Theme	Exploring the installation of air quality monitoring equipment on lighting columns and street furniture.	
REF	**Action**	**Timescale**
	Identify opportunities to co-locate air quality monitoring equipment with electric vehicle charging infrastructure to expand monitoring network	End of 2024
	Install NO2 and PM2.5 monitoring equipment at suitable electric vehicle charging locations	March 2026
	Install PM2.5 monitors on lighting columns as part of the WMCA low cost sensor network	End of 2024

Leading by example and influencing others whilst protecting our environment and minimising our own emissions.

Theme	Increasing the proportion of clean vehicles in the Council's fleet.	
REF	**Action**	**Timescale**
	Ensure that all vehicles delivering Council services produce zero emissions at the tailpipe (aligned with the net zero action plan)	End of 2030
	Publish Council workplace and depot charging strategy	End of 2024
	Install supporting workplace and depot charging / refuelling infrastructure to support electric and alternatively fuelled vehicles	Ongoing (demand led)

Theme	Increasing the number of electric vehicle (EV) charging points across the borough.	
REF	**Action**	**Timescale**
	Installation of electric vehicle charging infrastructure across Council car parks, in local centres and other publicly owned car parks.	March 2026
	Installation of local electric vehicle charging infrastructure to support residents without access to off-street parking near home.	End of 2030

Theme	Providing leadership for air quality policy and action across Solihull encouraging businesses to become air quality champions and support our work for cleaner air.	
REF	**Action**	**Timescale**
	Engage with the Chamber of Commerce to explore the best approach for engaging with businesses	Sept 2024

Solihull Air Quality Strategy 2024-2028

Theme	Supporting research and development into measures to improve both indoor and outdoor air quality.	
REF	**Action**	**Timescale**
	Work with WMCA, Birmingham University and UKHSA to explore opportunities to support research and development initiatives.	Ongoing

Theme	Protecting and enhancing Solihull's environment and biodiversity	
REF	**Action**	**Timescale**
	Increase the number of local wildlife sites in positive management	May 2025
	Plant 25,000 trees per annum (250,000 over ten years)	May 2025

Theme	Focussing on pollution sources that the Council has control over, whilst working with other partners to tackle issues that we do not have control over both within and outside the borough.	
REF	**Action**	**Timescale**
	Review complaints and local intelligence to identify potential sources and respond accordingly	Ongoing

Raising awareness

Theme	Developing and launching a new air quality web page	
REF	**Action**	**Timescale**
	Develop and launch a new air quality web page hosted on the 'Your Future Solihull' site	Oct 2024

Theme	Publishing air quality monitoring information on the council's web site	
REF	**Action**	**Timescale**
	Ensure the new air quality web page has links to WMCA air quality monitoring information	Oct 2024
	Utilise social media and other similar channels to better inform individuals and communities, especially vulnerable groups, about the impacts of air quality.	Oct 2024

Theme	Focussing on raising awareness of the impact of wood burners and other indoor sources of air pollution.	
REF	**Action**	**Timescale**
	Develop content for the new air quality web page that raises awareness about the health impacts of wood burners and other indoor sources of air pollution	Oct 2024

Theme	Working in partnership with the health and care sector to improve communication to the most vulnerable residents.	
REF	**Action**	**Timescale**
	Explore how best to support the health and care sector to improve communication to the most vulnerable residents.	Oct 2024

Supporting schools and businesses

Theme	Delivering anti idling action events and increasing enforcement around those places where idling is an issue.	
REF	**Action**	**Timescale**
	Deliver the ‘Engines Off’ anti-idling campaign across all schools in Solihull	Ongoing
	Implement the school streets car exclusion to as many schools as is possible.	Ongoing

Theme	Supporting and encouraging schools to promote actions and deliver initiatives to help improve air quality.	
REF	**Action**	**Timescale**
	Implement the ‘Breathe Easy’ clean air awareness campaign to as many primary schools as is possible.	Ongoing
	Encourage more schools to include a clean air activity as part of their award application entry for the annual Solihull green school awards.	Nov 2024
	Host the annual ‘Model COP secondary school conference’.	Nov 2024

ACTION	Supporting schools to encourage sustainable travel.	
REF	**Action**	**Timescale**
	Encourage more schools to participate in the ‘ModeShift STARS’ travel planning initiative.	Ongoing
	Promote and deliver cycle training through all stages of education	Ongoing
	Encourage and increase the number of children walking or wheeling to school via:- • The ‘Park & Stride’ scheme.	Ongoing

	• 'Scootability' sessions run in primary schools to promote scooting as a method of travelling to school. • Initiatives such as 'Walk2School' and 'Scoot Route'.	
	Deliver road safety campaigns to make pupils feel safer and more confident when travelling to school. *(Initiatives include road safety sessions for Early Years and Key Stage 1 as well as awareness campaigns such as 'Be Bright, Be Seen'.)*	Ongoing
	Deliver 'new roads' transition training for Years 6, 7 and 8 to work with students to encourage them to think about their safety while travelling sustainably to school.	Ongoing
	Deliver the 'active travel ambassadors' programme in secondary schools.	Ongoing
	Deliver independent travel training for SEND pupils. (Yr7-13).	Ongoing

Theme	Supporting businesses to encourage sustainable travel.	
REF	**Action**	**Timescale**
	Support businesses near to the A45 to develop sustainable travel plans and actions to achieve modal shift among their employees: • Travel surveys and analysis • Free access 'to Love to Ride Solihull' • Free walk leader training (living streets) for members of staff.	Sept 25
	Allocate grant funding to enable access to sustainable modes. Grants available for: • improving cycling infrastructure • installation of EV charging points	Sept 25

Solihull Air Quality Strategy 2024-2028

Theme	Supporting commuters to make smart choices about sustainable travel options.	
REF	**Action**	**Timescale**
	Deliver incentives to commuters to encourage smarter choices about travel and move away from single occupancy car journeys: • Free public transport offer • E-bike loans • Access to Love To Ride Solihull with seasonal challenges and prizes for cyclists • 1-2-1 or group cycle training • Walking incentives	Sept 25
	Deliver cycling and cycle maintenance training to enable commuters to keep their bikes in a roadworthy condition	Sept 25
	Offer pop up events at business sites to engage with commuters on sustainable travel, partnering with public transport operators and cycling groups to bring particular expertise.	Sept 25
	Deliver an adult cycle training programme across Solihull.	Ongoing

Theme	Supporting and encouraging businesses to help improve air quality.	
REF	**Action**	**Timescale**
	E-cargo bikes available for Solihull businesses to trial for free in the place of cars or small vans	Ongoing
	Development of new web pages in partnership with public health to provide guidance for Solihull businesses in managing emissions associated with travel and transport	Sept 25
	Introduction of supplementary planning documents to ensure that business sustainable travel plans and the actions therein are delivered in full	Ongoing
	Ensure the delivery of behaviour change interventions as part of the DEFRA 2 (A45 ministerial direction improvements) are completed	Oct 2025

Managing emissions from developments and buildings

Theme	Delivering developments and environments that minimise and mitigate pollution and promote health and wellbeing.	
REF	**Action**	**Timescale**
	Scrutinise development proposals at the planning stage for environmental considerations	Ongoing
Theme	Ensuring air quality screening and assessments identify potential impacts on air quality.	
REF	**Action**	**Timescale**
	Apply appropriate planning conditions to secure necessary air quality outcomes	As required
Theme	Encouraging developers to consider and adopt measures to improve air quality and appropriate mitigation measures (including sustainable forms of travel).	
REF	**Action**	**Timescale**
	Develop and maintain close links between planning officers and specialist teams to foster a shared understanding of key environmental topics (i.e. ecology, active travel, air quality etc).	Ongoing reviewed annually
Theme	Ensuring all planning consents have appropriate air quality and dust conditions imposed where necessary.	
REF	**Action**	**Timescale**
	All construction and demolition phases of development are reviewed, and appropriate control measures applied	As required
Theme	Exploring and promoting the use of green infrastructure ensuring that the right type of green infrastructure is used in the right place	
REF	**Action**	**Timescale**
	Produce a fact sheet to assist understanding of green infrastructure	Nov 2024

Cleaner road, rail and air transport

Theme	Providing infrastructure to support walking and cycling with a focus on access to town, district, and local centres.	
REF	**Action**	**Timescale**
	Develop two local centre action plans to the stage where they are ready for public consultation, subject to funding availability.	May 2025
	Begin work on Solihull town centre access strategy and action plan including buy-in from internal partners.	May 2025

Theme	Promoting the uptake of electric vehicles.	
REF	**Action**	**Timescale**
	Increase and improve web content to provide accurate information and guidance on electric vehicles and charging infrastructure.	End of 2024 (and ongoing)
	Work with other public and private sector organisations to promote and accelerate the uptake of lower and zero emissions vehicles, such as partnerships, events and supporting the EV supply chain.	End of 2030

Theme	Providing a range of effective, attractive, sustainable travel options for residents	
REF	**Action**	**Timescale**
	Develop network of cycle and walking routes covering borough.	May 2025
	Increase the number of cycle parking spaces in borough.	May 2025

Solihull Air Quality Strategy 2024-2028

Theme	Improving air quality through Engineering interventions.	
REF	**Action**	**Timescale**
	Continue to develop our scheme to improve traffic flow at the junction of A45 Coventry Road and Damson Parkway.	May 2025
	Continue to develop our scheme to construct a Balsall Common relief road.	May 2025
	Introduction of average speed camera enforcement scheme in the villages of Balsall Common, Berkswell, Hampton and Meriden.	End of 2024
	Delivery of the Local Network Improvement programme including four new pedestrian crossing facilities to support people walking and cycling for local journeys.	End of 2024/25 financial year
	Deliver new traffic calming measures in Catherine-de-Barnes village (funded from the National Highways Designate Funds project).	End of 2025/26 financial year

Theme	Work with Transport for West Midlands in the development and delivery of the Metro.	
REF	**Action**	**Timescale**
	Use any opportunities to lobby for the Metro line from the UK Central Hub through Chelmsley Wood and the east of Birmingham to central Birmingham.	May 2025
	Prevent any developments or land use changes that may block future progress of the Metro line.	May 2025

Theme	Working with Transport for West Midlands to reduce emissions from public transport.	
REF	**Action**	**Timescale**
	Promote and support opportunities to increase number of ultra-low emission buses operating in borough.	May 2025
	Work with Transport for West Midlands and bus operating companies to support the work of the West Midlands bus enhanced partnership.	May 2025

Solihull Air Quality Strategy 2024-2028

Theme	Working with Transport West Midlands to develop and promote public transport options	
REF	**Action**	**Timescale**
	Work with Transport for West Midlands and bus operating companies to support the work of West Midlands bus enhanced partnership.	May 2025
	Work with Transport for West Midlands to improve passenger facilities and increase car and cycle parking at Whitlocks End railway station.	May 2025

Theme	Working proactively with Birmingham Airport to reduce emissions and ensure the airport does not cause air quality emission exceedances in the region.	
REF	**Action**	**Timescale**
	Monitor air quality 24 hours a day and publicly report data	Continually
	Carry out dispersal modelling (when there is any major airport development).	As required
	Continue to invest in electric vehicles and encourage greater use of low emission and electrical vehicles and developing infrastructure for these vehicles and passenger vehicles wherever possible.	Continually
	Minimise the use of auxiliary power units and ground power units	Continually
	Encourage aircraft operators to taxi with fewer than all engines operating	Continually
	Facilitate and encourage continuous descent approaches (CDA) for arriving aircraft	Continually
	Map airport emissions sources and calculate associated emissions. Once completed, implement informed emissions reduction actions and measure their effectiveness.	2024 onwards
	Implement the Birmingham Airport surface access strategy	2024 onwards

Solihull
METROPOLITAN
BOROUGH COUNCIL