# AN **AIR QUALITY STRATEGY** FOR WINCHESTER CITY COUNCIL

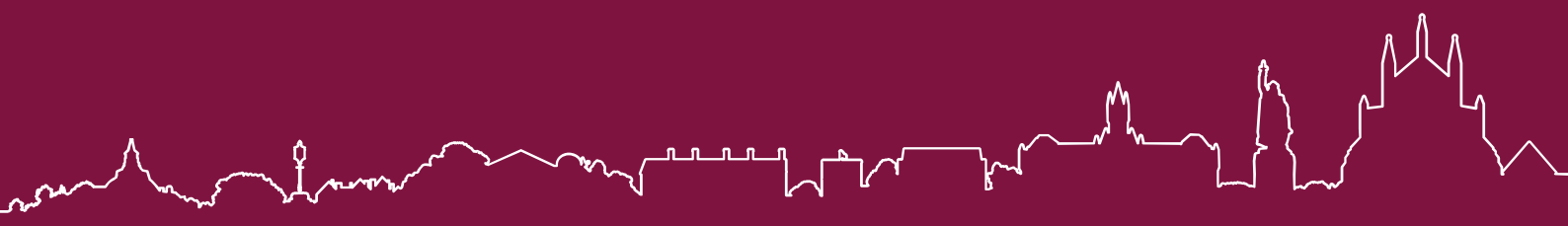
2025 to 2030

Winchester City Council

Adopted March 2025

# CONTENTS





# GLOSSARY

**The following table sets out, in alphabetical order, a brief explanation of the abbreviations used throughout this strategy.**

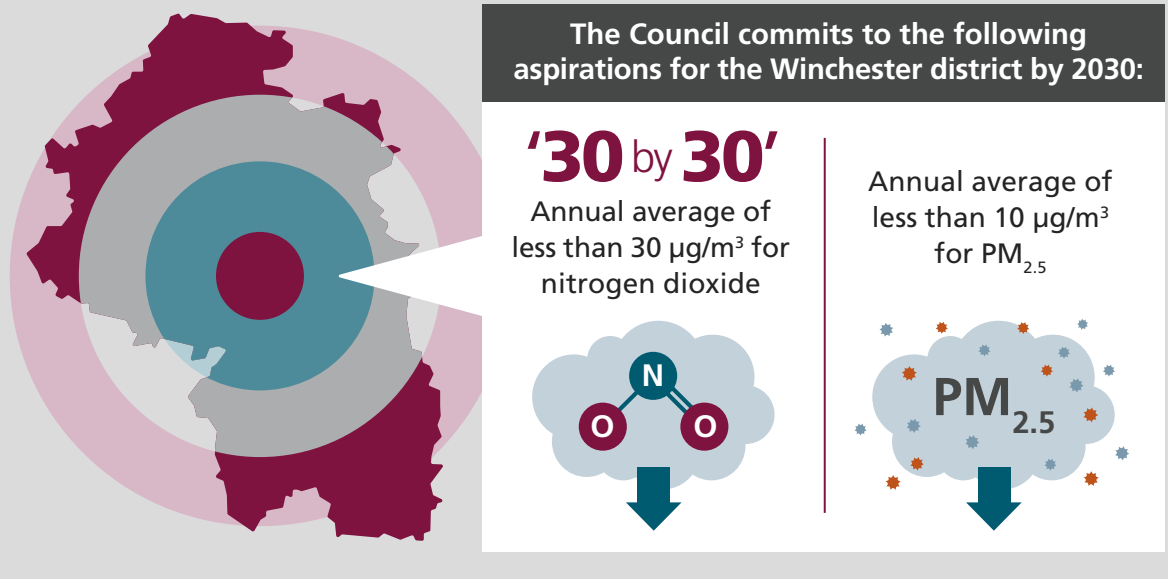
| Abbreviation | Term | Definition |
|---|---|---|
| AQMA | Air Quality Management Area | An area where air pollutant concentrations exceed / are likely to exceed the relevant air quality objectives. AQMAs are declared for specific pollutants and objectives. |
| AQS | Air Quality Strategy | Since 2023, local authorities in England without AQMAs, including those in the process of revoking their AQMA(s), are required to produce a local Air Quality Strategy. |
| ASR | Air Quality Annual Status Report | An annual requirement showing the strategies employed by Winchester to improve air quality and any progress that has been made. |
| BID | Business Improvement District | A defined area in which the local businesses have voted to invest together to improve their environment. |
| CEMP | Construction Environmental Management Plan | A framework to avoid, minimise or mitigate any construction effects on the environment. |
| COMEAP | Committee on the Medical Effects of Air Pollutants | A group of scientific experts who provide independent and authoritative advice to the UK government on the health effects of air pollution. |
| Defra | Department for Environment, Food and Rural Affairs | The government department responsible for environmental protection, food production and standards, agriculture, fisheries and rural communities. |
| DoPH | Hampshire County Council Director of Public Health | The person responsible for determining the overall vision and objectives for public health in a local area or in a defined area of public health, such as health protection. |
| HCC | Hampshire County Council | The administrative body responsible for services across the whole of Hampshire. |
| LAQM | Local Air Quality Management | A government led process that places an obligation on all local authorities to regularly review and assess air quality in their areas, and to determine whether or not the air quality objectives are likely to be achieved. |
| LCWIP | Local Cycling and Walking Infrastructure Plan | Evidence-led, long-term plans that identify cycling, walking and wheeling improvements at the local level. |
| NAEI | National Atmospheric Emissions Inventory | A government-funded project which estimates annual pollutant emissions from 1970 to the most current publication year for the majority of pollutants. |

| Abbreviation | Term | Definition |
|---|---|---|
| NHS | National Health Service | England's publicly funded healthcare system. |
| NOx | Oxides of nitrogen | A term describing a mixture composed of nitrogen oxides (NO and $NO_2$). |
| $NO_2$ | Nitrogen dioxide | Produced during combustion and formed by the oxidation of NO in the atmosphere. |
| NRMM | Non-road mobile machinery | Includes mobile machines and transportable industrial equipment or vehicles that are fitted with an internal combustion engine and not meant for transporting goods or passengers on roads. |
| $PM_{10}$ | Coarse particulate matter | Airborne particulate matter with an aerodynamic diameter of 10 µm or less. |
| $PM_{2.5}$ | Fine particulate matter | Airborne particulate matter with an aerodynamic diameter of 2.5 µm or less. |
| SDNP | South Downs National Park | An area in South Downs set aside by the UK Government to preserve the natural environment. |
| SPD | Air Quality Supplementary Planning Document | A document for developers to use to ensure construction and demolition works minimise emissions of air pollutants. |
| WCC | Winchester City Council | The administrative body responsible for services across the whole of Winchester. |
| WHO | World Health Organisation | Directs and coordinates international health within the United Nations' organisation. |
| WinACCP | Winchester Action on Climate Change | A local charity that works to cut the carbon footprint of Winchester district, creating lower energy bills, healthier lifestyles and stronger communities. |

# EXECUTIVE SUMMARY

The Winchester City Council Air Quality Strategy provides the framework to improve the health of everyone by working collaboratively across the whole of the district to achieve cleaner air by 2030.

**WINCHESTER CITY COUNCIL IS DEDICATED TO GOING ABOVE AND BEYOND THE UK NATIONAL TARGETS FOR AIR QUALITY LEVELS.**




Winchester City Council monitors air quality across the district every year to ensure that concentrations are not exceeding national objectives and to track changes over time. Air quality in Winchester's district is generally good, and there has been an overall improvement in air quality over the past five years. However, there are still improvements to be made to meet Winchester City Council's air quality targets by 2030.

## Why do we need to improve air quality?

Air pollution is the most significant environmental threat to public health in the UK[1]. In recent decades, the introduction of policies and advances in technology have contributed to steady improvements in air quality. However, there is still need for action across communities in the UK to improve air quality and safeguard public health, the environment, and the economy.

Poor air quality is a significant contributor to premature mortality, the onset of diseases, and a decline in both quality of life and overall wellbeing. It is estimated that air pollution in the UK leads to 29,000 to 43,000 premature deaths every year, which is projected to incur a cost of £1.6 billion for the NHS and our social care system between 2017 and 2025[1,2].

1 Health Effects of Climate Change in the UK (HECC) 2023 report -Chapter 4. Impacts of climate change and policy on air pollution and human health https://assets.publishing.service.gov.uk/media/6570a68b7469300012488948/HECC-report-2023-chapter-4-outdoor-air-quality.pdf

2 Office for Health Improvement & Disparities, Air Pollution: applying All Our Health 2022 https://www.gov.uk/government/publications/air-pollution-applying-all-our-health

People are affected by air pollution in different ways, and some groups of people are more susceptible to air pollution than others, including older people, children, people with pre-existing respiratory and cardiovascular health conditions, and pregnant people[3].

## Air quality in Winchester's district

The key sources of nitrogen dioxide and particulate matter pollution are from local and regional road transport, and domestic and commercial burning of fossil fuels. Air quality is also affected by emissions outside the borough from neighbouring districts, the rest of the UK, and other countries. It is therefore important that we collaborate with neighbouring communities and businesses in Hampshire and Southeast England to improve our air quality and achieve our ambitious targets.

## Winchester City Council's commitments to improving air quality

Winchester City Council have committed to 13 new actions between 2024 and 2030 to improve our air quality for residents and businesses. These actions fall under five key areas.

Expanding the **air quality monitoring network** and undertaking more detailed **modeling** is a priority so that we can better understand air pollution trends, identify their sources and determine effective management strategies. The Council will also focus on **reducing emissions from road transport** by adjusting the way that we travel in and around Winchester city centre and the wider district. This Air Quality Strategy also considers emissions from **domestic and business heating and burning**, as well as improving **indoor air quality**. Finally, the Council commit to reducing emissions from **construction and new developments** through strengthening the Local Plan.

It is recognized that there are areas of poorer air quality across our District and also people that are more susceptible to suffering greater adverse health impacts. We will therefore commit to identifying in more detail both these areas and populations and will **prioritise these for action**.

## Reducing your exposure to air pollution

Everyone plays a part in contributing to air pollution, including the UK Government, Winchester City Council, businesses, and individuals. The Winchester Air Quality Strategy sets out the Council's commitments to improve the air we breathe, but it also provides some tips on how you can reduce your exposure to poor air quality to protect your health and the health of those around you.

There are also useful resources provided throughout the Air Quality Strategy if you want to find out more about current air quality levels in Winchester, actions that Winchester City Council are taking, or information on health and wellbeing.

## Monitoring and Evaluation

Winchester City Council will work collaboratively with relevant stakeholders to monitor, evaluate, and regulate the actions outlined in this Strategy. The Strategy will be reviewed and reported on annually in Winchester City Council's Air Quality Annual Status Reports, keeping stakeholders up to date with progress and any changes being made.

3 Chief Medical Officer's annual report 2022: air pollution https://www.gov.uk/government/publications/chief-medical-officers-annual-report-2022-air-pollution

# 1 AN AIR QUALITY STRATEGY FOR WINCHESTER CITY COUNCIL

## 1.1 INTRODUCTION

**The Winchester District is considered a relatively green, clean and healthy part of the country but air pollution is an invisible problem we have to tackle to create a safe environment for our residents and visitors.**

Almost all of us, whether inside or out, are breathing in air which exceeds World Health Organisation guidelines for pollutants. Particulates and gases which cause respiratory and other diseases and these sources contribute to ill-health and premature death. The air inside the places where we live and work can be more polluted than the air outside. Wood burners, gas cookers and fires, candles, mould, cleaning products, paints and varnishes are all sources of particles or gases which are bad for our health.

Many of the drivers of air pollution such as burning fossil fuels are also sources of greenhouse gas emissions. Policies to reduce air pollution can not only benefit our health but improve local ecosystems and lead to carbon reduction. We will never eliminate all air pollution, some of which comes from natural sources, but we can all make changes that will make a significant difference to the air quality and the health and well-being of our residents and our natural environment.

We invite everyone, be they residents, businesses, and institutions, to find out more about the impacts of poor air quality outlined in this document and consider which of the options proposed for all of us would give you the opportunity to improve Winchester district's air quality both for ourselves and for others too.

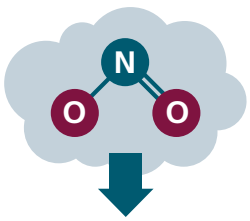
**Councillor Jackie Porter**
Cabinet Member for Place and Local Plan

**Councillor Kelsie Learney**
Cabinet Member for Climate Emergency

**WINCHESTER CITY COUNCIL IS DEDICATED TO GOING ABOVE AND BEYOND THE UK NATIONAL TARGETS FOR AIR QUALITY LEVELS.**

**The Council commits to the following aspirations for the Winchester district by 2030:**

**'30 by 30'**
Annual average of less than 30 µg/m³ for nitrogen dioxide




Annual average of less than 10 µg/m³ for $PM_{2.5}$

## 1.2 OUR VISION

To deliver cleaner air for those who live and work within our district, it is essential that leaders, individuals, businesses and networks work collaboratively in a system-based approach. This collective effort is crucial to decrease air pollution and enhance the health and wellbeing of our community.

This Strategy has been developed with the dedicated support of an Air Quality Steering Group established by Winchester City Council. This Steering Group includes Winchester City Council Councillors and Officers, Hampshire County Council Public Health, Winchester Business Improvement District (BID), and Winchester Action on Climate Change (WinACC).

The Council also gathered input from local residents and businesses on the Air Quality Strategy through stakeholder consultation and public engagement. By hearing from a range of perspectives, we have ensured that varying priorities across the Winchester District community were considered in shaping an inclusive Air Quality Strategy.

# 2 WHY DO WE NEED TO IMPROVE AIR QUALITY?

Air pollution is a public health emergency and the most significant environmental threat to public health in the UK[4]. In recent decades, the introduction of policies and advances in technology have contributed to steady improvements in air quality. However, there is still need for action across communities in the UK to improve air quality and safeguard public health, the environment, the economy, and quality of life.

## 2.1 PUBLIC HEALTH IMPACTS

**Air pollution is a significant contributor to premature mortality, the onset of diseases, and a decline in both quality of life and overall wellbeing. It is estimated that air pollution in the UK leads to 29,000 to 43,000 premature deaths every year, which is projected to incur a cost of £1.6 billion for the NHS and our social care system between 2017 and 2025[4,5].**

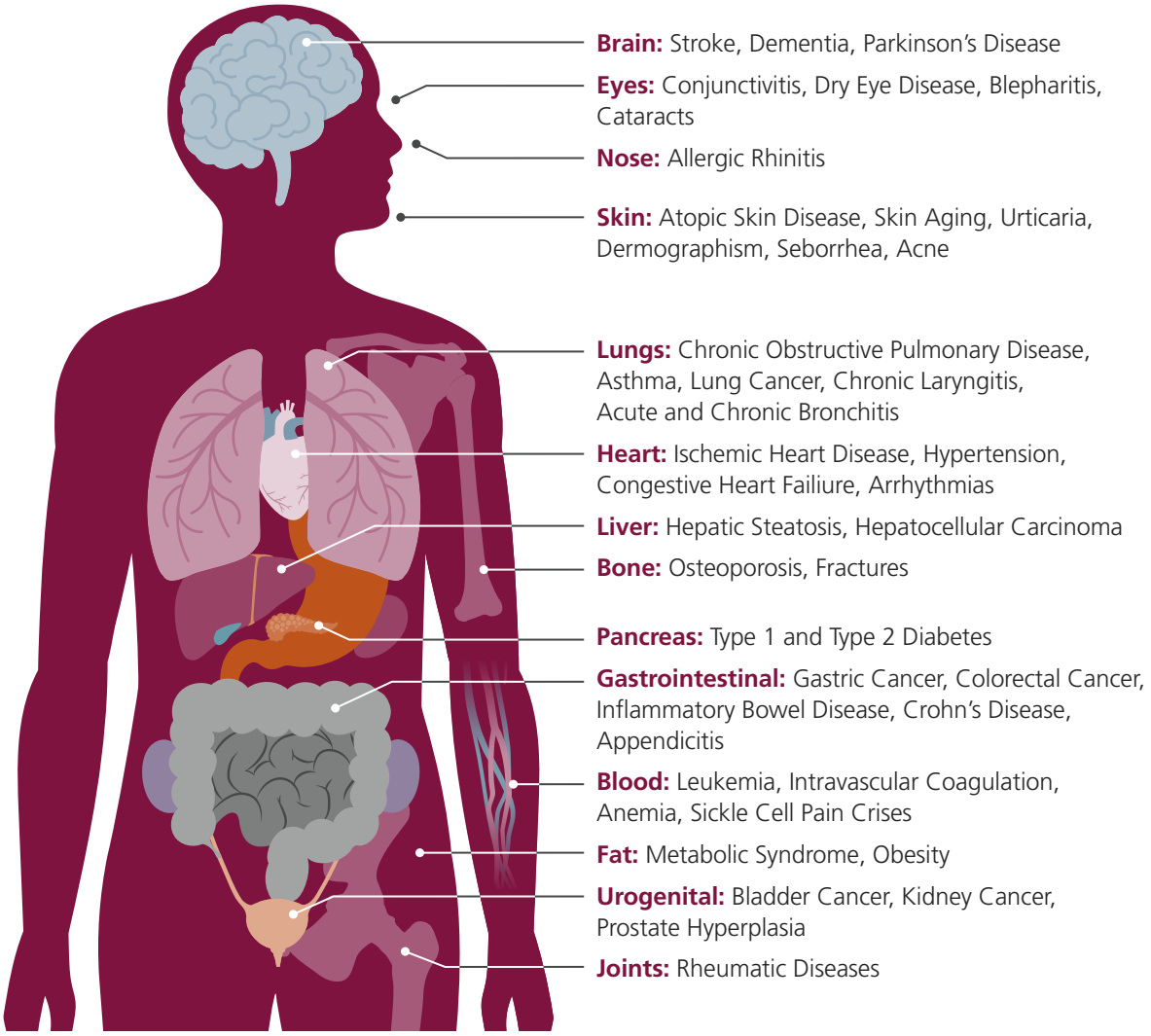
Recent research has shown that air pollution can damage almost every organ in the body, leading to diseases such as strokes, cancers, lower respiratory infections, and chronic obstructive pulmonary disease[6].

4 Office for Health Improvement & Disparities, Air Pollution: applying All Our Health 2022 https://www.gov.uk/government/publications/air-pollution-applying-all-our-health

5 Health Effects of Climate Change in the UK (HECC) 2023 report -Chapter 4. Impacts of climate change and policy on air pollution and human health https://assets.publishing.service.gov.uk/media/6570a68b7469300012488948/HECC-report-2023-chapter-4-outdoor-air-quality.pdf

6 European Environment Agency, How air pollution affects our health, 2023 https://www.eea.europa.eu/en/topics/in-depth/air-pollution/eow-it-affects-our-health

### Health impacts of air pollution[7]:




## 2.2 WHAT ARE THE MAIN POLLUTANTS OF CONCERN?

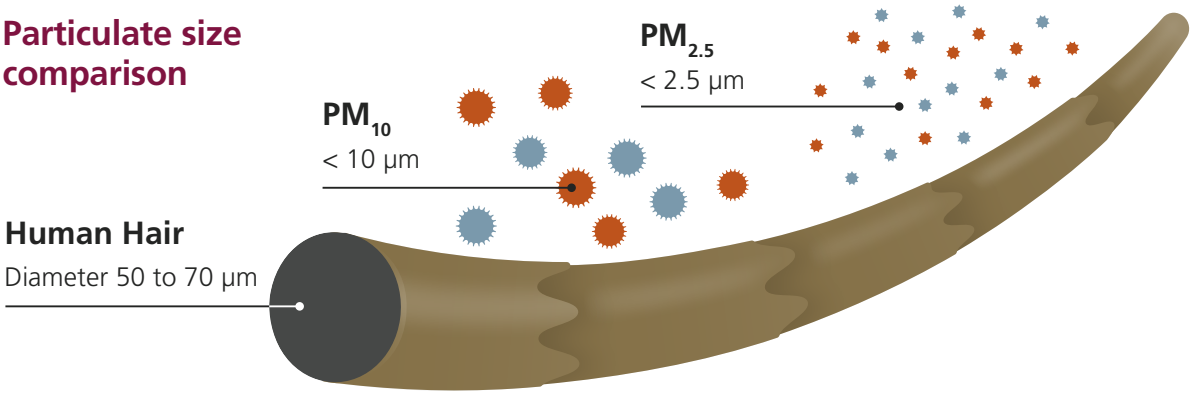
**Air pollution can come from various human activities in urban and rural areas, including outdoor sources like road transport, industrial processes, and agriculture, as well as indoor activities like domestic combustion.**

There are many different air pollutants that impact human health. Two of the most important are nitrogen dioxide and particulate matter.

Nitrogen oxides (NOx) are a group of gases formed during fossil fuel combustion which react with the air to form nitrogen dioxide ($NO_2$). The key sources of NOx in Winchester are road transport, industrial processes, and domestic combustion.

Particulate matter is solid and liquid particles suspended in the air. These particles vary in size and composition, and some forms of particulate matter can be toxic to human health. Coarse particulate matter ($PM_{10}$) can irritate the eyes, nose, and throat which can worsen asthma and other respiratory illnesses.

7 Adapted from Schraufnagel et al., 2019. Air Pollution and Noncommunicable Diseases. Chest. 155(2), p.417-426 https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6904854/




$PM_{2.5}$ is the air pollutant responsible for the most substantial health issues and premature mortality. In 2022, 5.6% of deaths in those aged 30 and older in Winchester were associated with long term exposure to particulate air pollution at current levels. This was slightly lower than the national average of 5.8%[8].

## 2.3 WHO IS MOST VULNERABLE TO AIR POLLUTION?

**Air pollution affects people in different ways, and some groups of people are more susceptible to air pollution than others, including older people, children, people with pre-existing respiratory and cardiovascular health conditions, and pregnant people[9].**

The average age of the Winchester population is higher than the rest of England[10]. As people age, they are more likely to suffer from heart, lung, and cognitive conditions such as dementia, and exposure to air pollution increases these risks. Evidence shows that when particulate matter levels are high, older people have an increased chance of hospitalisation[11].

Children and young people are also more susceptible to air pollution because their organs and immune systems are still developing. Exposure to air pollution at a young age can both harm health in childhood and increase the likelihood of developing diseases later in life[12].

Communities with lower socio-economic status frequently face elevated exposure to air pollution, meaning that health impacts from poor air quality disproportionately affects deprived neighbourhoods. Communities with higher levels of deprivation are more likely to live next to busy roads or industrial areas, have underlying health conditions, and have less access to medical care and healthy lifestyle amenities, which increases their vulnerability to air pollution[13,14].

8 Office for Health Improvement & Disparities, Public Health Outcomes Framework: D01 – Fraction of mortality attributable to particulate air pollution, 2022 https://fingertips.phe.org.uk/profile/public-health-outcomes-framework/data

9 Chief Medical Officer's annual report 2022: air pollution https://www.gov.uk/government/publications/chief-medical-officers-annual-report-2022-air-pollution

10 Office for National Statistics, Winchester Census 2021 https://www.ons.gov.uk/visualisations/censusareachanges/E07000094/

11 Impact on Urban Health, Air pollution and older people https://urbanhealth.org.uk/insights/reports/air-pollution-and-older-people

12 European Environment Agency, Air Pollution and children's health, 2023 https://www.eea.europa.eu/publications/air-pollution-and-childrens-health

13 European Environment Agency, Income-related environmental inequalities associated with air pollution in Europe, 2023 https://www.eea.europa.eu/en/analysis/indicators/income-related-environmental-inequalities-associated

14 Ferguson et al., 2021, Systemic inequalities in indoor air pollution exposure in London, UK https://journal-buildingscities.org/articles/10.5334/bc.100

## 2.4 LEGISLATION AND STANDARDS

**Winchester City Council are legally required to protect public health by ensuring that pollutant concentrations do not exceed the UK Air Quality Standards[15] which were implemented in 2010.**

In 2021, the World Health Organisation established revised air quality guidelines, based on recent evidence on the effects of different air pollutants on human health, however these are not obligatory guidelines in the UK[16]. In 2023, the UK Government introduced new legally binding targets for $PM_{2.5}$ to set out a 2040 goal of achieving cleaner air and improving public health[17].

Several epidemiological studies have shown that fine particulate matter ($PM_{2.5}$) and nitrogen dioxide ($NO_2$) cause the highest risk to human health[18]. Based on the tighter World Health Organisation air quality guidelines, and the Committee on the Medical Effects of Air Pollutants (COMEAP) research that supports tighter restrictions to safeguard public health[19], Winchester City Council is dedicated to going above and beyond the current UK national targets for air quality, committing to the following pollutant standards for $NO_2$ and $PM_{2.5}$ for the Winchester district by 2030.

### Annual mean pollutant concentration standards in microgram per cubic metre (µg/m³) based on the 2021 WHO guidelines, the UK Air Quality Standards Regulations 2010, The Environmental Targets (Fine Particulate Matter) (England) Regulations 2023, and Winchester City Council's targets for 2030 across Winchester district.

| Pollutant | World Health Organisation Guideline (2021) | UK Air Quality Standard (2010) | England $PM_{2.5}$ Target (2023) by 2040 | Winchester City Council targets (2024) by 2030 |
|---|---|---|---|---|
| Nitrogen dioxide ($NO_2$) | 10 | 40 | - | 30 |
| Fine particulate matter ($PM_{2.5}$) | 5 | 20 | 10 | 10 |

15 Defra, UK Air Quality Limits, 2010 https://uk-air.defra.gov.uk/air-pollution/uk-limits
16 World Health Organisation, WHO global air quality guidelines: particulate matter ($PM_{2.5}$ and $PM_{10}$), ozone, nitrogen dioxide, sulfur dioxide and carbon monoxide, 2021. https://www.who.int/publications/i/item/9789240034228
17 The Environmental Targets (Fine Particulate Matter) (England) Regulations 2023 https://www.legislation.gov.uk/uksi/2023/96/contents/made
18 Li et al., 2019. A model for estimating the lifelong exposure to $PM_{2.5}$ and $NO_2$ and the application to population studies. Environmental Research. 178. https://www.sciencedirect.com/science/article/abs/pii/S0013935119304268
19 COMEAP summary of recommendations for quantifying the health effect of air pollutants, 2023 https://www.gov.uk/government/publications/air-pollutants-quantification-of-associated-health-effects

# 3 AIR QUALITY IN WINCHESTER'S DISTRICT

## 3.1 MONITORING AIR QUALITY

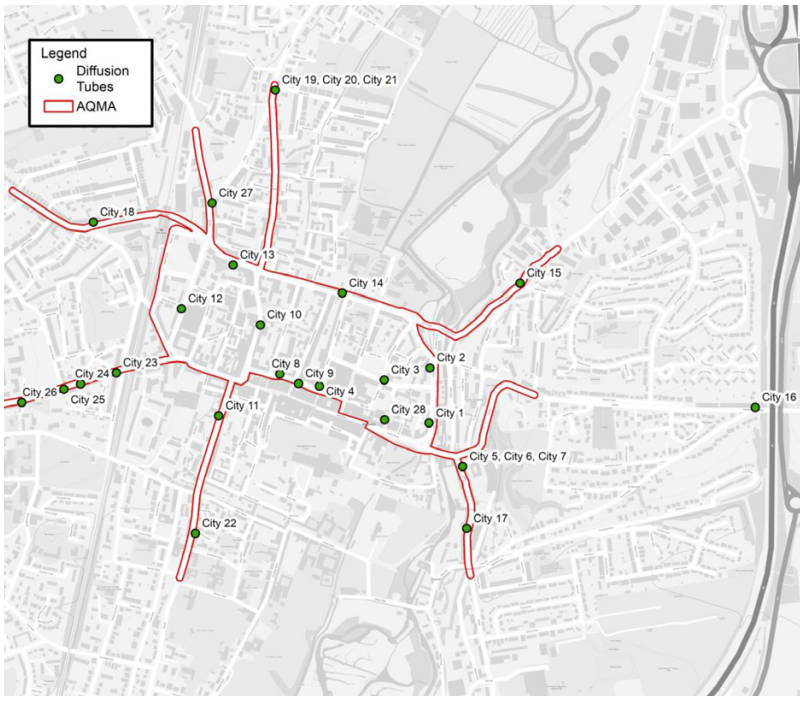
**Winchester City Council monitors air quality within the City's Air Quality Management Area (AQMA) and in selected locations within the wider district every year, to ensure that concentrations are not exceeding the national objectives and to track changes over time. There are currently 35 air quality monitoring sites across Winchester city and district. These monitoring sites mainly measure nitrogen dioxide concentrations using low-cost diffusion tubes. Some measure particulate matter concentrations using automatic monitoring. All monitored concentrations undergo analysis following the Government guidelines to ensure that the concentrations are robust.**

Across the Winchester district there is one Air Quality Management Area (AQMA). This AQMA is in Winchester's city centre and has been in place since 2003 due to past exceedances of the UK national air quality objectives for nitrogen dioxide ($NO_2$)[20]. Pollutant concentrations in the town centre have been high because of road traffic and high congestion levels.

Once we have addressed this issue we will be looking to monitor and further improve air quality across the whole of our district. This will focus both on improving areas with the worst remaining air quality and targeting future actions on locations with more susceptible populations (young , elderly or infirm for example).

Air quality is generally good, and there has been an overall improvement in air quality over the past five years. The most recently available data shows that there have been no exceedances of the nitrogen dioxide ($NO_2$) national objectives since 2020, and no exceedances of the $PM_{10}$ and $PM_{2.5}$ national objectives since 2019.

### Winchester City Centre AQMA and Diffusion Tubes within the City in 2023




We publish our latest monitoring data and an update on actions taken to address air quality each year in our Air Quality Annual Status Report (ASR). **https://www.winchester.gov.uk/environment/air-quality/historical-air-quality-reports-for-government**

20 AQMAs Declared by Winchester City Council https://uk-air.defra.gov.uk/aqma/local-authorities?la_id=314

## 3.2 WHERE DOES AIR POLLUTION COME FROM?

**Air pollution comes from a range of different sources. It is important to understand which sources have a greater impact on air pollution so that we can design effective policies to improve air quality.**

The key pollutants are nitrogen oxides (NOx) which include nitrogen dioxide ($NO_2$), coarse particulate matter ($PM_{10}$), and fine particulate matter ($PM_{2.5}$).

Across the district of Winchester, just under two-thirds of NOx emissions are from vehicles on the road. Other sources that contribute to NOx pollution include industrial processes, other modes of transport, domestic and commercial combustion, and agriculture and forestry.

For particulate matter, the largest source of emissions in Winchester is domestic and commercial burning of fossil fuels (not including wood), which gives rise to just over one-quarter of the emissions of $PM_{10}$, and just under half of the emissions of $PM_{2.5}$. Road transport, wood burning, and production processes are also important sources of particulate matter in Winchester.

Air quality is also affected by emissions from other areas because air pollution can be transported across long distances. Specifically, particulate matter can often be carried from neighbouring districts, regions, and even countries in mainland Europe. As a result, it is important that we collaborate with neighbouring communities in Hampshire and Southeast England to improve our air quality and achieve our ambitious targets.

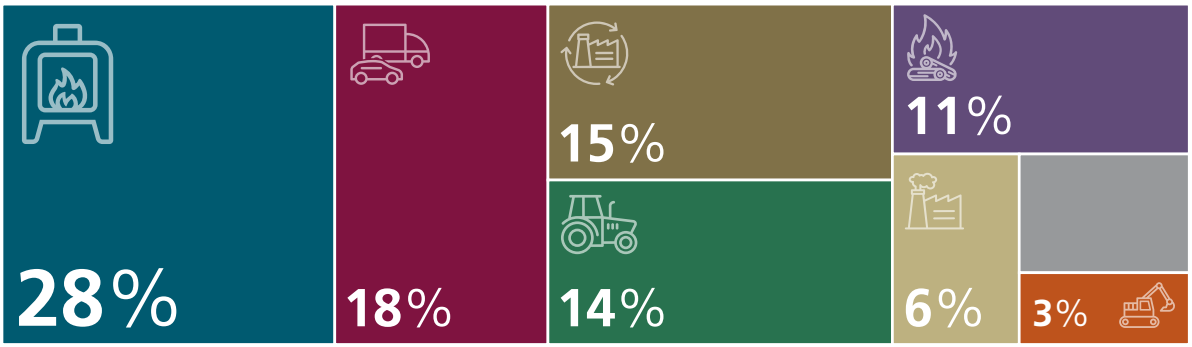
**Ariel view of Winchester City Centre**

## Primary emissions sources of NOx, $PM_{10}$, $PM_{2.5}$ in Winchester district (based on NAEI 2019 data[21]):

### NOx emissions source apportionment


Other: Industrial processes 1%; Nature, Waste, Solvents, Energy production, Wood burning <1%

### $PM_{10}$ emissions source apportionment




Other: Solvents 2%; Waste 2%; Nature 1%; Energy production <1%

### $PM_{2.5}$ emissions source apportionment


Other: Nature 2%; Waste 2%;Solvents 1%; Energy production 1%

Road transport
Other transport
Industrial combustion
Domestic & business combustion
Industrial processes
Agriculture & forestry
Wood burning
Other

21 National Atmospheric Emissions Inventory, 2019 https://naei.energysecurity.gov.uk/data/maps

## 3.3 RELATIONSHIP WITH OTHER POLICIES

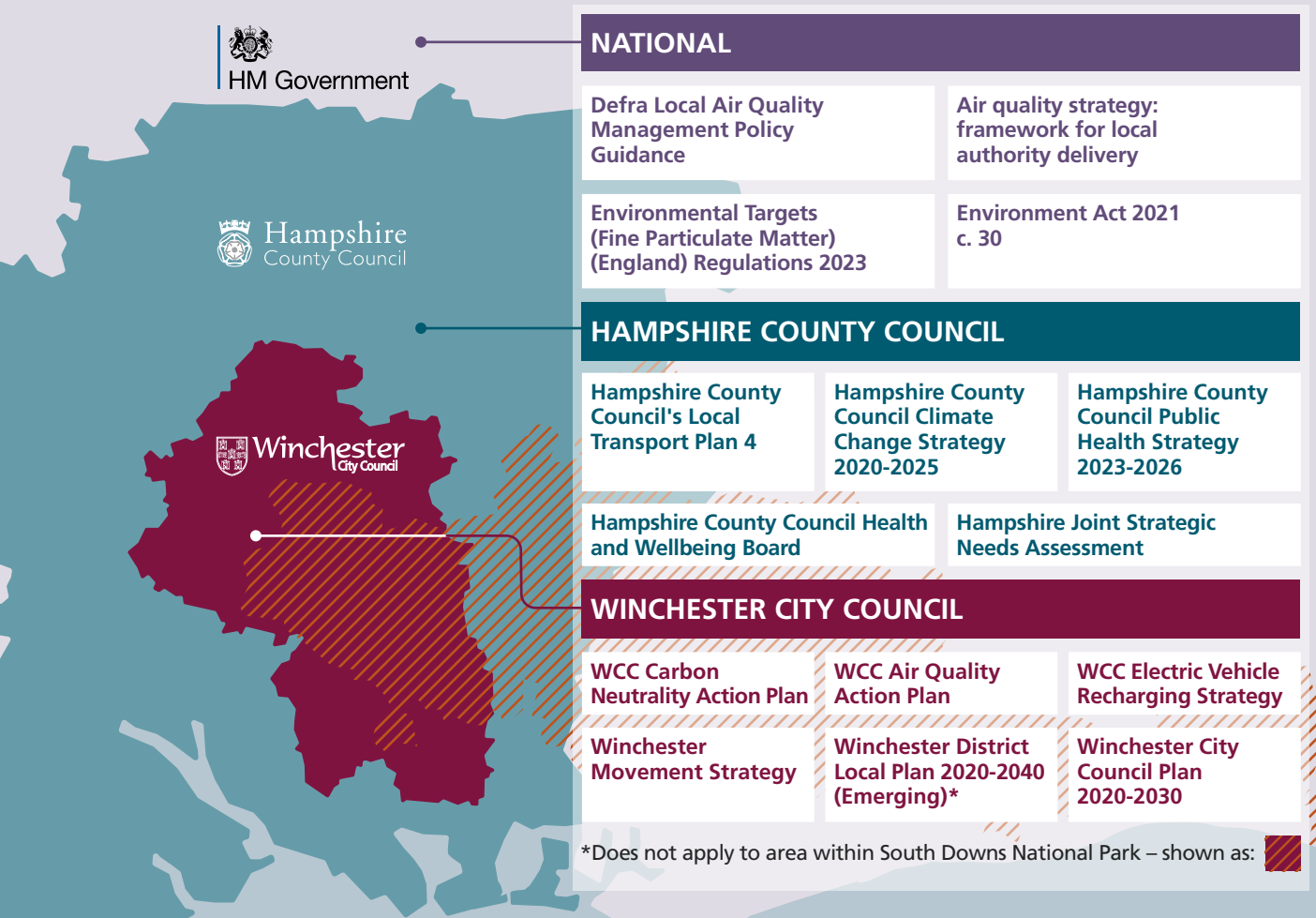
**Various local, regional, and national plans, policies, and strategies are in place to address air quality in Winchester's district, both through direct and indirect actions. National policies mandate local authorities to fulfil statutory duties, while regional and local policies implement actions to achieve national objectives.**

The Winchester City Council Air Quality Strategy has been developed with these plans, policies, and strategies in mind to ensure effective synergy across actions.

For example, the Winchester City Council Carbon Neutrality Action Plan[22] was published in response to Winchester City Council declaring a climate emergency in June 2019. It focuses on reducing fossil fuel emissions to mitigate climate change, with the aim to be a carbon neutral district by 2030. Given that climate change and air pollution are closely interlinked, and the reduction of fossil fuel emissions will also improve air quality, the Winchester Air Quality Strategy is aligned with the actions of the Carbon Neutrality Action Plan.

You can sign up for updates of Winchester City Council's progress towards becoming a carbon neutral district on the Council's website: **https://www.winchester.gov.uk/climate-change-and-energy**

### Some of the local, regional, and national policies that address air quality in Winchester:

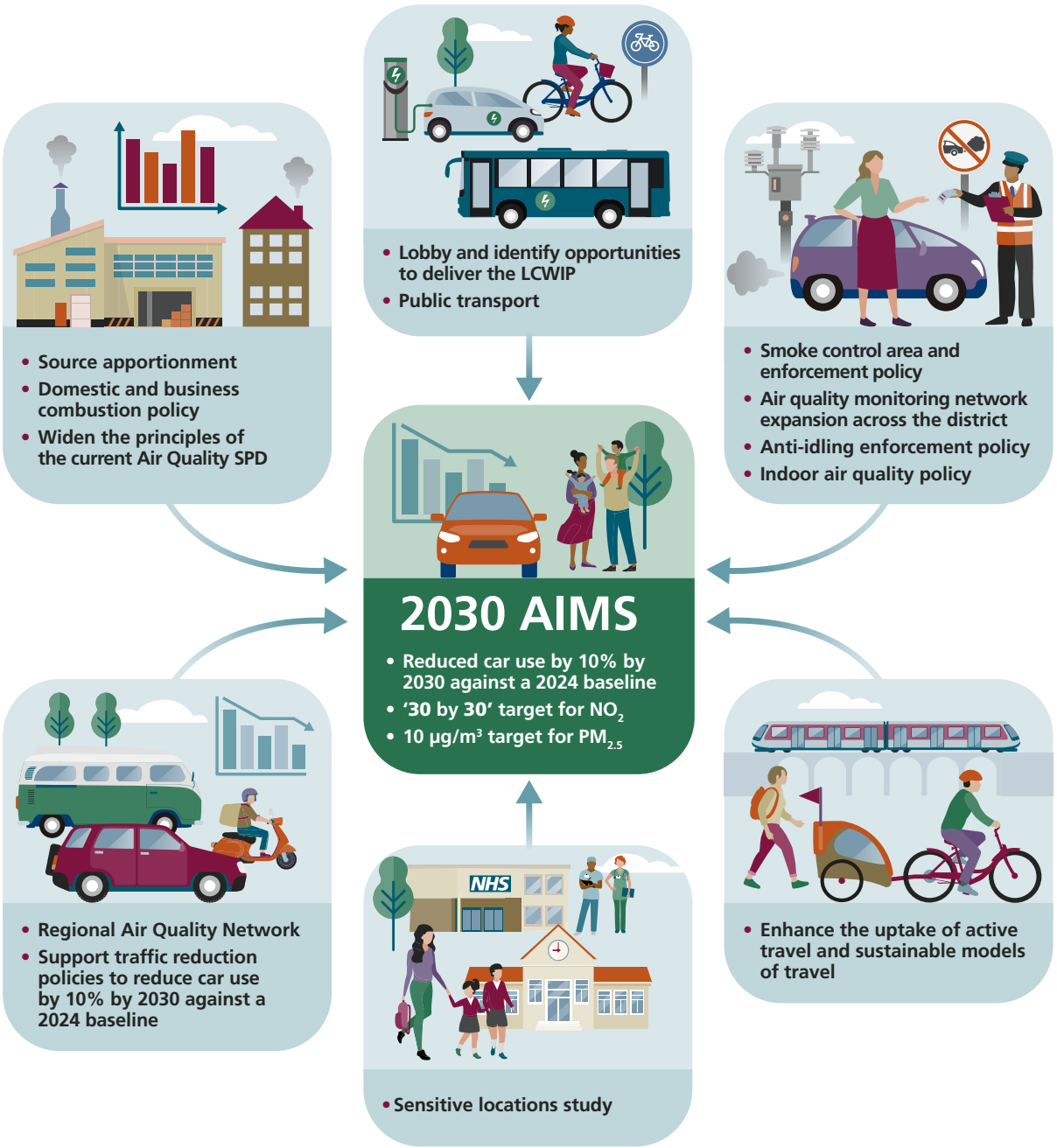



22 Winchester City Council Carbon Neutrality Action Plan 2023-2030 https://www.winchester.gov.uk/climate-change-and-energy/carbon-neutrality-action-plan

# 4 ACTION AREAS

Winchester City Council have committed to 13 new actions between 2024 and 2030 to improve air quality. In tandem with existing actions from other plans, policies, and strategies influencing air quality, Winchester City Council are committed to achieving our ambitious targets for the Winchester district by 2030.

For more detail on the 13 new actions between 2024-2030 in Winchester, please see Appendix 1.



## 4.1 AIR QUALITY MONITORING AND MODELLING

**Winchester City Council already undertake a range of air quality monitoring and assessments to understand air quality across Winchester District. Air quality monitoring and modelling are essential for:**

1. Tracking air quality progress over time
2. Identifying the relative importance of air pollution sources and their impact on public health
3. Predicting the effectiveness of actions and policies on improving air quality
4. Reducing harmful air pollutants
5. Ensuring compliance with regulations
6. Protecting public health, environmental health, and the economy
7. Communicating with the public
8. Supporting research and development
9. Informing a wider regional approach to improve air quality

Winchester City Council would like to take action to expand the air quality monitoring network and to undertake more detailed modelling so that we can more effectively reduce air pollution and improve the health of the public and the environment. Opportunities for the use of "citizen science" to contribute to the monitoring performed will be explored. The aim being to both expand the monitoring performed whilst encouraging a wider engagement and understanding. Further details of these actions can be found in **Appendix 1**.

To understand air quality's public health impacts, we will cross-reference air quality data with broader public health data. This includes correlating source apportionment study outcomes with the Department of Public Health's Joint Strategic Needs Assessment (JSNA) and census data. Our annual reports will detail this approach, providing a comprehensive analysis of how air quality improvements contribute to public health.

### Air Quality Monitoring:

- Expand the air quality monitoring network across the Winchester district, including increased $PM_{2.5}$, measurements using sensor measurements, citizen engagement, and indicative monitoring.
- Develop a new and active participation in, a multi-disciplinary Regional Air Quality Network across Hampshire.

### Air Quality Modelling:

- Conduct a detailed atmospheric source inventory for $NO_2$ and $PM_{2.5}$ pollution in the Winchester District to identify the extent to which different key emission sources contribute to pollutant concentrations.
- Conduct a study to identify and deliver measures at sensitive locations, such as schools/nurseries, playgrounds, or areas where air quality previously failed to meet national air quality objectives.

## 4.2 ROAD TRANSPORT

**Road transport is the largest source of emissions that contribute to nitrogen dioxide pollution both locally and the UK, with just under two-thirds of NOx pollution in coming from road transport. Therefore, air pollution is heightened in urban areas, along roadsides and in areas of heavy traffic.**

Vehicles emit a range of harmful air pollutants including nitrogen oxides, particulate matter, and carbon monoxide. These pollutants don't only impact pedestrians, cyclists, and other active travellers, but also those inside of the vehicle. In fact, pollution levels are often higher inside vehicles because emissions from surrounding vehicles can enter through air vents and recirculate around the vehicle[23].

Adjusting the way that we travel in and around Winchester city centre and the wider district, will greatly improve local air quality. Our objective is to achieve carbon neutrality for the district by 2030, establishing an integrated, sustainable, low-emission travel network that guarantees accessibility, safety, and affordability for all.

Through this Air Quality Strategy, Winchester City Council are committing to new actions in three areas.

### Reducing emissions from traffic

Whilst private cars are heavily relied upon, it is the least sustainable form of transport due to the space that they take up per person, their contribution to traffic congestion, and their impact on air pollution and the climate crisis. It is essential to shift towards sustainable modes of transport for journeys where this is possible, including low emission and alternative fuels, car sharing, public transport, and active travel.

To support the Hampshire County Council Local Transport Plan[24], **Winchester City Council commit to reduce car use by 10 percent by 2030 (against a 2024 baseline)**. Not only will this achieve the reduction in passenger transport carbon emissions required by 2030, but it would help achieve Winchester City Council's ambitious air quality targets for the Winchester district.

### Active travel

By prioritising improvements for active travel – walking, cycling, and wheeling – we can encourage more residents in Winchester to choose alternative travel options rather than relying on cars. This will help to reduce congestion, encourage healthier lifestyles, and help address air pollution and the climate crisis.

**Winchester City Council commit to lobby and identify opportunities to deliver the Local Cycling and Walking Infrastructure Plan (LCWIP)**[25], to make cycling, walking, and wheeling a more attractive option for those who can. The LCWIP focuses on improving walking routes and cycling corridors, developing infrastructure, and integrating active travel infrastructure with public transport and parking facilities.

The implementation of the LCWIP will maximise efficiency for people in terms of safety, accessibility, and convenience, and improve connectivity between the urban and rural areas of Winchester. The delivery will also focus on priority neighbourhoods and work with local community groups and campaigns to ensure that we reach areas and people in most need.

23 Environmental Research Group, 2023, In-vehicle exposure to traffic and road-generated air pollution. https://www.london.gov.uk/sites/default/files/2023-09/In-vehicle%20exposure%20to%20traffic%20and%20road-generated%20air%20pollution.pdf

24 Hampshire County Council Local Transport Plan 4, 2024 https://www.hants.gov.uk/transport/localtransportplan

25 City of Winchester LCWIP https://documents.hants.gov.uk/transport/transportschemes/CityofWinchester-LCWIP-summary.pdf

## Idling

Idling means leaving a vehicle's engine running unnecessarily while it is stationary, which creates emissions that are harmful to human health. A car idling for one minute can fill up to 150 balloons with harmful exhaust emissions. The people that are most affected by idling vehicles are the vehicle drivers and passengers.[26, 27]

There are common hotspots for vehicle idling, including waiting outside of schools during pick up and drop off periods. Unfortunately, children are one of the groups most vulnerable to air pollution because they breathe more rapidly than adults and so take in more air, and they are also closer to car exhausts. Therefore, it is essential we reduce idling emissions at these locations.

**Winchester City Council are committed to adopt an anti-idling enforcement policy to educate residents and change the behaviour of motorists.** The policy will set out a plan to:

- Raise awareness of the impact of engine idling, focusing on primary and secondary children, bus drivers, and taxi drivers
- Display signage at schools, hospitals, car parks, taxi ranks, major traffic lights, and bus stops
- Provide training to enforcement officers to give information on vehicle idling to motorists and hand out fines if the motorist refuses to switch off their engine if requested to do so

## Public transport

Public transport plays a crucial role in encouraging people to take fewer journeys by car and improving local air quality. Winchester City Council commit to support the actions in the Hampshire County Council Local Transport Plan that aim to increase the uptake and use of public transport across the district and improve connectivity with the wider region.

Accommodating a more sustainable means of transport and ensuring access to facilities and services across Winchester district and the wider region, is already a key objective of several Winchester City Council plans, policies and strategies. To find out more about what Winchester City Council are doing across this multidisciplinary subject, take a look at the following resources:

**Winchester Movement Strategy**

**Hampshire County Council Local Transport Plan 4**

**Carbon Neutrality Action Plan**

**Local Cycling and Walking Infrastructure Plan**


**Parking & Access Strategy**

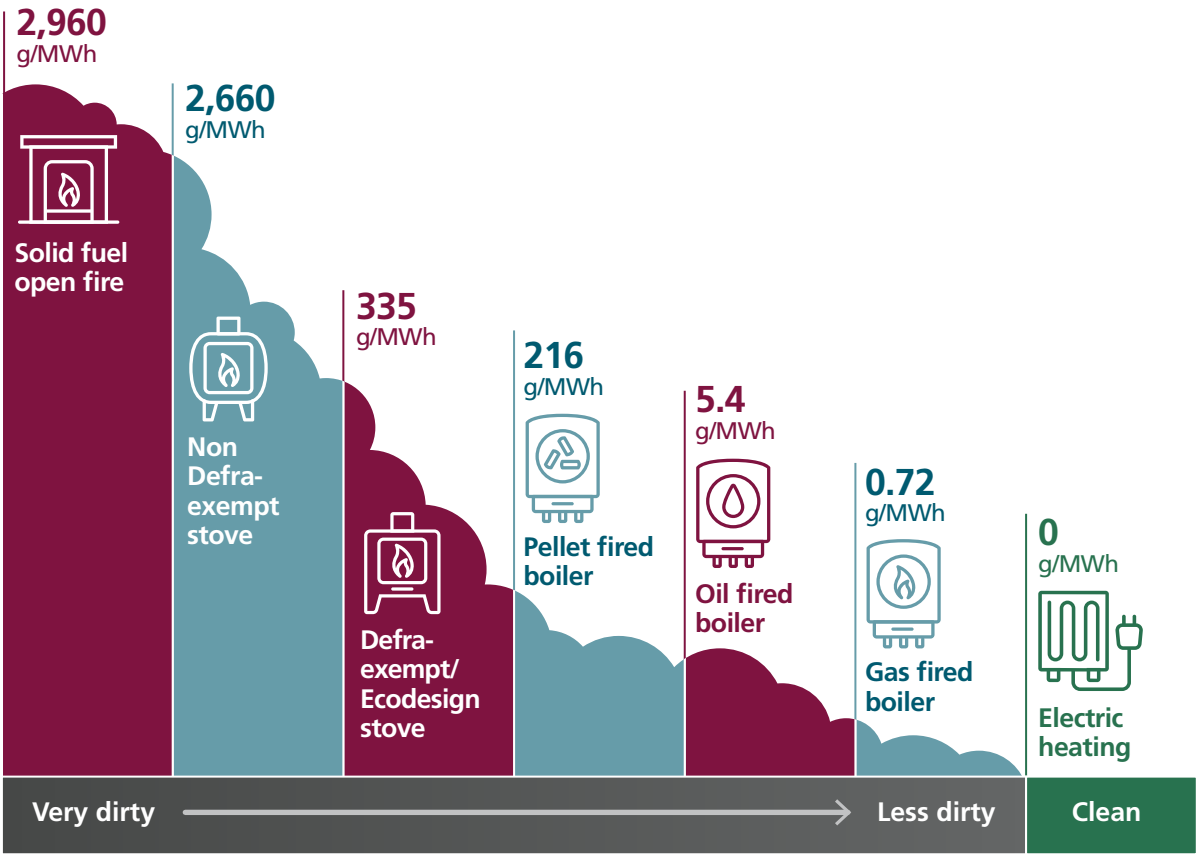
**Electric Vehicle Charging Strategy**

26 Idling Action London https://idlingaction.london/
27 The Future of Transport, 2021. Idling Action Research – Review of Emission Data https://trl.co.uk/publications/idling-action-research---review-of--emissions-data

## 4.3 DOMESTIC AND BUSINESS HEATING AND BURNING

**The combustion of fuels including gas, oil, coal, and wood in stoves and open fires creates more particulate matter pollution than road traffic in Winchester and across the UK. There is a significant difference between the least and most polluting forms of domestic heating, with coal and wood being the most polluting fuels. Recently, there has also been an increase in the popularity of wood burning, as a result of the perception that it is a more economical or environmentally friendly option.**

### Methods of domestic heating and their associated fine particulate matter ($PM_{2.5}$) emissions[28]:




Through the Winchester Air Quality Strategy, **the Council will explore the feasibility of adopting a Smoke Control Area to cover Winchester District**. Subject to the findings of study, if adopted this policy would mean that residents and businesses would only be allowed to use certain types of fuel or use Defra approved appliances inside the home.

Many areas across the UK are already Smoke Control Areas, including parts of Southampton and Portsmouth, Greater London, Birmingham, Manchester, Liverpool, Newcastle, and Leeds. To find out more about Smoke Control Areas in the UK, visit the following website: **https://www.gov.uk/smoke-control-area-rules**

To address concerns, **Winchester City Council also plan to develop an effective coordinated response to domestic and business combustion**. This policy will be an educational and advisory document to encourage collaboration and behavioural change across Winchester, to help protect the health of those who live and work in Winchester and our neighbouring communities.

28 Emission factors taken from EMEP 2019 Guidebook (1A4 small combustion tables). Adapted from the Clean Air Strategy and the Chief Medical Officer's annual report 2022: Air Pollution with updated data. For details, see Extra Resources on Air Quality on page 28.

## 4.4 INDOOR AIR QUALITY

**Whilst domestic combustion has an impact on both outdoor and indoor air quality, it isn't the only form of indoor air pollution. People spend 80-90% of their time indoors, whether that's at home, in school or workplaces, in other public spaces, or on transport[29]. This means that poor indoor air quality can have a significant impact on our health, wellbeing, and quality of life.**

Key sources of indoor air pollution include cooking and heating appliances, cigarette and e-cigarette smoke, damp and mould, cleaning products, and building materials. Indoor air pollution can be exacerbated by inadequate ventilation, infiltration of polluted outdoor air, small room size, and overcrowding.

**The Council are committed to improving indoor air quality across Winchester and commit to developing a policy on an effective coordinated response to indoor air quality to protect against public health.** The policy will seek to:

- Consider the housing conditions that put people at increased risk of exposure to indoor air pollution
- Emphasise the need for a balanced approach to ventilation, insulation, and heating for good indoor air quality
- Establishing a campaign to raise awareness of the reducing exposure to indoor air pollution
- Provide advice on alternatives for solid fuel burning
- Encourage collaborative efforts between stakeholders to improve indoor air quality
- Foster joint working with external stakeholders to inform home improvement programmes and identify grants to combat poor indoor air quality

We can all take some simple steps to make a big difference in reducing local air pollution and help protect our families and communities. To find out more about how you can reduce your exposure to indoor air pollution, go to Section 5: Personal exposure reduction or read the following report published by the World Health Organisation:

World Health Organisation, 2024, Personal-level actions to reduce air pollution exposure in the WHO European Region, **https://www.who.int/europe/publications/i/item/WHO-EURO-2024-9115-48887-72806**

29 Indoor Air Quality – UK Parliament POST, 2023 https://post.parliament.uk/research-briefings/post-pb-0054/#:~:text=Overview%20of%20key%20points,complex%20and%20variable%20than%20outdoors

# 4.5 CONSTRUCTION AND NEW DEVELOPMENTS

**Developing well-designed, integrated, sustainable places is high on Winchester City Council's Local Plan[30] agenda. However, new developments can put pressure on local air quality, especially particulate matter and dust pollution, through construction processes such as demolition work, non-road mobile machinery (NRMM), and the transport of construction materials.**

## New developments

The Council's Local Plan 2020 to 2040 (emerging) is planning for development in the coming years alongside enhancing quality of life for local communities and to address the needs of a growing population. It is critical that spatial planning and the placement of new developments strategically consider air quality by providing sustainable transport links, encouraging active travel, and increasing access to open space and recreational facilities. In order to address this, the new Local Plan, requires developers to prioritise sustainable and active transport; walking, cycling, wheeling and public transport as an integral part of the design process.

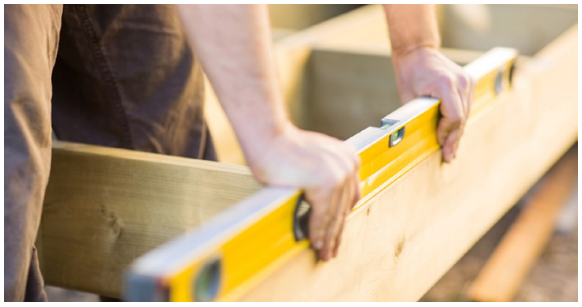
Winchester City Council want to ensure that our new developments both meet the needs of our community and address air pollution. **We commit to continually investigate how, as part of any subsequent review of the Local Plan, we can improve air quality and enhance the uptake and continued use of active and sustainable modes of travel**.

## Construction

The Council's current Local Plan and Air Quality Supplementary Planning Document (SPD)[31] requires additional planning application requirements for any pollution-generating development. These include ambient air quality assessments to consider the impacts of new developments on local air quality, and prevention of potential adverse air quality impacts.

**The Council's Local Plan 2020 to 2040 (emerging) will look to widen the principles of the current Air Quality Supplementary Planning Document (SPD) through the development of a separate informative Technical Guidance Note.** This updated Technical Guidance Note will provide stronger supporting guidance when considering construction activities and non-road mobile machinery (NRMM) in air quality assessments, mitigation measures, and Construction Environmental Management Plans (CEMPs).

We will work closely with our neighbouring planning authorities, South Downs National Park and Hampshire County Council, to consider the areas in Winchester District that are not in the Council's immediate planning policy control. These changes will help to provide guidance to developers to reduce their impact on local air pollution and improve public health and wellbeing for our community.



30 Winchester District Local Plan 2020 – 2040 (Emerging) https://www.winchester.gov.uk/planning-policy/winchester-district-local-plan-2018-2038-emerging

31 Winchester City Council Air Quality Supplementary Planning Document 2021 https://www.winchester.gov.uk/assets/attach/31474/Final-SPD-Sept-2021.pdf

# 5 PERSONAL EXPOSURE REDUCTION

Everyone plays a part in contributing to air pollution: the UK Government, Winchester City Council, businesses, and individuals. The Winchester City Council Air Quality Strategy has set out the Council's commitments to improve the air we breathe. Here are some different adjustments you could make to your daily routine to reduce air pollution and reduce your exposure to poor air quality.

## OUTDOOR AIR QUALITY

Use **public transport** or carpool

Choose to **walk down less busy streets**, or walk on the side of the pavement furthest from the road

Choose active travel alternatives, such as **walking or cycling**

**Maintain your vehicle and drive efficiently** by avoiding rapid acceleration and excessive idling

Consider using **electric or hybrid vehicles**

**Avoid having bonfires** to burn garden waste

**Spread awareness** about the impact of air pollution and encourage others to adopt cleaner practices

## INDOOR AIR QUALITY

**Plant trees** and greenery or contribute to local green space initiatives

Ensure that fuel-burning **appliances are frequently serviced** and well maintained

Move away from solid fuels and **use energy-efficient appliances** to reduce energy consumption

**Ventilate your home** by opening your windows when you are cooking, cleaning, burning candles, and using paints

**Support local campaigns** and initiatives which aim to reduce air pollution

**Limit use of products** which release harmful chemicals into the air

**Limit wood burning** activities inside the home

**Do not smoke** inside

# 6 GREEN INFRASTRUCTURE

Green infrastructure is a planned network of natural and semi-natural areas including parks, open spaces, woodlands, street trees, allotments, wetlands, and green roofs and walls. High quality, well-designed, and strategically located green infrastructure is key to Winchester's sustainable future.

**Green infrastructure can not only help to reduce your exposure to air pollution, but it can also deliver a wide range of environmental, social, and economic benefits:**

## ENVIRONMENT

1. Reducing exposure to air pollution by creating a barrier between pollution sources and pedestrians
2. Enhancing local biodiversity for birds and pollinators
3. Offsetting climate change by providing carbon storage
4. Providing sustainable drainage to reduce water run-off during flash flooding
5. Cooling urban areas during heat waves

## SOCIAL

6. Improving quality of life
7. Supporting people's mental and physical health
8. Encouraging active travel by providing safer and more pleasant routes for walking and cycling

## ECONOMY

9. Attracting investment
10. Positively impacting our neighbourhoods

# 7 MONITORING AND EVALUATION

Regular monitoring and evaluation play a crucial role in assessing the effectiveness of the initiatives outlined in the Winchester City Council Air Quality Strategy. This ongoing review process is essential to enable a prompt and effective response to the air quality challenges within the district.

It is envisaged there will be an increasing monitoring and evaluation role by the proposed multi-disciplinary Regional Air Quality Network across Hampshire where appropriate, for example, when engaging with cross boundary sources and actions.

The Winchester Air Quality Strategy will be reviewed and reported on annually in Winchester City Council's Air Quality Annual Status Reports, keeping stakeholders up to date with progress and any changes being made.

Winchester City Council will work collaboratively with relevant stakeholders to monitor, evaluate and regulate actions outlined in this Strategy. This will ensure the Strategy is successfully fulfilling its objectives and to establish progress towards meeting the Council's ambitious targets of an annual average nitrogen dioxide concentration of less than 30 $\mu g/m^3$, and an annual average $PM_{2.5}$ concentration of less than 10 $\mu g/m^3$ across the Winchester district by 2030.

Changes in air quality and other indicators over time can be considered against original objectives and baseline information where available. Where actions are shown not to be meeting targets, measures can be taken to bring the action back on track.

**In evaluating the impacts from future air quality actions it is recognized we will need to utilise wider public health data to identify positive public health outcomes. This will involve working more closely with other key public health bodies.**

**Ariel View of Whiteley Shopping Centre**

# 8 EXTRA RESOURCES ON AIR QUALITY

If you want to find out more about current air quality levels in Winchester City Council's district, actions that we are taking, or information on health and wellbeing, please see the following list of useful resources.

| Tool/resource | Description | Link |
|---|---|---|
| Winchester City Council | Provides Information on Air Quality including the health impacts plus air quality monitoring data and reports | https://www.winchester.gov.uk/environment/air-quality |
| Winchester AQMA | Provides information about Air Quality Management Areas in Winchester | https://www.winchester.gov.uk/environment/air-quality/historical-air-quality-reports-for-government |
| Air Quality and Health | Provides information on the different types of pollutants and their impacts on health | https://www.winchester.gov.uk/environment/air-quality |
| UK Health Security Agency | Provides information about the health impacts of air pollution | https://ukhsa.blog.gov.uk/2022/06/16/clean-air-day-how-ukhsa-is-tackling-air-pollution-and-how-you-can-help/ |
| Defra Air Pollution Forecast | Defra's air pollution forecast tool provides the latest outlook for air quality across the UK | https://uk-air.defra.gov.uk/ |
| Sustrans | Provides information on the National Cycle Network and resources to help with taking up cycling | https://www.sustrans.org.uk/national-cycle-network/ |
| Cycling UK | Offer a range of impartial advice, guides, reviews, inspiration, and routes to help people experience the joy of cycling | https://www.cyclinguk.org/ |
| Visit Winchester | Guidance on getting around Winchester on foot, by bicycle, and using public transport | https://www.visitwinchester.co.uk/visitor-information-centre/getting-here-to-visit-winchester |
| Cycle Winchester | A local community action group campaigning to make Winchester better by bike | https://cyclewinchester.org.uk/ |

| Tool/resource | Description | Link |
|---|---|---|
| School Run Travel Apps | There are several SchoolRun travel apps which help to find healthier, active and sustainable travel routes to school, for example, by facilitating carpooling, finding routes with less traffic, tracking kids' journeys, or coordinating walking and cycling groups; e.g. HomeRun. | https://www.homerun-app.com/ |
| NICE Indoor Air Quality Guidance | Guidance on the importance of good air quality in people's homes and how to achieve this | https://www.nice.org.uk/guidance/ng149 |
| The Carbon Trust | Organisations such as The Carbon Trust help business and the public sector cut emissions | https://www.carbontrust.com/ |
| Burn Right | Information about causes and ways to reduce air pollution from wood burning | https://burnright.co.uk/how-to-burn-right/ |
| Household bonfires and smoke nuisance | Provides information on household bonfires and how to report them as a nuisance | https://www.winchester.gov.uk/environment/nuisance/bonfires |
| Smoke control areas rules | Rules for smoke control areas, including information on penalties | https://www.gov.uk/smoke-control-area-rules |
| The Tree Council | The Tree Council provides advice about planting new trees and hedges – of the right kind and in the right place | https://treecouncil.org.uk/ |
| RE:NEW and RE:FIT programmes | Government-led programmes to support energy efficiency at work and home | https://www.london.gov.uk/what-we-do/environment/energy/renew-0<br><br>https://localpartnerships.gov.uk/our-expertise/refit/ |
| The Energy Saving Trust | The Energy Saving Trust helps households, businesses, and organisations to save energy | https://energysavingtrust.org.uk/ |
| European Environment Agency. EMEP/EEA air pollutant emission inventory guidebook 2019 | | https://www.eea.europa.eu/en/analysis/publications/emep-eea-guidebook-2019 |
| Department for Environment, Food & Rural Affairs (Defra). Clean Air Strategy 2019 | | https://www.gov.uk/government/publications/clean-air-strategy-2019 |
| Chief Medical Officer's annual report 2022: Air Pollution | | https://www.gov.uk/government/publications/chief-medical-officers-annual-report-2022-air-pollution |

| Tool/resource | Description | Link |
|---|---|---|
| Dealing with garden waste | Guidance on ideas for reusing and removing garden material | https://www.rhs.org.uk/garden-jobs/how-to-deal-with-garden-waste |
| Garden Waste Service | Provides information on Winchester's Garden Waste Service | https://www.winchester.gov.uk/waste-recycling/garden-waste-collection-sign-up |
| Efficient driving | Guidance on driving vehicles efficiently to save energy | https://energysavingtrust.org.uk/business/transport/efficient-driving/ |

# APPENDIX 1: WINCHESTER AIR QUALITY STRATEGY ACTIONS

| ID | Action area | Action | Lead Organisation | 2025-26 | | | | 2026-27 | | | | 2027-28 | | | | 2028-29 | | | | 2029-30 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Qtr: | | | | Qtr: | | | | Qtr: | | | | Qtr: | | | | Qtr: | | | |
| | | | | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 |
| 1 | **Air quality monitoring and modelling** | Conduct a detailed atmospheric source inventory for $NO_2$ and $PM_{2.5}$ pollution in the Winchester District to identify the extent to which different key emission sources contribute to pollutant concentrations. | WCC | ■ | ■ | ■ | | | | | | | | | | | | | | | | | |
| 2 | | Expand the air quality monitoring network across the wider Winchester district, including increased $PM_{2.5}$ measurements using sensor measurements, citizen engagements and indicative monitoring. | WCC | | | | ■ | ■ | ■ | ■ | ■ | ■ | | | | | | | | | | | |
| 3 | | Develop a new and active participation in, a multi-disciplinary Regional Air Quality Network across Hampshire. | WCC | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| 4 | | Conduct a study to identify and deliver measures at sensitive locations, such as schools/nurseries, playgrounds, or areas where air quality previously failed to meet national air quality objectives. | WCC & HCC | | | | | | | | | ■ | ■ | ■ | ■ | | | | | | | | |
| 5 | **Transport** | Adopt an anti-idling enforcement policy to educate residents and encourage behavioural change of motorists. | WCC | | | | | ■ | ■ | ■ | ■ | | | | | | | | | | | | |
| 6 | | Lobby and identify capabilities to deliver the Local Cycling and Walking Infrastructure Plan (LCWIP) for Winchester City and District. | HCC | | | | | | | | | ■ | ■ | ■ | ■ | | | | | | | | |
| 7 | | To support the Hampshire County Council Local Transport Plan, Winchester City Council commit to investigate and support traffic reduction policies to reduce car use by 10% by 2030 compared to 2024 levels. | WCC | | | | | | | | | ■ | ■ | ■ | ■ | | | | | | | | |
| 8 | | To support Hampshire County Council Local Transport Plan measures that will increase the uptake and use of Public Transport across the district and improve connectivity with the wider region. | WCC & HCC | | | | | | | | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |

Key: WCC is Winchester City Council
HCC is Hampshire County Council
Qtr 1 is April to June
Qtr 2 is July to September
Qtr 3 is October to December
Qtr 4 is January to March

| ID | Action area | Action | Lead Organisation | 2025-26 | | | | 2026-27 | | | | 2027-28 | | | | 2028-29 | | | | 2029-30 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Qtr: | | | | Qtr: | | | | Qtr: | | | | Qtr: | | | | Qtr: | | | |
| | | | | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 |
| 9 | **Domestic Heating and Combustion** | Develop an educational and advisory policy on an effective coordinated response to domestic combustion concerns. | WCC | | | | | | ■ | ■ | ■ | ■ | | | | | | | | | | | |
| 10 | | Explore the feasibility of adopting a Smoke Control Area and associated enforcement policy to cover Winchester District. | WCC | | | | | | | | | ■ | ■ | ■ | ■ | | | | | | | | |
| 11 | **Indoor Air Quality** | Develop an educational and advisory policy on an effective coordinated response to indoor air quality concerns, including mould and bio aerosols. | WCC | | | | | | | | | ■ | ■ | ■ | ■ | | | | | | | | |
| 12 | **Construction and new developments** | Strengthen the Council's Local Plan 2020 to 2040 (emerging) to widen the principles of the current Air Quality Supplementary Planning Document (SPD) through the development of a separate informative Technical Guidance Note. | WCC | | | | | | | | | | | | | ■ | ■ | ■ | ■ | | | | |
| 13 | | Investigate how, as part of the subsequent review of the Local Plan, we can improve air quality and enhance the uptake and continued use of active and sustainable modes of travel. | WCC | | | | | | | | | | | | | | ■ | ■ | ■ | ■ | ■ | ■ | ■ |

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