

Executive Summary: Air Quality in Our Area

This report presents Havant Borough Council's (HBC) 2023 monitoring results and forms part of the review and assessment of air quality in Havant Borough. The report has been prepared by reference to Government's published Policy Guidance LAQM.PG(22) and in accordance with the Technical Guidance LAQM.TG(22).

Air Quality in Havant Borough

Air pollution is associated with a number of adverse health impacts. Breathing in polluted air affects our health and costs both the NHS and our society more generally billions of pounds each year, both the in direct costs of treating health conditions and in the indirect costs of lost productivity that arise from illness and absence from the workplace (for example). Air pollution is recognised as a contributing factor in the onset of heart disease and cancer and can cause a range of health impacts, including effects on lung function, exacerbation of asthma, increases in hospital admissions and mortality. In the UK, it is estimated that the reduction in healthy life expectancy caused by air pollution is equivalent to 29,000 to 43,000 deaths a year¹.

Air pollution particularly affects the most vulnerable in society, children, the elderly, and those with existing heart and lung conditions. Additionally, people living in less affluent areas are commonly the most exposed to dangerous levels of air pollution².

Table ES 1 provides a brief explanation of the key pollutants relevant to Local Air Quality Management and the kind of activities they might arise from.

¹ UK Health Security Agency. Chemical Hazards and Poisons Report, Issue 28, 2022.

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

Table ES 1 - Description of Key Pollutants

Pollutant	Description
Nitrogen Dioxide (NO ₂)	Nitrogen dioxide is a gas which is generally emitted from high-temperature combustion processes such as road transport, energy generation, or cooking & heating processes (domestic & commercial).
Sulphur Dioxide (SO ₂)	Sulphur dioxide (SO ₂) is a corrosive gas which is predominantly produced from the combustion of coal or heavy fuel oil (e.g. in commercial shipping).
Particulate Matter (PM ₁₀ and PM _{2.5})	<p>Particulate matter is everything in the air that is not a gas.</p> <p>Particles can come from natural sources such as pollen & sea spray, as well as human made sources such as smoke from fires, emissions from industry and dust from tyres and brakes.</p> <p>PM₁₀ refers to particles with a diameter under 10 micrometres.</p> <p>Fine particulate matter or PM_{2.5} are particles with a diameter under 2.5 micrometres.</p>

Screening assessments for the Havant area have consistently suggested that Nitrogen Dioxide (NO₂) was the only pollutant likely to challenge compliance with its respective air quality objective.

NO₂ has consistently proven to be principal pollutant of concern nationwide, with the primary source in most locations being from the conventionally fuelled motor vehicles. 87% of AQMA's nationwide have been declared solely to control NO₂, 12% for PM₁₀, and 1% for SO₂. No AQMA's are currently in place nationwide specifically for PM_{2.5}. For these reasons, emphasis has been placed on consideration of NO₂ through both the active monitoring programme, and within the main body of this report.

However, following introduction of the Environment Act 2021 and the publishing of the Environmental Improvement plan 2023, there is now a both an Air Quality Target level and exposure reduction Target to be met by 2040, alongside interim targets due to be met in 2028.

This Annual Status Report shows that the statutory air quality objectives are likely to be achieved for NO₂ at all relevant locations throughout the borough, with many residential areas likely to enjoy excellent air quality. However, the statutory objective is not risk free, and comparisons with the WHO epidemiological summary data suggest that around 2% of all non-accidental deaths within the borough might be attributable to long term exposure to

Nitrogen Dioxide¹⁶, with peak risks¹³ at the worst affected locations being equivalent to around 11%.

There is a general shallow decreasing trend in annual mean NO₂ concentrations over the past five years, with the strongest declines being noted at kerbside monitoring sites. Figures are either broadly equivalent to-, or slightly below- those recorded during the pandemic restrictions; indicating a durable impact upon emissions – likely through changes to working and travel practices.

A detailed consideration of PM_{2.5} levels is presented in this report, based upon surrogate data from AURN continuous monitoring locations within 40 miles of Havant Borough. This assessment has shown that the modelled year-on-year reductions expected have been outpaced (bettered) by real-world emissions. A strong declining trend was shown across all monitoring sites & all environment types examined.

The maximum ambient PM_{2.5} concentration (on a square-kilometre basis) is expected to be <12 µg/m³, with the average exposure concentration in the Borough being around 9 µg/m³. The worst affected locations are all in the Leigh Park area, with domestic sources thought to be important contributors. Concentrations here are however already compliant with the 2028 interim target. The health impacts of exposures at these levels translate to an attributable contribution to total mortality¹⁶ of around 6% within Leigh Park, and around 4.7% on average across the Borough.

Cumulative exposure to short periods of elevated PM_{2.5} concentrations is expected to add less than +2% to mortality.

Actions to Improve Air Quality

Whilst air quality has improved significantly in recent decades, the non-threshold nature of the health impacts mean that any actions which contribute to reductions in atmospheric concentrations of common air pollutants are likely to translate into a direct health benefit.

The Environmental Improvement Plan³ sets out actions that will drive continued improvements to air quality and to meet the new national interim and long-term targets for fine particulate matter (PM_{2.5}), the pollutant of most harmful to human health. The Air

³ Defra. Environmental Improvement Plan 2023, January 2023

Quality Strategy⁴ provides more information on local authorities' responsibilities to work towards these new targets and reduce fine particulate matter in their areas.

The Road to Zero⁵ details the Government's approach to reduce exhaust emissions from road transport through a number of mechanisms, in balance with the needs of the local community. This is extremely important given that cars are the most popular mode of personal travel and the majority of Air Quality Management Areas (AQMAs) are designated due to elevated concentrations heavily influenced by transport emissions.

Levels of Air Pollution within the Borough are fully compliant with the current statutory objectives & limits, are very likely to be compliant with the interim targets, and are on track to meet the future statutory targets. It is however recognised that the statutory air quality targets do not represent a 'zero harm' level. Rather, the targets represent the level of public health harm that is considered to be acceptable, after the costs and other negative impacts of achieving better standards have been accounted for.

Achieving further improvements to Air Pollution levels beyond the statutory requirements would translate into improved health outcomes, but having regard to the reasons why the statutory Air Pollution standards differ from the epidemiological advice; significant investment in measures specifically & exclusively seeking to achieve further reductions is not currently considered to be justified within the Borough.

For this reason, efforts to achieve further improvements in local air quality generally take the form of qualitative (unquantified-) measures, e.g. by ensuring that air pollution effects are an important ancillary consideration when exercising other routine Council functions – in particular, in transport, planning & climate change.

Hampshire County Council plays a significant role in preventing, reducing, and mitigating emissions from road transport through its devolved Local Highways and Public Health functions, alongside its influence on the delivery of educational services. There are opportunities for the Borough and County Councils to support each other, with the planning functions of HBC representing a key opportunity to support these goals.

⁴ Defra. Air Quality Strategy – Framework for Local Authority Delivery, August 2023

⁵ DfT. The Road to Zero: Next steps towards cleaner road transport and delivering our Industrial Strategy, July 2018

The Council also recognises the parallels between air pollution and climate goals, and the need for holistic thinking to secure an improvement to local air quality as a co-benefit of pursuing the primary goal of both combating-, and adapting to-, anthropogenic climate change. For example, actions taken to improve sustainability and reduce energy demand might serve to avoid the emissions associated with power generation, especially from local Short-Term-Operating-Reserve (STOR) generators (which often use fossil fuels).

Micro-scale projects can make a valuable contribution to these goals. Each small-scale reduction in either emissions or energy use will in turn reduce local concentrations of pollutants, and so also the pollutant-loading of the air moving to down-wind locations. The aggregate of all micro-scale interventions could sum up to a significant overall effect; both by reducing the peak concentrations on high pollution days, and by applying downward pressure on ambient average background exposures.

Reliance on qualitative measures and aggregated small contribution does however mean that the success of efforts made to improve local air quality is not readily demonstrated by empirical means on an 'intervention-by-intervention' level, necessitating reliance upon the expected effects from well understood processes, or upon a simple logic-based conceptual model in each case.

The approach that Havant Borough Council takes to improving local air quality largely consists of a strategy of seeking to achieve modest incremental improvements and mitigations through the effective & diligent application of planning policy to secure:

1. Sustainable development with low energy demand, and a reduced need for local (within borough) combustion of fuels
2. The implementation of travel plans & securing of local infrastructure which supports and encourages modal-shift from travel by private motor vehicles to more sustainable and active forms of transport
3. High quality development in sustainable locations which reduce the need to travel and revitalises town centres where possible, and;
4. Innovative developments which support new vehicle technology, new vehicle access models, Low- or Zero- Carbon (LZC) energy or heating solutions, and landscape features which assist with the interception and destruction of air pollutants.

Effective forward-planning through the local development framework and strategic land allocation also contributes to achieving air quality objectives, as does the deployment of funds acquired through planning gain (both s106 and s278 agreements and the Community Infrastructure Levy, CIL), where possible allocating these to local infrastructure

improvements that aim to facilitate and encourage active travel choices, and so to achieve both emissions reductions and overall public health gains.

Conclusions and Priorities

Air Quality within the Borough is expected to be fully compliant with all current statutory air quality standards, as well as the 2028 interim targets. Trends suggest that the future statutory targets will be met well ahead of the 2040 compliance date. It is thought that the socio-economic factors resulting from pandemic restrictions may still be influencing current trends, and that a degree of 'rebound' may still occur in the coming years which could undermine progress towards these future targets.

Current levels of air pollution do not meet that latest epidemiological recommendations, and so further improvements to health outcomes could be achieved by seeking further improvements in local air quality. There is broad equivalence between Nitrogen Dioxide & Fine Particulate Matter by share of contribution to excess mortality risk¹³ within the respective areas of the Borough worst affected by these pollutants. As averaged exposures, Fine Particulate Matter contributes more to the overall non-accidental mortality burden than does Nitrogen Dioxide (5.2% & 2.2% for PM_{2.5} & NO₂ respectively¹⁶).

Specific actions to improve local air quality are not currently required, but it is recognised that there are areas where additional policy drivers exist through which additional and proportionate co-benefits for local air quality could be sought.

Priorities for the coming year include:

1. To deliver an adopted Local Plan that is fit for purpose and fully accounts for the principles and policy embodied by the revised NPPF, the national air-quality strategy, and any further Regulations / Statutory Guidance made under the Environment Act 2021 to which local authorities must have regard;
2. To continue seeking material enhancements to development proposals brought forward, making effective use of adopted national policy, and
3. To produce and publish a 'light touch' air quality strategy which is proportionate to the health risks within the borough, but which also ensures that air quality is an integral consideration in the exercise of the Council's wider duties.

Local Engagement and How to get Involved

In other sections, we provide information on the current state of air quality within the borough and the actions that the Council is taking to achieve incremental reductions in local emissions. In this section we look at how residents and businesses can get involved.

Dealing with air pollution is not something that any single organisation or individual can resolve, and many contributors to local air pollution fall outside the operational reach of the Local Authority to directly influence. It will require the combined efforts of everyone to ensure that pollutant concentrations remain well below objective limits. There are many ways individuals can contribute to reducing air pollution and so improve air quality. Appendix F includes some ideas and tips on how to reduce personal exposure to air pollutants, and how you or your business might contribute to reductions in local emissions.

Local Responsibilities and Commitment

This ASR was prepared by the Environmental Health Department of Havant Borough Council.

This ASR has been approved by:

- Cllr Grainne Rason; Cabinet Lead for Climate & the Environment
- Alex Robinson; Executive Head of Place (incorporating Planning & Environmental Health)

This ASR has not been signed off by a Director of Public Health.

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