Community Policy and Review Panel

Briefing note on Local Air Quality & Health

The purpose of this note is to brief Panel Members on the air quality monitoring that the Council undertakes to determine compliance with relevant air quality standards and give an overview of health impacts that poor air quality can cause.

Regulatory Background

The Local Air Quality Management (LAQM) process places an obligation on local authorities to regularly review and assess air quality in their areas, and to determine whether air quality objectives are likely to be achieved. This requirement is underpinned by Part IV of the Environment Act (1995), the National Air Quality Strategy and relevant Policy and Technical Guidance documents.

Health-based air quality objectives have been set for seven key pollutants: benzene, 1,3-butadiene, carbon monoxide, lead, sulphur dioxide (SO_2), nitrogen dioxide (NO_2) and particulate matter (PM_{10}). The main pollutant of concern in Rushmoor is nitrogen dioxide (NO_2), the main source of which is emissions from road traffic.

What we do

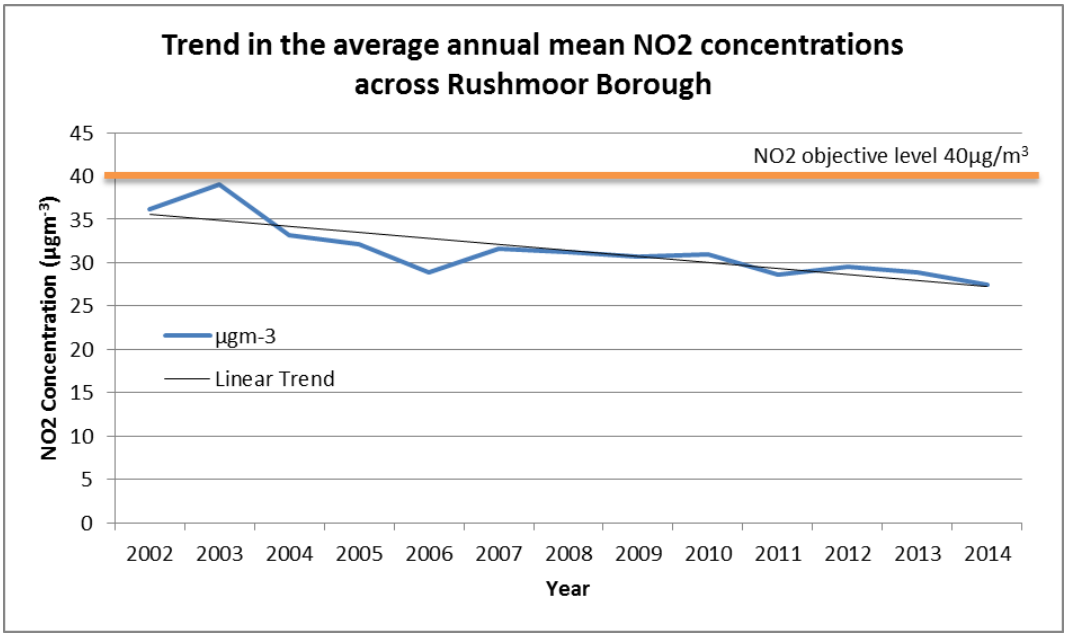
Monitoring of NO_2 is currently undertaken at twenty-six sites across the borough. Results from this monitoring are used to compile annual reports, which are submitted to Defra to demonstrate compliance with air quality objectives. These reports are available on the Council's web pages.

We monitor for NO_2 as it is a good proxy for small particulates. If we are meeting the NO_2 objective then it is a given that we are meeting the PM_{10} objective as well.

Outcomes

An Air Quality Management Area was declared in 2004, due to exceedances of the NO_2 objective between junctions 4 and 4A of the M3, and an Air Quality Action Plan was produced in 2005. The AQMA was revoked in 2011.

Ongoing monitoring of NO2 indicates that we are meeting the annual mean air quality objective of 40µg/m^3 for NO_2 at all monitoring sites across the borough.



New UK Air Quality Plan

The UK plan for tackling roadside nitrogen dioxide (NO_2) concentrations, published in July 2017, sets out how the Government will improve air quality to meet EU air quality targets, in the shortest possible time. Rushmoor Borough Council, along with Guildford and Surrey Heath, have been named within the Plan due to modelled exceedances of the annual mean NO_2 limit value along the A331 (Blackwater Valley Relief Road). This requires local assessments (Feasibility Studies) to be undertaken to consider the best options to achieve compliance.

The Feasibility Study will investigate possible measures that could lead to improvements in air quality along the A331 in as short a time as possible. The work will be fully funded by Government, and the three boroughs will be working collaboratively in association with Hampshire CC and Surrey CC, who manage the road.

Health impacts

Short term (nearly immediate) symptoms

People will pre-existing health problems may find their symptoms become worse on days with higher air pollution. On such days more people are admitted to hospital for lung and heart problems while increased numbers of people visit their GP and need to take more medicine. Those with existing breathing problems such as asthma or chronic obstructive pulmonary disease (COPD) can be severely affected. Many people will not notice any ill effects, although on occasion even a normally fit and healthy person can experience irritation of the nose and throat.

Long term (chronic disease) effects.

Until the 1990s, long term health studies focused mainly on respiratory health, since the lungs are the primary gateway for pollution to enter the body. Recent research has highlighted that air pollution also affects the heart. As many more people in the UK suffer from heart and circulatory problems than lung disease, this means that poor air quality is a much bigger public health challenge than previously thought.

The UK's Committee on the Medical Effects of Air Pollutants (COMEAP) reported that the burden of human-made particulate matter on the human population was approximately a loss of 340,000 years of life in 2008, and that this loss of life is equivalent to 29,000 deaths. The burden can also be represented as a loss of life expectancy from birth of approximately six months. More recent studies have suggested a possible link between poor air quality and outcomes such as low birth weight infants and neurological health. Recent studies have also suggested that high levels of PM2.5 in childhood can permanently impair lung function.