

Cannock Chase Council

Health & Wellbeing Policy Development Committee

8th August 2011

Briefing Note from Head of Environmental Health

Air Quality Management Area (AQMA) – Bridgtown and Longford

The Environment Act 1995 requires a local authority to review and assess local air quality against national health based objectives for seven key pollutants set out in the Air Quality Regulations 2000 (as amended). The regulatory framework sets up a phased approach to this work starting with an Update and Screening Assessment and moving to a Detailed Assessment where further work is required. The Update and Screening Assessment produced in 2003 highlighted potential problems with nitrogen dioxide (NO₂) along the A5 Watling Street in Bridgtown. Furthermore, fine particulate matter (PM₁₀) was also considered to require further quantification in the Bridgtown and Longford stretches of the A5, Watling Street.

Based on these preliminary findings a Detailed Assessment of NO₂ and PM₁₀ was undertaken in 2004. Work was carried out in parallel with updated local monitoring work, traffic data collation and the production of an air quality model for the area; identifying the NO₂ and PM₁₀ situation and whether exceedence of the air quality standard would occur for the relevant target year. It was concluded that improved air quality monitoring facilities were required in order to complete the process.

Air quality monitoring undertaken during 2005 showed that the annual mean NO₂ levels at the facades of the residential properties adjacent to the A5, Bridgtown marginally exceeded the national air quality objectives. This was reported to the Department for the Environment, Food and Rural Affairs (DEFRA), who agreed that an Air Quality Management Area (AQMA) was required.

An automatic monitoring station was relocated to Bridgtown to provide further, more detailed data for NO₂ and PM₁₀ as there was insufficient PM₁₀ monitoring data to be useful.

On the 15th June 2006 an Air Quality Management Area (AQMA) Order was declared for the A5 Watling Street in the Bridgtown and Longford areas of Cannock, which became effective from 28th July 2006. South Staffordshire District Council also declared an AQMA in the Wedges Mills area, directly adjacent to the Longford area of this Council's AQMA.

Subsequent to the declaration of both AQMAs a joint Steering Group was set up to oversee the development of an action plan to implement measures to improve air quality. Officers from Cannock Chase DC and South Staffs DC have been working with representatives from other partners including Staffordshire County Council, the Environment Agency, the Highways Agency, and Cannock Chase Council Planners to formulate an action plan. The Council is legally obliged to produce an action plan to address the problems requiring the declaration of the AQMA. However, we are not responsible for delivering those actions that are outside of our jurisdiction. At the time, negotiations between the Highways Agency and Staffordshire County Council with regard to potentially 'de-trunking' the road and placing it under the control of the

county council. This would have given a much greater facility for measures to control traffic generated emissions. However, the negotiations were cancelled and the road remains within the Highways Agency's jurisdiction.

A further assessment of air quality within the AQMA completed in December 2007 indicated that the air quality objectives were not being exceeded in the Longford area, but that there is a problem with NO₂ in Bridgtown exceeding the prescribed level. Assessments undertaken in 2009, 2010 and 2011 have continued to show exceedence of the annual NO₂ objective.

Over recent years there has been considerable national publicity over the setting up of a low emission zone in greater London whereby large vehicles will be charged to access the area. The situation that this Council is facing is different to that in London and it must be appreciated that the London Assembly has the legal powers to impose such measures, this Council does not.

Due to the limited powers that this Council possesses in terms of securing improvements, the cooperation of other bodies is essential. Furthermore, as the problem arises from road traffic the solution may lie in sub-regional or regional improvements to transport infrastructure and routing. Traffic passing through the District along the A5 is causing the problem and it is not a simple matter to re-route some of that traffic.

The Highways Agency was requested to assess proposals for junction improvements at the junction between Watling Street / Walkmill Lane / North Street, which were published in 2010. Residents on the southern aspect of Watling Street would benefit from the proposed alterations. However, the Highways Agency was unable to contribute to the costs of pursuing these measures.

The Highways Agency, in conjunction with Cannock Chase Council Planners, has also undertaken an assessment of the junctions at Churchbridge. The congestion of traffic associated with the junctions causes elevation of NO₂ within the AQMA, especially for properties on the northern aspect of the road in Bridgtown. However, the junctions are associated with other issues, such as excessive tailbacks on Lodge Lane, high levels of traffic accidents, an obstacle to pedestrians and cyclists and visually unattractive. The Highways Agency proposed scheme was costed at £12.5m, which has so far proved to be an obstacle.

Staffordshire County Council has given consideration to a lower cost scheme (estimated at £2m) for Churchbridge. These include reviewing lane markings and altering traffic island dimensions. However, this has not been fully designed, and the air quality benefits are not quantified. They also recommend the use of 'Vehicle Actuated Signing' (VAS) to divert traffic from Churchbridge along Lodge Lane as opposed to through Bridgtown, particularly at peak periods of congestion.

Environmental Health are currently exploring potential funding options for:

- Staffordshire County Council to fully design their junction improvements and assess them for air quality benefits.
- Both the signalised improvements suggested by the Highways Agency, the traffic island improvements and VAS suggested by the County Council.

This information is pivotal to the development of an action plan for the area which has been delayed through factors already highlighted.

Concerns have been raised in a number of quarters concerning the potential effects of the proposed waste to energy plant at Four Ashes and the energy recovery facility at the Kingswood site.

The impact of the developments have been considered from two aspects: Firstly, the potential effects of emissions from the plants; and secondly, the potential effects of increased traffic movements. Environmental Health has been consulted on both schemes.

In terms of emissions from the plants, they will have to comply with the Waste Incineration Directive which sets very high standards for pollutants. Given this and information already available on waste to energy installations the emissions from the plant can be predicted quite accurately. Dispersal of pollutants from the plant can be calculated using computer modelling techniques.

The effects of traffic movements are more problematic to predict, because there are far more variable factors. Compensating for this would be a reduction in the number of refuse collection vehicles travelling to and from the Poplars Landfill site. However, with a reduced amount of household waste being delivered to the Poplars the owners may decide to increase the amount of commercial and industrial waste received at the site. In the contract for the operation of the sites the County Council will be able to specify restrictions on the routes taken by vehicles entering and leaving the plant. Except for locally generated vehicle movements, waste vehicles travelling to and from the Four Ashes site, will not be permitted to go through Cannock Chase Council's AQMA. Levels of traffic travelling to and from the Kingswood site will be lower than those allowed by the previous permission for the site.

Monitoring data for the stretch of Watling Street between Churchbridge and the Turf Island indicates that residents of a single domestic property are exposed to exceedences of the annual mean NO₂ level required by legislation. Accordingly a 'detailed assessment' will be undertaken in 2011/2012 to clarify this matter.

Health Effects of Nitrogen Dioxide (NO₂)

Estimates indicate that air pollution reduces life expectancy in the UK by an average of six months. The most important air pollutant in terms of health effects is PM – particles emitted from vehicle exhausts, chimneys or formed in the air from reactions between other pollutants. The World Health Organization (WHO) advises there is no safe exposure level to PM. For people with lung and heart conditions, elevations in particulate air pollution can worsen their symptoms.

The short term health effects of nitrogen dioxide (NO₂) are also well established. At higher concentrations it can cause irritation of the lungs and can exacerbate existing lung conditions including asthma. However it is unlikely that such high levels of NO₂ will be reached in the UK. Ground level ozone (O₃) is formed when other pollutants react in sunlight and can cause breathing problems and reduced lung function.

Evidence suggests that ambient (outdoor) concentrations of nitrogen dioxide can increase the sensitivity of asthmatics to allergens and therefore increase the likelihood of asthma attacks and longer term exposure to nitrogen dioxide can increase the likelihood of respiratory illnesses in children. However, there is a lack of scientific agreement on the interpretation of the epidemiological studies of the health effects of ambient levels of NO₂ as these studies have so far not been able to separate out the effects of NO₂ from those of other pollutants. It is unclear whether NO₂ affects health in its own right, or whether the associations seen in epidemiological studies between ambient levels of NO₂ and reported health effects (e.g. admissions to hospital due to respiratory/cardiovascular illnesses) are in fact due to other pollutants e.g. particulate matter, whose concentrations correlate with those of NO₂ and which are emitted with it from combustion sources (i.e. traffic).

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18th July 2011