

Executive

Air Quality

1 November 2010

Report of Head of Environmental Services

PURPOSE OF REPORT

This report considers the issue of air quality across the district and the areas of concern identified by monitoring and assessment.

This report is public

Recommendations

The Executive is recommended:

- (1) To support the declaration of an Air Quality Management Area in Hennef Way, Banbury;
- (2) To note the possible implications which may arise from developing an action plan to deal with an Air Quality Management Area; and
- (3) To note the further areas where elevated nitrogen dioxide levels have been identified and may lead to them being declared Air Quality Management Areas in the future.

Executive Summary

Introduction

- 1.1 Air quality assessments have identified that road traffic sources are the main source of air pollutants within the District for which nitrogen dioxide (NO₂) and particulate matter (PM₁₀) are recognised as the main pollutants associated with road traffic.
- 1.2 There is a network of monitoring sites throughout the District which monitor nitrogen dioxide levels. Background levels are generally low. Nitrogen dioxide disperses relatively quickly with distance from source i.e. traffic. Elevated levels of nitrogen dioxide are often found in narrow built-up or congested streets. Hence in much of the District, levels are low since the concentration dramatically falls between the traffic and the areas where people may be exposed.
- 1.3 The 2009 Updating and Screening Assessment for Cherwell District Council identified that air quality objectives may be exceeded in three areas. Two

areas are in Banbury (Hennef Way and Horsefair/North Bar) and one area is in Bicester (Kings End/Queens Avenue). A fourth site at Bicester Road, Kidlington is close to the nitrogen dioxide annual mean objective and additional monitoring is being undertaken.

- 1.4 The detailed assessment of Hennef Way has been completed and indicates that an Air Quality Management Area must be declared since both the annual mean and the hourly mean levels are above the air quality objectives. Defra agree with this conclusion. The submission date for the Horsefair/North Bar and Kings End/Queens Avenue assessment reports is February/March 2011.
- 1.5 The declaration of an Air Quality Management Area will require additional assessment for a further 12 months and the development of an action plan aimed at achieving the air quality objectives. The development of an action plan will involve other parties across the Council such as Planning as well as external parties such as the Oxfordshire County Council Highways. The implementation of an action plan may have cost implications. Until such a plan is developed it is difficult to identify possible costs.

Proposals

- 1.6 To continue monitoring across the district
- 1.7 To declare an Air Quality Management Area in Hennef Way
- 1.8 To commence developing an action plan to address the problem identified in Hennef Way. This action plan will be produced by Spring 2012.
- 1.9 To continue monitoring in Kings End/Queens Avenue Bicester, Horsefair/North Bar in Banbury and Bicester Road, Kidlington and declare air quality management areas where air quality objectives are exceeded.

Conclusion

- 1.10 Air Quality in the area covered by Cherwell District Council is good. However there are four areas where air quality objectives may not be achieved.
- 1.11 An area around Hennef Way must be declared as an Air Quality Management Area following detailed assessment of monitoring data and subsequent support of these conclusions by DEFRA.
- 1.12 Two further detailed assessments are being undertaken.
- 1.13 There is a risk of future costs for dealing with implementing an action plan for an Air Quality Management Area. These costs cannot be predicted at this stage and are unlikely to arise before 2012/13.

Background Information

National Air Quality Strategy

- 2.1 All local authorities are obliged to review and assess air quality following a prescribed timetable under the Environment Act 1995. A requirement of the act was that the Government prepare an Air Quality Strategy. The Air Quality Strategy was published in January 2000 with a revised version published in July 2007.
- 2.2 The Air Quality Strategy has national air quality objectives for seven pollutants. Local authorities are required to review and assess air quality against these objectives. At the centre of the Air Quality Strategy is the use of national air quality standards to enable air quality to be measured and assessed.
- 2.3 Where the likelihood of exceeding the air quality objectives has been identified in areas of public exposure, an Air Quality Management Area (AQMA) should be declared, followed by a further assessment, and the formulation of an action plan to work towards eliminating exceeding air quality limits.
- 2.4 The Air Quality objectives cover a number of pollutants
- Benzene
 - 1,3 Butadiene
 - Carbon monoxide
 - Lead
 - NO₂
 - Particles (PM₁₀)
 - Sulphur dioxide
- 2.5 Air quality assessments have identified that road traffic sources are the main source of air pollutants within the district. Nitrogen dioxide (NO₂) and particulate matter (PM₁₀) are recognised as the main pollutants associated with road traffic. Particulate matter is a problem on roads where there are large numbers of heavy goods vehicles. Such roads have not been identified in the district where there is public exposure therefore only nitrogen dioxide is the major concern.
- 2.6 Nitrogen dioxide is produced by the rapid oxidation of nitric oxide (emitted from car exhausts), mainly by ozone. It can irritate the lungs and lower resistance to respiratory infections such as influenza. Continued or prolonged exposure to high concentrations can increase the incidence of respiratory illness in children.

Air Quality Monitoring in Cherwell

- 2.7 Air Quality monitoring across the District has been undertaken for some time. Initial assessments prior to 2007 concluded that there were no likely

exceedence of the Air Quality Strategy objectives at the point of public exposure.

- 2.8 In 2007 the annual mean objective for NO₂ at Horsefair and Oxford Road Banbury were identified as potential problems. However the points at which these levels were measured by diffusion tubes were located where there was no relevant public exposure. A report looking at the overall picture of air quality recommended relocation of the diffusion to points of relevant public exposure.
- 2.9 In 2009 a network of 16 NO₂ diffusion tubes were placed at a variety of locations in Banbury, Bicester and Kidlington with one fixed automatic monitoring station in Banbury
- 2.10 The main source of air quality pollution is from road traffic sources. Typical areas where problems can exist include
- Narrow congested streets with residential properties close to the kerb
 - Busy streets where people may spend 1 hour or more close to traffic
 - Roads with high flow of buses and/or HGVs
 - Junctions
 - Bus and Coach Stations
- 2.11 Appendix 1 is the report on the District results which identifies Hennef Way and Horsefair/North Bar in Banbury and Queens Avenue/Kings End in Bicester as problematic. A detailed further assessment of Hennef Way has confirmed results for that area. A fourth site has produced results close to the maximum annual mean. This site is at Bicester Road, Kidlington.
- 2.12 Future residential and commercial growth may impact on traffic levels and hence air quality. Hence, it is important to consider air quality issues which may arise from future development. Consequently, the officer responsible for air quality is working closely with the Council's Planning team.
- 2.13 The additional sampling required for these areas does incur additional revenue costs. However, grant money of £10,000 received from DEFRA has covered this. In addition, DEFRA has given a grant of £11,700 towards dispersion assessment costs relating to Hennef Way.
- 2.14 A public consultation on air quality in Hennef Way opened on the 25th October and is expected to be completed by mid-November. The consultation will include bodies such as Oxfordshire Highways and the Environment Agency
- 2.15 All of the other Oxfordshire authorities have declared Air Quality Management Areas (AQMA's): Oxford City has 2 AQMA's at Green Road roundabout and Central Oxford with recent proposals to declare their whole area as an AQMA. West Oxfordshire has 2 AQMA's in Chipping Norton and Witney. South Oxfordshire has 3 AQMA's in Henley, Wallingford and Watlington. Vale of White Horse has 2 AQMA's in Abingdon and Botley.
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Key Issues for Consideration/Reasons for Decision and Options

The following options have been identified. The approach in Option 1 which is the basis of the recommendations is believed to be the best way forward

Option One To support the current approach

Option Two To reject the current approach

Consultations

Defra An Air Quality Management Area for the 1 hour objective should be declared in the vicinity of the A422. The Council should take into account the likely exceedences outside the modelled area in particular at relevant locations alongside Ermont Way & Daventry Road

Implications

Financial: The increased air quality sampling costs are small, less than £500/year and are covered within the 2010/11 budget. Immediate additional costs are funded by DEFRA. Future costs due to the development of action plans to improve air quality cannot be quantified at this stage and are unlikely to be incurred until 2012/13

Comments checked by Denise Westlake, Service Accountant 01295 221982

Legal: There is a requirement to monitor and where required declare an Air Quality Management Area

Comments checked by Nigel Bell, Solicitor, Legal & Democratic 01295 221687

Risk Management: There is an increase in risk to health to prolonged exposure to elevated levels of nitrogen dioxide. The risk has been identified and further stages in this process are intended to mitigate the risk.

Comments checked by Rosemary Watts, Insurance & Risk Management officer 01295 221566

Wards Affected

Grimsbury and Castle and Easington in Banbury, Bicester Town and Bicester West and Kidlington North and South.

Corporate Plan Themes

A Clean and Green Cherwell

Executive Portfolio

Councillor Reynolds

Portfolio Holder for Environment, Recreation and Health

Document Information

Appendix No	Title
Appendix 1	2009 Air Quality Updating and Screening Assessment for Cherwell District Council.
Background Papers	
None	
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