Scrutiny Committee

Report of Head of Housing and Environment

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Vale of White Horse Air Quality Action Plan 2015 Update

Recommendation

That the Scrutiny Committee reviews progress on the Vale of White Horse District Council's Air Quality Action Plan (AQAP) adopted in 2015.

Purpose of Report

1. To update the committee on progress with Vale of White Horse Air Quality Action Plan.

Strategic Objectives

2. This report supports the council's strategic objective of sustainable communities and wellbeing by continuing to improve our environment.

Background

3. In accordance with section 82 of the Environment Act (1995) (Part IV), Local Authorities (LAs) are required to periodically review and assess air quality within their area of jurisdiction, under the system of Local Air Quality Management (LAQM). This review and assessment of air quality involves considering present

and future air quality levels against the national Air Quality Objectives (AQO) defined by Defra.

4. If it is predicted that levels at sensitive locations, where members of the public are regularly present for the relevant averaging period, are likely to be exceeded, the LA is required to undertake a detailed assessment for that pollutant. If the results of the detailed assessment confirm that an AQO was likely to be exceeded, they are required to declare an Air Quality Management Area (AQMA).

5. Following the declaration of an AQMA the LA is required to produce an Air Quality Action Plan (AQAP), the objective of which is to identify relevant responsible organisations who would work collaboratively to reduce pollutant concentrations to within the defined AQOs.

6. Vale of White Horse District Council's AQAP, adopted in 2015 is the document that sets out the actions proposed or taken to combat and mitigate air quality issues within the district. The document proposes how we will work with other authorities and organisations that have the power to make the necessary changes to tackle the air quality problems, specifically within the AQMA's but also across the district.

7. As a largely rural district, with several market towns and villages the air quality throughout the district is generally very good. There are however, air pollution hotspots where nitrogen dioxide (NO_2) associated with traffic emissions is higher and where it has been necessary to declare AQMAs.

8. These areas are typically where houses are close to busy roads and pollution can be worsened by problems with congestion. There are three AQMA's in the district all declared because NO_2 levels were either predicted to or were exceeding national objectives. These are in Abingdon, Botley and Marcham.

9. The concentration of NO_2 is measured in micrograms (μg) per cubic metre (m^3) of air. A concentration of 1μg/m^3 means that one cubic metre of air contains one microgram of pollutant. The national objective is for NO_2 levels not to exceed an annual average of 40μg/m^3 or 200μg/m^3 averaged over an hour with no more than 18 exceedances per year. As part of our reporting requirements we have identified some exceedances of the annual average of 40μg/m^3, however, we have not exceeded 200μg/m^3 at any location.

10. Regular air quality monitoring is undertaken at one automatic monitoring station and 39 diffusion tube sites throughout the district. This seeks to continually review the air quality levels in AQMA's and within key areas which have been identified. The annual and hourly national objectives determined by Defra apply to the residential facade where a sensitive receptor would be expected to live and be exposed in their day to day lives. As would be expected, there is a greater concentration of AQ monitoring in the AQMAs and this monitoring is broken down to regular and short-term monitoring sites.

11. Because several monitoring site locations are situated on the kerbside and not at a residential facade of a property, a distance correction needs to be applied to many of these kerbside/street location results. This can influence the raw data

and will normally reduce the reported concentrations as a result of biased and distance corrections applied.

12. In accordance with Defra guidelines and previous assessments on the contributing elements which may diminish air quality generally NO_2 is the only pollutant required to be monitored within the district. Other factors such as Particulate Matters (PM10 and PM2.5) are not found to be prevalent and requiring the same level of assessment.

13. In 2017 the air quality objective "at receptor" was breached at only two of our regular monitoring sites, compared with four such sites in 2016. These were located within our AQMA's at Marcham and Botley. Monitoring undertaken at other notable locations did not have reportable exceedances this year, this could be weather related. Exceedances were recorded and reported at other short-term (test) monitoring sites in Botley, but as these make up short term monitoring for distance correction calculation purposes these do not pose significant concerns.

14. Each of the 2015 AQAP measures are detailed in appendix 1 (table 1) and provided is an update and comments regarding the progress of each of the measures. Additional measures which seek to improve air quality across Oxfordshire and which are identified to sit with partner agencies or the responsibility lies with another organisation are also included within appendix 1 (table 2).

15. The monitoring of air quality must be reported to Defra annually. This is done through our Annual Status Reports, which provides details of all NO_2 readings, the annual average for NO_2 before and after bias and distance correction and assessment for compliance with the annual air quality objective and monitoring results from previous years. The 2018 status report is attached at appendix 2.

16. When reviewing the raw data in the report it is important to note that the tables and appendices should not be considered in isolation. Please refer to Appendix B Table B.1 (NO_2 Monthly Diffusion Tubes Results) which provides the monthly data and annual mean data after the appropriate corrections. The above table demonstrates how raw data can reduce once bias and distance correction have been applied.

17. Defra have responded to the status report stating that it is well structured, detailed, and provides the information specified in their guidance. It highlights a continuing programme of measures to reduce the impact of emissions on local air quality. They have made some suggestions such as revoking the Abingdon AQMA and adding addition plans to the status report which officers will consider for next year's report.

Air Quality Management Areas

18. The table below provides information on the annual NO_2 levels within the Air Quality Management Areas at declaration and levels recorded during 2017/18. Results are presented with relevant distance and bias adjustments included.

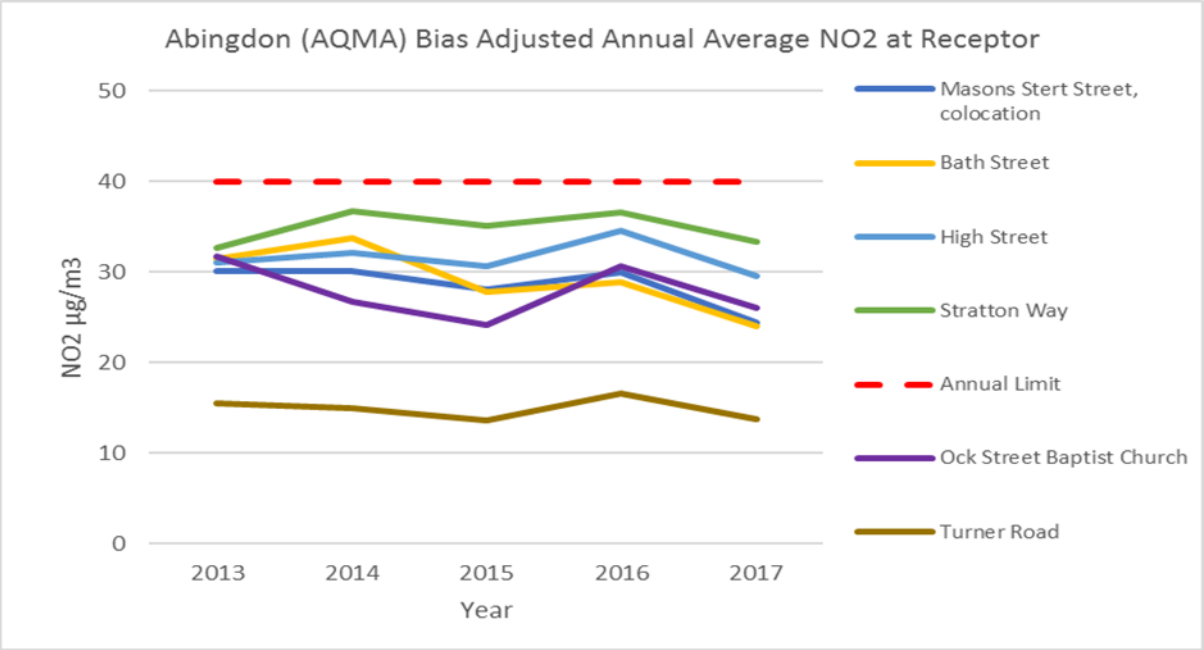
AQMA Name	Date of Declaration	Pollutants and AQ Objective	One Line Description	Level of Exceedance	
				At declaration	Now
Abingdon	23/08/2006	NO_2 annual mean	Major town centre roads	63.2 µg/m^3	33.3 µg/m^3
Botley	29/04/2008	NO_2 annual mean	Residential properties close to the A34 in Botley	58.8 µg/m^3	50.8 µg/m^3
Marcham	15/06/2015	NO_2 annual mean	Residential properties in Marcham near A415	53.9 µg/m^3	42.7 µg/m^3

19. Considering the data presented above, there has been a significant reduction since declaration of NO_2 levels in Abingdon's AQMA, taking it below the national objectives. In Botley and Marcham, it is evident that there has been a reduction, but there is still exceedance of the national objectives.

- ***Abingdon***

  Problems relate to congestion in the town centre and poor dispersion of pollutants where roads are narrow with tall buildings on either side (a "canyon" effect). Since the AQMA was declared there have been significant improvements to traffic management in Abingdon through the ABITs scheme implemented in 2007, this has subsequently resulted in a reduction in NO_2 levels.

  Following the introduction of the ABITs scheme, Stratton Way was the only site where an increase in monitored levels were recorded. This reflected the increase in traffic levels following the change in street design and direction. The results of monitoring over the last five years (see chart) show however, that annual NO_2 levels in the centre of Abingdon are below the objective for all monitoring sites when assessed at the residential facade.



There are currently no exceedances of the NO_2 objective within the Abingdon AQMA and consideration can be given to revoking this AQMA. There are however, concerns about pollution levels in Marcham Road, Abingdon just outside of the current AQMA which on occasions have shown exceedances.

Consideration therefore needs to be given as to whether to create a new AQMA or to change the boundary of the existing AQMA to include the Marcham Road area if exceedances continue. Further monitoring within the AQMA and at the Marcham Road location in the next few years will help to identify the appropriate course of action to take at this site.

- ***Botley***

Air quality issues in Botley relate to the proximity of houses to the heavily trafficked A34 which also suffers considerable congestion issues, carries a high proportion of HGVs and operates above its design capacity. Additional development is adding further traffic onto this route and congestion is common place. There are regular exceedances of the NO_2 annual objective at a residential property close to the southbound carriageway.

Additional monitoring is being undertaken in this area to assess the benefits which could be provided by a barrier, but space, access and local considerations may not make this a practical solution. This route is operated by Highways England and we will need to work with them to consider any options to reduce both air pollution and the impacts of air pollution in this area.

Monitoring for NO_2 was undertaken by the council at Botley Primary School some years ago, because it is close to the northbound carriageway of the A34. That monitoring over several years indicated that at the part of the building closest to the A34 NO_2 were below the annual air quality objective and so monitoring at the school ceased. Levels at other monitoring sites in Botley have not increased in the intervening years and so there was no concern that levels at the school had increased.

However, air quality is an understandable concern for parents of children at both Botley and North Hinksey Primary Schools. In response to concerns raised by parents, the school and in the local press we have actively worked with the schools to enable them to set up their own monitoring programme and provided a supply of diffusion tubes used for monitoring levels.

Our air quality officer has engaged with these schools and given presentations to them on air quality issues. This has led to a project which raised awareness of parents to air quality issues in the area and encouraged a shift to active transport to schools (walking, cycling) rather than driving.

There are additional monitoring sites in Botley to provide a better understanding of the air quality issues along the A34, this includes some trial monitoring at the facade of a property adjacent to the A34 and at the A34 roadside barrier itself. This seeks to compare real time distance attenuation with the calculations applied for distance correction to ensure we report air quality levels to Defra accurately and that we are not mis-reporting exceedances by applying these standard distance corrections at these unique locations.

- ***Marcham***

Air quality issues here also relate to the very close proximity of houses to the busy A415. This road suffers congestion issues because it is not wide enough to allow two large vehicles to pass in opposite directions. There are regular exceedances of NO_2 objectives at properties near the pinch point.

There is further development planned near to the A415 and it is hoped that further development will contribute towards funding of road improvements to allow alternative routeing to by-pass Marcham village. This has been a local desire for many years but has never found funding.

District council officers continue to discuss this with colleagues at Oxfordshire County Council and are working with Planning Policy colleagues to provide formal advice and consultation on the Local Plan 2031 Part 2.

Ongoing/Future works

20. A Defra grant application has been prepared ready for submission in November 2018. If successful we will be able to progress a low emission feasibility studies for the AQMAs.

21. In association with the Defra grant application a funded community engagement and communication program make up the grant funding application. The community engagement programme will build on the air quality officers proactive school and community engagement and will assist with the development of an air quality communication plan, local school engagement programme and local business engagement programme including any coordinated awareness campaigns. The scale of this engagement programme is dependent on the outcome of the Defra grant application.

22. Work has started on developing a Supplementary Planning document which will help the promotion of Electric Vehicle Charging points during planning consultations for small and large scale residential developments.

23. We will continue to improve and develop the Oxfordshire Air Quality website which has been jointly funded by Councils throughout Oxfordshire. This website provides valuable air quality information to residents on current pollution levels within their district and helps to identify monitoring locations, AQMA's and information on air quality generally, including advice on how individuals can contribute to improving air quality.

24. Officers have been involved in a project with Abingdon Carbon Cutters and the Oxford Student Consultancy to investigate how parents bring their children to school in Abingdon and encourage more walking and cycling.

25. New monitoring has been initiated on the A420 at Watchfield. Additional sites have also been added in Marcham Road, Abingdon and in the AQMA.

26. We have engaged with Sutton Courtenay Parish Council in respect of concerns about local air quality and arranged diffusion tube monitoring. Moving forward, we will continue to work with town and parish councils who identify a need for air quality monitoring and we will assist with the implementation of any diffusion tubes to identify the NO_2 levels.

27. To highlight the benefits and to help contribute to improving air quality at several locations such as schools, it is our intention to continue to develop our education campaigns and work with our communications team colleagues and other agencies on district wide awareness campaigns such as Anti-idling or awareness of our air quality website. Biffa, the councils waste contractor, has agreed to work with the council on promoting anti-idling.

28. Air quality officers attend and represent the council at meetings with Oxfordshire County Council and other neighbouring authorities. This collaborative approach at meetings will help the council identify joint air quality projects or alternative ways we can help contribute to improving air quality across the district and within Oxfordshire.

29. Officers will continue to liaise with Planning Policy colleagues to provide air quality advice and technical input into the Local Plan 2031, Part 2. This includes the consultation on the Air Quality Technical note submitted by consultants which considers the potential impacts and effects of cumulative growth proposed in the Local Plan and the relevant air quality impacts on Marcham for example.

30. We will consider the Defra Annual Status Report (ASR) appraisal feedback and ensure this is implemented into future ASR reports to improve air quality reporting. This will include consideration regarding the revocation of the Abingdon Air Quality Management area following further monitoring.

31. Review and update the 2015 AQAP to ensure that it is fit for purpose. As part of the review the actions need to be broken down into three defined categories so that each action is assigned to the relevant Council or other agencies. We would

need to seek input from all relevant agencies to help create an action plan which all agencies who sign up to the document work towards achieving.

32. Officers have submitted a request for Eco-driving training course to be provided to staff. It is hoped that this will have benefits to air quality with staff being more aware of air quality while undertaking their duties within the district. This will have further benefit to staff within their personal lives.

33. We will continue to establish a good working relationships and collaborative working with external agencies who have control over strategic road networks. A meeting has been arranged with Highways England to discuss activities being undertaken by them and to identify potential funding opportunities available, particularly in relation to the A34.

Key Challenges

34. The councils previously appointed a dedicated environmental protection officer to facilitate the air quality environmental protection work. This limited their role to monitoring and reporting and assessing air quality impacts of planning applications. That officer is now on maternity leave and we have adopted a more proactive approach to developing a diverse set of skills across our service. The air quality tasks are allocated across the team and this increases the level of knowledge and resilience on air quality matters across the team.

35. In Botley the options for emissions reduction are limited. The A34 is a principal four lane dual carriageway route linking the M4 with the M40. It carries a lot of container traffic from the south coast ports on route to the midlands. The A34 operates over capacity and congestion is common place. In this stretch there is a speed limit of 50mph (which is close to the optimum for minimising emissions). In Botley there are houses very close to the kerbside of the A34 and exceedances of the objective continue at properties close to the southbound carriageway, with Stanley Close recording the highest level.

36. A Low Emission Zone covering Botley may not be considered feasible due to the importance of the road and the lack of practical alternative routes. In view of this, limiting the impacts of emissions may be the only viable option, and a possible way of achieving this could be a barrier. Further monitoring is being undertaken to inform on the feasibility of this. Whether it would be feasible to install a barrier given the space and access constraints is a separate consideration and would be for Highways England to undertake. The council has no funding allocated for developing this work or producing a low Emissions Strategy feasibility study, developing these are dependent on air quality grant funding.

37. Officers anticipate that further additional measures not yet prescribed will be required in subsequent years to achieve compliance and enable the revocation of Botley and Marcham AQMAs. Air quality is likely to remain an issue in these AQMAs unless traffic can be redirected to alternative routes or alternative routes can be created. Alternative routes for the A34 are not a practical option and for Marcham consideration has been given to re-directing HGVs to an alternative route but the County Council do not consider this a viable option.

Financial Implications

38. There is no financial implication associated with this report

Risks

39. There are no risks directly associated with this update report.

Other Implications

40. None

Conclusion

41. There has been some progress towards implementing the 2015 Air Quality Action Plan. Some of the larger projects that need to be implemented such as a relief road for Marcham or the south facing slip road at Lodge Hill require more significant structures or resources. There is a possible proposed Oxford to Cambridge expressway that may take traffic off the A34 at Botley. Officers will continue to engage in the process.

42. The AQAP is three years old and is due to be reviewed. Officers will seek input and buy in from all relevant agencies to help create and agree a revised action plan and then work as a group to deliver it.

Background Papers

- Vale of White Horse District Council Annual Status Report- Air Quality

  Vale of White Horse District Council Air Quality Action Plan 2015