

REPORT TITLE Environment Act 1995 – Part IV
Local Air Quality Management – Annual Status Report 2017

Submitted by: Environmental Protection Team Manager – Darren Walters

Portfolio: Operational

Ward(s) affected: ALL

Purpose of the Report

To advise Committee of the findings of the statutory Annual Status Report (ASR) for 2017 which covers the 2016 calendar year in respect of air quality within the Borough

Recommendations

That the report be received

1. Background

- 1.1. Local authorities in the UK have statutory duties for managing local air quality under [Part IV of the Environment Act 1995](#). District Councils have been required to review and assess air quality within their areas since 1997 for compliance against a range of pollutant objectives.
- 1.2. The Council has been carrying out reviews of air quality since December 1997; these involve measuring air pollution and trying to predict how it will change over the next few years. The review process aims to make sure that the national air quality objectives prescribed in the Air Quality Regulations http://uk-air.defra.gov.uk/assets/documents/National_air_quality_objectives.pdf will be achieved throughout the UK by the relevant deadlines. These objectives have been put in place to protect people's health and the environment.
- 1.3. Nationally, air pollution is estimated to reduce the life expectancy of every person in the UK by an average of 7-8 months with estimated equivalent health costs of up to £20 billion each year." (Source *The Air Quality Strategy for England, Scotland, Wales and Northern Ireland (Volume 1)*, HMSO, 2007).
- 1.4. The World Health Organisation, estimates that poor air quality within the UK costs the economy circa £54 billion which is equivalent to 3.7% of British GDP (based on 2010 data). It also accounts for 29,000 premature deaths annually. (Source: WHO Regional Office for Europe, OECD (2015). Economic cost of the health impact of air pollution in Europe: Clean air, health and wealth. Copenhagen: WHO Regional Office for Europe. <http://www.euro.who.int/en/media-centre/events/events/2015/04/ehp-mid-term-review/publications/economic-cost-of-the-health-impact-of-air-pollution-in-europe>)
- 1.5. Local authorities therefore have an important role in bringing about improvements in air quality and ensuring compliance with statutory requirements to reduce the impact on health and associated costs to the National Health Service and the wider economy
- 1.6. The findings of the previous reviews and assessments undertaken by your Officers were last reported to committee in November 2016.

2. Issues

Annual Status Report 2017 (ASR)

- 2.1 In accordance with its statutory duties, the Borough Council has recently completed its Annual Status Report for 2017 which is concerned with air quality within the Borough during the 2016 calendar year. A copy of the report can be found on line at <https://www.newcastle-staffs.gov.uk/all-services/environment/environmental-protection/air-quality-newcastle-under-lyme>
- 2.2 Previous assessments have identified nitrogen dioxide as the pollutant of concern, with a number of locations within the Borough exceeding the nitrogen dioxide annual mean objective.
- 2.3 This Annual Status Report considers all new monitoring data and assesses the data against the Air Quality Strategy (AQS) objectives. It also considers any changes that may have an impact on air quality.
- 2.4 The review of new diffusion tube monitoring data has not identified any locations outside of the four existing AQMA's, declared in December 2014 within the Borough where the AQS annual NO₂ objective was exceeded in 2016.
- 2.5 Monitoring of NO₂ concentration in the Air Quality Management Areas (AQMA's) and at a variety of locations across the Borough during 2015 shows, that there has been a general decrease in NO₂, with the majority of areas now being under the annual mean objective. There are however a number of hotspots within the Town Centre and Kidsgrove AQMA's.

Town Centre AQMA

- 2.6 Air Quality in this area is influenced by local road traffic and traffic utilising the major arterial routes, which converge on the town centre. There are a number of relevant receptors located at the back of pavement. The network is heavily congested at peak times of the day with high volumes of low speed mixed traffic. The town centre is experiencing a period of regeneration with provision for developments to provide around 3000 student bed spaces over the next four years. The Civic Offices site located on the Rycroft is destined to contribute towards a significant amount of accommodation as well as providing a mixed retail / leisure development. A number of office spaces are able to covert to residential use without requiring consideration of air quality. This has resulted in significant increases in the numbers of relevant receptors within the area where the Council is unable to influence development. In addition, the rural areas of the Borough are facing increased demands for applications for residential development, with people in these areas heavily reliant on cars to access services and employment opportunities within the town centre and wider areas.
- 2.7 NO₂ concentrations have generally decreased each year from 2012 onwards within the Town Centre. In 2016 sites DTK2 (76 King Street) DT85 (106 King Street), DT 96 (52/54 London Road and site DT104 (7 King Street) produced annual nitrogen dioxide levels in excess of the annual mean objective. There are also a number of sites within 10% of the annual mean, which are at risk of exceedance in future years.
- 2.8 This AQMA will remain in place until all sites measure an annual mean NO₂ concentration that is consistently below the annual mean legal objective

Porthill-Wolstanton-Maybank AQMA

- 2.9 Air Quality in this area is influenced by local road traffic and traffic utilising the junctions associated with the A500 dual carriageway. Relevant receptors in this location are mainly located at the back of footway. The main route through the area is single carriageway with traffic lighted junctions, signal controlled crossings, on street bus stops and significant sections of on street parking. Porthill Bank and Grange Lane are on significant gradients.

- 2.10 There has been a steady decrease in NO₂ concentration at the established diffusion tube monitoring sites within this AQMA over the past 6 years, with the highest NO₂ concentration within the Porthill-Wolstanton-Maybank AQMA for 2016 being 37.7 µg/m³ at site DT24 26 High Street, Maybank.
- 2.11 Diffusion tube monitoring site 103 (Grange Lane), was reported in the last ASR as a possible exceedance based on an a three month monitoring period, however following a full calendar year of monitoring the site is showing an annual mean of 23.2 µg/m³ adjusted to the nearest receptor.
- 2.12 There are a number of works planned which may affect upon this location, this includes the Etruria Valley Development scheme, which sees changes to the Church Lane / Grange Lane junction the junction near to this site and a new access from Grange Lane into the City Centre via Etruria Valley. There are also planned improvement works by Highways England to the A500 between Wolstanton and Porthill. Both schemes are planned for delivery by 2020. They have the potential to increase traffic flow through this AQMA. Traffic modelling and the associated air quality impacts are currently being assessed by Highways England and Stoke on Trent City Council for their respective schemes. It is anticipated that this information will be available for inclusion in the next ASR due in June 2018.
- 2.13 Accordingly, the diffusion tube-monitoring network in this area will remain in place until the highway schemes have become embedded and there is confidence that NO₂ annual mean levels are consistently below the statutory objective.

Kidsgrove AQMA

- 2.14 Air Quality in this location is heavily influenced by traffic using the A34 Liverpool Road and local traffic accessing side roads from Liverpool Road within the centre of Kidsgrove. Relevant receptors are located back of footway and in close proximity to junctions and areas of congestion.
- 2.15 NO₂ concentrations have decreased each year from 2012 onwards within this AQMA. Diffusion tube Site 6 (106 Liverpool Road) produced an NO₂ annual mean of 41.8 µg/m³ and is therefore still showing an exceedance of the annual mean nitrogen dioxide objective.
- 2.16 The monitoring network The AQMA will remain in place until all sites measure an annual mean NO₂ concentration that is consistently below the annual mean legal objective.
- 2.17 Staffordshire County Council are planning a number of works in this area which area aimed at reducing congestion on Liverpool Road and hopefully this will have a beneficial effect on air quality.
- 2.18 Accordingly, the diffusion tube-monitoring network in this area will remain in place to monitor the success of the highway improvement works and until all sites measure an annual mean NO₂ concentration that is consistently below the annual mean legal limit.

Madeley AQMA

- 2.20 Air Qulaity in this location is heavily influenced by traffic using M6 motorway which runs within 20 metres of the nearest receptor at Collingwood 3 Newcastle Road.
- 2.21 The NO₂ concentration at this location in has been within 10% of the annual mean for the previous 4-year period between 2012 and 2015. N02 annual mean results at monitoring site DT3 (Collingwood 3 Newcastle Road) dropped dramatically in 2016 to 31.9 µg/m³. It is however too early to say if this is likely to remain the situation moving forward given the previous year's results.

- 2.22 Highways England are introducing smart managed motorways and hard shoulder running up to Junction 15 of the M6 (Stoke on Trent South) and from junction 16 (Stoke on Trent North and Crewe) through to junction 22. The stretch of motorway between junctions 15 and 16, which runs past experiences congestion at peak periods and may become a candidate for hard shoulder running and smart managed motorways in the future.
- 2.23 Based on the results since 2012 to present and potential future works to the M6 motorway this location will continue to be monitored for the near future.

Across the Borough of Newcastle under Lyme

- 2.24 There has been a general decrease in the annual NO₂ concentrations across the Borough over the past three years. This indicates that the strategies currently in place are already helping to reduce the NO₂ concentration within these areas of the Borough. However, work needs to be done to ensure that any further developments, and changes to the road networks across the Borough do not lead to an increase in the annual NO₂ concentration above the annual mean objective of 40µg/m³.

Particulate Matter (PM₁₀ and PM_{2.5})

- 2.25 Particulate matter, or PM, is the term used to describe particles found in the air, including dust, dirt and liquid droplets. PM comes from both natural and man-made sources, including traffic emissions and Saharan-Sahel dust. These particles can be suspended in the air for long periods of time, and can travel across large distances.
- 2.26 Particulate matter (PM₁₀) is measured using an automatic monitor located at Queens Gardens (Site CM1) within the Town Centre AQMA. Particulate matter (PM₁₀) levels within Newcastle-under-Lyme, continues to be well below the annual mean objective level of 40µg/m³, with the annual mean concentration for 2016 being 26µg/m³ which is a 3.07µg/m³ increase compared with 2015 data.
- 2.27 During 2016 there were 2 days when the 24hour mean objective of 50µg/m³ was exceeded which was also the same for 2015.
- 2.28 Due to the health risk posed by PM_{2.5}, there has been a requirement since the 2016 ASR to assess PM_{2.5} concentrations. As Newcastle-under-Lyme does not currently monitor for this fraction of particulate matter, an estimation of the PM_{2.5} concentration for 2015 has been made using the national factor for PM_{2.5} and the method set out in Technical Guidance 16. The estimated concentration for PM_{2.5} for 2016 is 18.2µg/m³ which is a 2.2 µg/m³ compared with 2015 data.
- 2.29 Based on data provided by the Public Health Directorate at Staffordshire County Council, manmade PM_{2.5} is estimated cause some 60 deaths per annum for adults over 30 years of age within the Borough.
- 2.30 The Borough Council, along with the Staffordshire County Air Quality Group, is now looking at ways in which PM_{2.5} concentrations can be reduced at both a local and regional level.
- 2.31 The Borough Council, along with the Staffordshire County Air Quality Group and Staffordshire Public Health, is now looking at ways in which PM_{2.5} concentrations can be reduced at both a local and regional level.
- 2.32 **Proposed actions arising from the 2017 Annual Status Report are as follows:**
- a) Continue the current network of NO₂ diffusion tube monitoring in the District to identify future changes in pollutant concentrations;

- b) Eco-Stars
- c) Involvement with planned road improvement works to the A500 at the Grange Lane junction, with Highways England
- d) Managing planning applications pro-actively both at a County and Borough Planning level
- e) Involvement in changes to traffic light sequencing, in conjunction with Staffordshire County Highways Department
- f) Involvement with proposed changes to road layouts, with both Highways England and Staffordshire County Highways Department
- g) Promotion of Health and Wellbeing Through liaising with Public Health colleagues
- h) Developing an air quality strategy for the Borough
- i) Developing air quality action plans for the four air quality management areas
- j) Developing air quality planning guidance for developers looking to build within the Borough.
- k) Inclusion of air quality related planning policies in the new Newcastle under Lyme and Stoke and on Trent local plan (scheduled for publication 2020)

3. **Reasons for Preferred Solution**

The Council is required to take the action outlined in this report in order to fulfil its statutory duties.

4. **Outcomes Linked to Sustainable Community Strategy and Corporate Priorities**

The action taken achieves the following priorities detailed within the Council Plan

- Priority 1 – A clean, safe and sustainable borough
- Priority 3 –A healthy and active community
- Council Plan Outcome 1.3 The negative impact that the Council, residents and local businesses have on the environment will have reduced

5. **Legal and Statutory Implications**

The Council is required to produce an annual status report in partial fulfilment of its duties under Environment Act 1995. Work is also progressing on the preparation of the statutory air quality action plans for the four Air Quality Management Areas. These will be the subject of a further report to this committee.

6. **Financial and Resource Implications**

Existing budgets will be utilised to fund the work identified in this report.

7. **Background Papers**

- Environment Act 1995 – Part IV
- Local Air Quality Management Technical Guidance (LAQM.TG.16) (available at <http://laqm.defra.gov.uk/documents/LAQM-TG16-April-16-v1.pdf>)
- Air Quality Reports completed since 1997 available from <https://www.newcastle-staffs.gov.uk/all-services/environment/environmental-protection/air-quality-newcastle-under-lyme>