

Health and Wellbeing Scrutiny Panel

Agenda
Item:

A.5

Meeting Date: 4th October 2018
Portfolio: Environment and Transport
Key Decision: No
Within Policy and Budget Framework: No
Public / Private: Public

Title: Air Quality Update
Report of: Corporate Director of Governance and Regulatory Services
Report Number: GD 73/18

Purpose / Summary:

A report informing the Panel of the latest review and assessment of air quality in the District. The report discusses the 6-declared air quality management areas (AQMA's). In some locations the air pollution levels are now consistently below the objective levels required for maintaining an AQMA declaration. The most recent Annual Status Report 2018 (ASR) approved by Defra (see appendix 2) recommends several changes to our air quality management areas.

The report also discusses the recent national media interest in the levels of Particulate Matter. Several reports indicated that levels within Carlisle are significantly higher than what we have shown by recent monitoring. This item will summarise recent monitoring data and provide a link to the full ASR.

Recommendations:

The Panel is asked to:

1. Consider the most recent air quality monitoring data.
2. Consider the recommendations contained in the appraisal document in particular:
 - Revocation of the Wigton Road Air Quality Management Area (No 3).
 - Revocation of the London Road Air Quality Management Area (No 6).
 - Amend the boundaries of AQMA 1.

Tracking

Executive:	NA
Scrutiny:	4th October 2018
Council:	NA

1. BACKGROUND

1.1 Carlisle City Council Air Quality Management.

Part IV of the Environment Act 1995 requires Carlisle City Council to review air quality and designate Air Quality Management Areas (AQMA) where improvements are necessary. An air quality action plan describing the pollution reduction measures must then be put in place. These plans contribute to the achievement of air quality limit values at local level.

The Secretary of State for Environment, Food and Rural Affairs has responsibility for meeting the environmental air quality limit values in England and the Department for Environment, Food and Rural Affairs (Defra) co-ordinates assessment and air quality plans for the UK as a whole.

Since the adoption of the Environment Act 1995, Carlisle City Council has been monitoring air quality in the City with the use of diffusion tubes and continuous air quality monitoring units. We now monitor in 28 locations across the city. Monitoring has shown that air quality is steadily improving across the City and in the majority of the AQMA's.

The City Council currently continuously monitors four principal pollutants: nitrogen dioxide (NO_x); particulate matter (PM₁₀ and PM_{2.5}), and Benzene. The fixed monitoring unit at Paddy's market covers all 4 of the above pollutants. There are also currently 28 diffusion tubes locations around Carlisle and these monitor monthly NO₂ levels. The tubes are replaced and sent for analysis every 4 weeks.

The purpose of our air quality monitoring is to identify areas where it is likely that we are unlikely to meet the objective levels for key health related air pollutants. Where an air quality objective is not likely to be met, the City Council must declare an Air Quality Management Area (AQMA) and produce an Action Plan, outlining how it intends to improve the air quality within that area.

Carlisle City Council's Review and Assessment work has concluded that air quality within the Carlisle district is generally very good. Unfortunately, there are small pockets within the City where the annual mean objective for nitrogen dioxide (NO₂) is not being met, due to road traffic emissions.

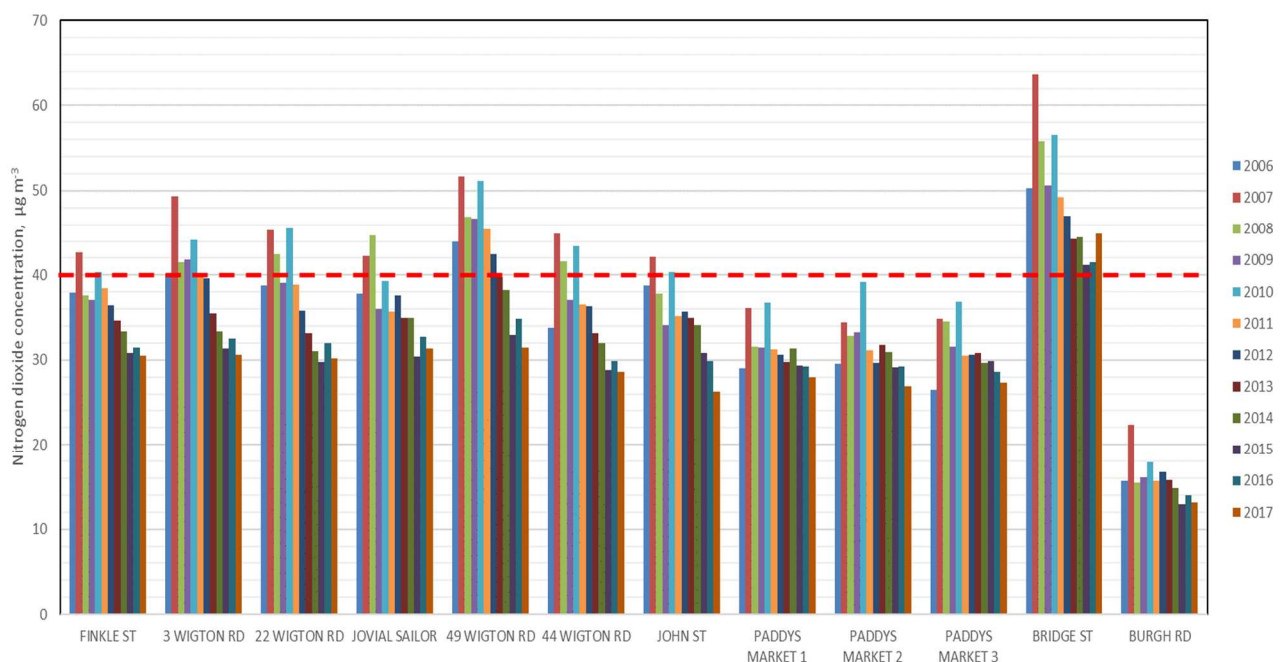
In Carlisle we have declared 6 Air Quality Management Areas (AQMA's) within the City. A map showing the boundaries of these areas are contained in Appendix 1. An

Air Quality Action Plan has also been produced, setting out proposed measures to help reduce nitrogen dioxide levels within the AQMAs.

1.2 Nitrogen Dioxide

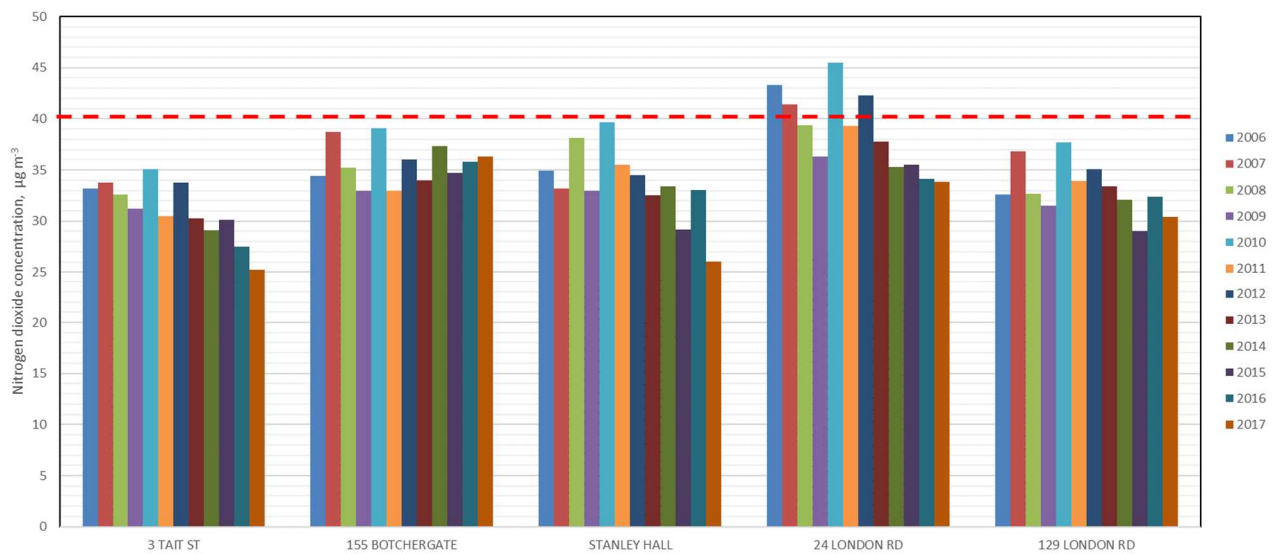
The City still has 6 AQMA's, most of which remain above, or close to, the objective level for nitrogen dioxide. The latest Annual Status Report (June 2018) recommends the revocation of AQMA number 3, which covers part of Wigton Road the Caldewgate roundabout and properties on Caldcotes. The recommendation is based on actual monitoring data collected in the area: (The dotted red line indicates the objective level).

Figure 1 – Trends in Annual Mean NO₂ Concentrations for AQMA 3 (AQMA 4 shown as Bridge street will remain.)



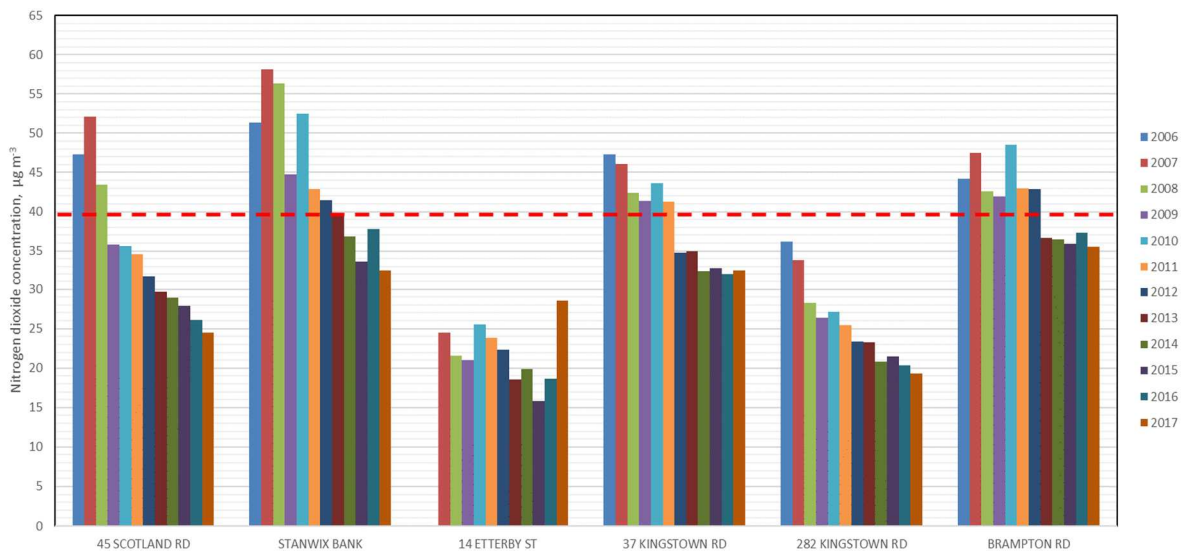
The report also recommends revocation of AQMA 6 London Road, between ASDA and the St Nicholas junctions. This is based upon the data shown below:

Figure 2 – Trends in Annual Mean NO₂ Concentrations for AQMA 6



The ASR further recommends that the boundary of AQMA 1 is significantly reduced to remove all the A7, Scotland Road. It would therefore only include the junction with Brampton Road, due to borderline data. This recommendation is based upon the data below:

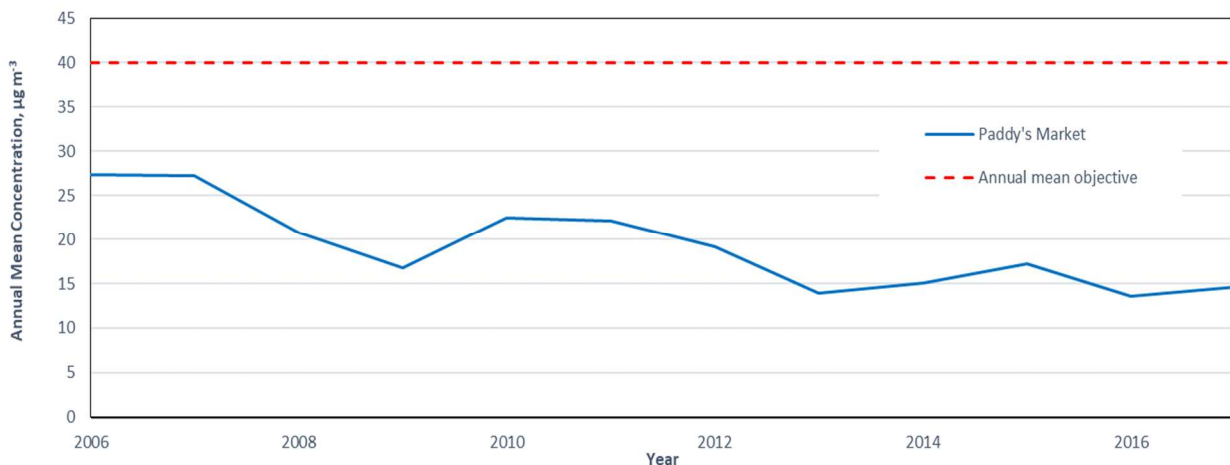
Figure 3 – Trends in Annual Mean NO₂ Concentrations for AQMA 1



1.3 Benzene, PM₁₀ and PM_{2.5}

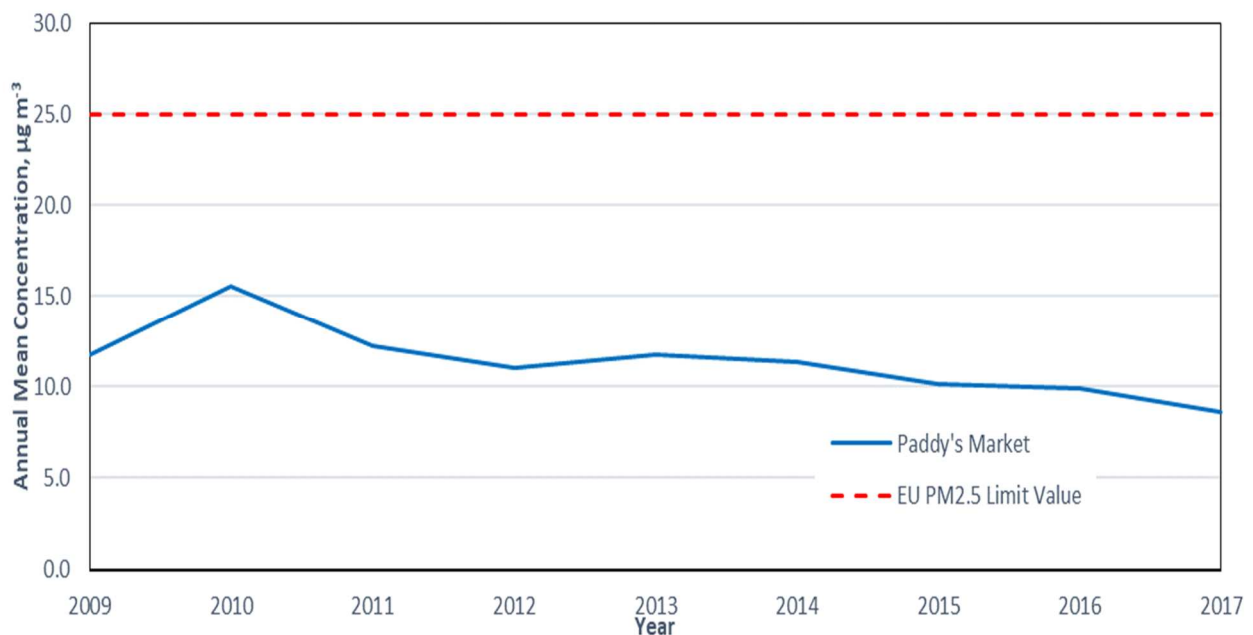
Since monitoring began in 2008 the data for benzene has been consistent, it shows that levels remain significantly below the objective level. This pollutant is not a concern in Carlisle.

Figure 4 – Trends in Annual Mean PM₁₀ Concentrations



The latest results for PM_{2.5}, show that levels remain consistently below the objective level. The following figure can also demonstrate this:

Figure A.2 – Trends in Annual Mean PM_{2.5} Concentrations



The data above is contrary to what has been stated in the media over recent months. The published articles were considered misleading, partly because they did not show our most recent monitoring data, they appeared to refer to data which was collected in 2013. The data presented in the articles was also compared to the World Health Organisation target as opposed to the EU limit value. We are currently obliged to work toward the EU limit value of 25 micrograms per cubic metre, the World Health Organisation recommend a limit of 10 micrograms.

We can now report that the latest monitoring data for 2017 shows Particulate Matter 2.5 at 9 micrograms per cubic metre of air. This is below the World Health Organisation recommendation and significantly below the EU limit value. This continues a trend of steady improvement seen over the last 7 years, shown above. The following link can be used to view all air quality data and Action Plans including the full Annual Status Report 2018:

<https://www.carlisle.gov.uk/Residents/Environmental-Problems/Pollution-and-Air-Quality>

2. PROPOSALS

2.1 Following Defra's appraisal (appendix.2.) it is proposed that we take the following action during 2018/19:

- Revocation of the Wigton Road Air Quality Management Area (No 3).
- Revocation of the London Road Air Quality Management Area (No 6).
- Amend the boundaries of AQMA 1.

3. RISKS

3.1 Report provided for information at the request of the Health and Wellbeing Scrutiny Panel.

4. CONSULTATION

4.1 Report provided at the request of the Health and Wellbeing Scrutiny Panel.

5. CONCLUSION AND REASONS FOR RECOMMENDATIONS

5.1 The approval of the revocation of AQMA 3 and 6 as well as the reduction in size of AQMA 1 is a positive reflection of the improvements to air quality in the area over recent years. Air quality is extremely important for our residents and visitors to the area. Poor air quality can affect all areas of our lives, including directly impacting on our physical and mental health and the surrounding natural environment. Air quality will continue to be monitored in the District and focussed on those areas which may require intervention.

6. CONTRIBUTION TO THE CARLISLE PLAN PRIORITIES

6.1 **Priority 5: Continue to improve the quality of our local environment and green spaces so that everyone can enjoy living, working in and visiting Carlisle:**

By continuing to monitor NOx and other pollutants we continue to ensure that where necessary steps are taken to ensure air quality is highlighted for improvement.

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Appendices attached to report: 1. Map showing AQMA's
2 Annual Status Report Appraisal

Note: in compliance with section 100d of the Local Government Act 1972 the report has been prepared in part from the following papers:

- None

CORPORATE IMPLICATIONS:

LEGAL - N/A

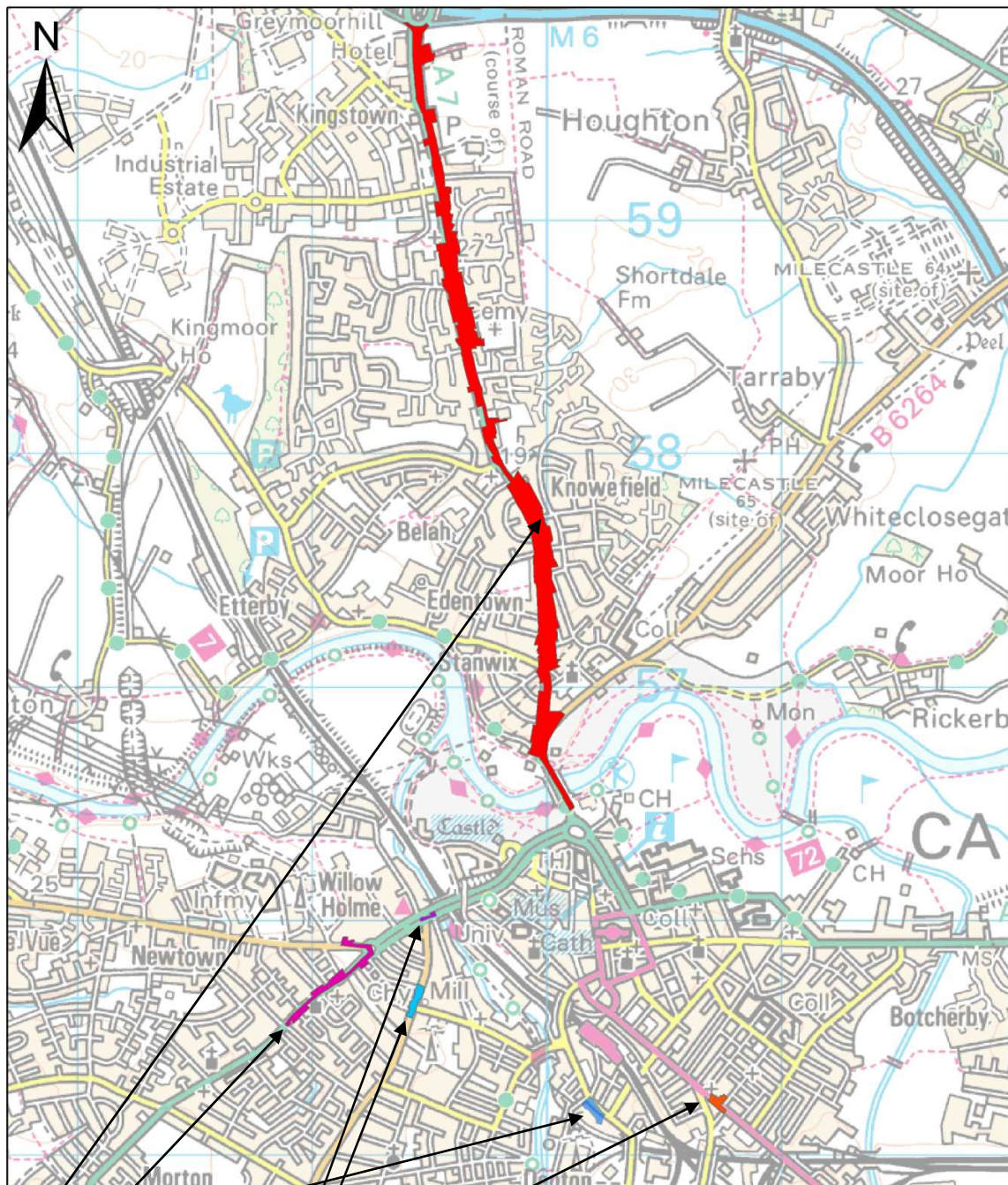
FINANCE – N/A

EQUALITY – N/A

INFORMATION GOVERNANCE – N/A

Appendix 1

Location of Carlisle AQMAs.



- | | |
|--|---|
|  AQMA1 A7 |  AQMA4 Bridge St |
|  AQMA2 Currock Street |  AQMA5 Dalston Rd |
|  AQMA3 Wigton Road |  AQMA6 London Road |

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CARLISLE
CITY COUNCIL

www.carlisle.gov.uk

**Civic Centre
Rickergate
Carlisle
CA3 8QG**

Appendix 2 – Defra Assessment of Carlisle's ASR

Annual Status Report

The Report sets out the Annual Status Report, which forms part of the Review & Assessment process required under the Environment Act 1995 and subsequent Regulations.

Carlisle City Council currently has six AQMAs for annual mean NO₂, as detailed in the table below.

AQMA Name	Date of Declaration	Pollutants and Air Quality Objectives	City / Town	One Line Description	Is air quality in the AQMA influenced by roads controlled by Highways England?	Level of Exceedance (maximum monitored/modelled concentration at a location of relevant exposure)	
						At Declaration	Now (2017)
AQMA 1	02/12/2005	NO ₂ Annual Mean	Carlisle	A7 between Hardwicke Circus and J44 of the M6 and Brompton Rd for a distance of 100m from the Stanwix Bank junction	YES	45.3	36.4
AQMA 2	26/01/2007	NO ₂ Annual Mean	Carlisle	Currock Street and the properties immediately to the west of it, between the junction with James St/Water St and Crown St.	NO	44.6	37.0
AQMA 3	01/08/2008	NO ₂ Annual Mean	Carlisle	Wigton Road between Crummock Street and Caldewgate roundabout as well as properties on Caldcotes	NO	40	33.5
AQMA 4	01/08/2008	NO ₂ Annual Mean	Carlisle	North side of the A595 at Bridge Street, northbound from the junction with Shaddongate.	NO	43.9	44.9
AQMA 5	01/08/2008	NO ₂ Annual Mean	Carlisle	Junction of Dalston Road and Junction Street	NO	48	39.9
AQMA 6	01/08/2008	NO ₂ Annual Mean	Carlisle	London Road and properties on either side near the junction with Blake Street	NO	43.3	33.8

Within the last ASR, it was reported there were:

- Plans to amend the boundaries of AQMA 1, to only include Brompton Rd where air quality concentrations are sufficiently high for there to be a risk of exceedance in the future.
- Plans to revoke AQMA 3

The latest monitoring reported within this ASR, continues to confirm the status of AQMA1, where there are now no recorded exceedances, and highest results remain on Brampton Road, close to the junction with Stanwix Bank, on a road with 3 traffic lanes. The monitoring results for the remainder of the A7 are significantly below objective levels.

Revocation of AQMA3 and AQMA6 are planned during the 2018/19 period.

The latest monitoring confirms the status of AQMA 3 with no exceedances over the last 5 years.

AQMA6 is represented by a single monitoring point (F7), with additional monitoring points nearby on the London Road, all consistently below objective levels for the last 5 years.

Results for AQMA2 Currock Street, are represented by a single diffusion tube (B7), where results over the last 5 years have remained below, but within 10% of objective levels. The monitoring site is representative of a row of terraced properties fronting onto the street with 3 lanes of traffic, near a mini-roundabout, located close to the city centre.

AQMA4 Bridge Street, is sited on the A595, a road with 4 traffic lanes, represented by a single diffusion tube site for properties fronting onto the street. It appears this site may no longer be representative of relevant exposure, if these properties are no longer occupied. Monitoring results have been consistently above objective levels for more than 5 years.

AQMA5 Dalston Road is representative of terraced properties fronting onto the road, close to a traffic light-controlled junction. Monitoring results from a single diffusion tube site show concentrations reducing to close to objective levels over recent years.

The Air Quality Action Plan has been active since 2012 and has considered measures to address all the AQMAs, recognising the challenges posed by city centre traffic congestion.

The remaining points of exceedance are representative of localised hotspots. The majority of the central area within the city now meets objective levels.

On the basis of the evidence provided by the local authority the conclusions reached are acceptable for all sources and pollutants.

Following the completion of this report, Carlisle City Council should submit the next Annual Status Report in 2019.

Commentary

The report is well structured, detailed, and provides the information specified in the Guidance. The following comments are made:

1. We agree with the Councils proposals to revoke AQMA3 and AQMA6.
2. The Council considered a revision to the boundary of AQMA1 within the 2017 ASR, to cover the area of relevant exposure on the Brampton Road junction with the A7.
3. The current monitoring results continue to support this proposal, with no evidence of exceedances along the A7.
4. On this basis we suggest the Council should review the boundary of AQMA1.
5. It may be appropriate to review the monitoring locations for AQMA2 as a basis for confirming the extent of the area of exceedance for properties along Currock Street.
6. It is not clear whether the monitoring site for AQMA4 remains as a site of relevant exposure. If the properties on Bridge Street are no longer occupied, then the status of the AQMA should be reviewed accordingly.
7. AQMA5 is represented by the results from a single diffusion tube on a busy 3-lane section the B5299, with properties close to the road, with a pedestrian crossing nearby. Monitoring at further nearby sites of relevant exposure should be considered to confirm the extent of the area of exceedance, to assist local understanding of the pollution hotspot.
8. The current action plan is now 6 years old, and the Council should consider reviewing measures within the Action Plan, to co-incide with a review of the current extent of pollution hotspots, represented by the AQMAs also under review.
9. Any further review of measures within the Action Plan, should be guided by the process recommended within Chapter 2 of Defra Technical Guidance LAQM TG(16). Measures should be prioritised on the basis of addressing the remaining pollution hotspots by considerations of the required level of emissions reductions required to meet the objectives.

This commentary is not designed to deal with every aspect of the report. It highlights a number of issues that should help the local authority either in completing the Annual Status Report adequately (if required) or in carrying out future Review & Assessment work.