



Environment and Sustainable Communities Overview and Scrutiny Committee

23 November 2022

Air Quality Management in County Durham

Joint report of the Corporate Director of Neighbourhoods and Climate Change and the Corporate Director of Regeneration, Economy and Growth

Electoral division(s) affected

Countywide

Purpose

1. To provide Members of the Environment and Sustainable Communities Overview and Scrutiny Committee (OSC) with an update on:
 - air quality across the County, primarily focussing on Durham City, where an Air Quality Management Area has been declared for nitrogen dioxide.
 - traffic measures to support air quality management.
2. The update will specifically cover the following:
 - (i) **A description of the air quality in relation to the results from the non-continuous monitors obtained during 2022 at the 'hotspot' locations across Durham City.** These locations are identified as Gilesgate (the eastbound carriageway), New Elvet (Church Street, close to the junction with Hallgarth Street) and Crossgate Peth (Colpitts Terrace and Sutton Street).

- (ii) **A description of the air quality in relation to the results from the non-continuous monitors obtained during 2022 at Menceforth Cottages in Chester le Street**, where previously an Air Quality Management Area (AQMA) was declared for nitrogen dioxide.
- (iii) **The reporting of the annual review and assessment of air quality to DEFRA** that incorporated confirmation of the changes made to the Durham City Air Quality Management Area and the revocation of the Air Quality Management Area at Menceforth Cottages in Chester le Street.
- (iv) **The progress on the review of the Durham City Air Quality Action Plan (AQAP)**. The review is being undertaken in 3 Stages -Stage 1 Review & Modelling, Stage 2 Consultation and Stage 3 Options Development & Appraisal.
- (v) **The establishment and development of potential options** that will be subject to further appraisal following internal and Member consultation.
- (vi) **Legislation Update -Requirements for Fine Particulates** and how this will affect the review, and assessment of air quality in the future.

Executive Summary

3. A briefing report was provided to the Environment and Sustainable Communities Overview and Scrutiny Committee (OSC) on the 11th April 2022 which updated Members on local air quality management across County Durham.
4. The report provided.
 - the details, and results of air quality monitoring for 2021 at 'hotspots' across Durham City and Menceforth Cottages in Chester le Street,
 - the progress of the air quality action measures,
 - the review of the Air Quality Action Plan,

- the developments in local air quality management, including the identification of further work following the introduction of new legislation, and
 - details of projects to provide a more sustainable transport network.
5. Since that report the work on local air quality management has continued, and included the following:
- (i) The monitoring of nitrogen dioxide and particulates (PM₁₀ and PM_{2.5}) at locations across the County, but predominantly within Durham City
 - (ii) The compiling and submission of the Annual Status Report 2022 to DEFRA, and
 - (iii) the review of the Durham City Air Quality Action Plan with an emphasis on developing options for improving air quality following the completion of Stage 1 (Modelling and Source Identification).

This work is co-ordinated, and monitored under the governance of the established corporate steering group, which has senior officer representation from the following service teams across the Council:

- Community Protection
- Spatial Policy
- Traffic Management
- Sustainability & Climate Change
- Public Health

Recommendations

6. That the Environment and Sustainable Communities Overview and Scrutiny Committee consider and comment on the information provided in the report and presentation.

7. That the Environment and Sustainable Communities Overview and Scrutiny Committee considers whether to include in its work programme for 2022/23 a further progress update on the management of air quality in County Durham.

Background

8. A briefing report was provided to the Environment and Sustainable Communities Overview and Scrutiny Committee (OSC) on the 11th April 2022 which updated Members on local air quality management across County Durham.
9. The report provided members with the information detailed in bullet points in paragraph 4 above.
10. Since that report the work on local air quality management has continued and is co-ordinated and monitored under the governance of the established corporate steering group.

An Update on the Results of Air Quality Monitoring in 2022

11. The results from the non-continuous monitoring of nitrogen dioxide during this year are available from January to September. It should however be noted that the results have not yet been corrected to take into consideration the potential error that may occur from this type of monitoring.
12. The results are compared with the annual mean air quality objective for nitrogen dioxide of **40 µg/m³**. There is a risk that the air quality objective may be exceeded when the measured level is within ten percent of the objective which is above **36 µg/m³** and this has also been considered for the results obtained to date.
13. The highest measured levels of nitrogen dioxide across the County are at 'hotspot' locations in the areas in Durham City previously identified and are as follows:
 - (i) Properties on **Gilesgate** close to the eastbound carriageway. The measured level at 68/68A Gilesgate is

exceeding the annual mean objective (**40 µg/m³**) and there is a risk of an exceedance at 75/76 Gilesgate. The measured level is above **36 µg/m³** at this location.

- (ii) Properties on **Church Street**, New Elvet close to the junction with **Hallgarth Street**. There is a risk that the air quality objective will be exceeded at Nos 1, 3 and 33 Church Street. The measured level is above **36 µg/m³** at these three locations.
 - (iii) Properties on **Sutton Street** and **Colpitts Terrace**, Crossgate. There is a risk that the air quality objective will be exceeded at Colpitts Hotel Pub and 1 **Sutton Street**. The measured level is above **36 µg/m³** at these two locations.
14. The measured levels of nitrogen dioxide at both properties at **Menceforth Cottages** in Chester le Street are well below the air quality objective and the level at which there may be a risk of exceeding the air quality objective.
15. The measured levels of nitrogen dioxide at other sites that are representative of exposure to residential receptors across the County are below the Annual Mean Air Quality Objective and the level at which there may be a risk that the objective will be exceeded.
16. The level of nitrogen dioxide measured by the continuous air quality analyser between January and September, expressed as a mean, is **39 µg/m³** which is close to but below the limit. The analyser is located on **Leazes Road at Framwellgate** and not at the façade of a residential property, and the result is subject to correction following quality control checks.

The Annual Air Quality Status Report

17. The annual Air Quality Status Report 2022 that incorporates and reports on the monitoring results obtained in 2021 was submitted to DEFRA. This also reports on the progress of the action measures that are included in the Durham City Air Quality Action Plan which is now being reviewed and is discussed in more detail

in the sections below. The report confirms the revocation of the Air Quality Management Area in Chester le Street and the inclusion of an additional short section of Church St in New Elvet.

18. The feedback on the appraisal of the annual Air Quality Status Report 2021 has been received. The report is accepted as providing a detailed representation of the local air quality across the County. Following the introduction of the Environment Act 2021 it is now required that the date for the completion of an action measure is included in the Action Plan and therefore this will be the case in the reviewed and revised Plan.

The Review of the Durham City Air Quality Action Plan- The Outcome of Stage 1 (Modelling and Identification of Sources)

19. In Policy Guidance on Local Air Quality Management issued by the Government it is advised that Air Quality Action Plans should be reviewed and, where necessary, revised, at a frequency of not more than 5 years. Stage 1 has now been completed and the main findings are described below.
20. The modelling shows that the predicted levels of nitrogen dioxide will not comply with the annual mean air quality objective (**40 $\mu\text{g}/\text{m}^3$**) by 2024 at the 'hotspot' areas across the city. The following provides a summary of the predicted exceedances and the number of receptors impacted in each of the 'hotspot' areas:
 - (i) At **Alexandria Crescent & Sutton Street, Crossgate** (11 receptors within the Air Quality Management Area (AQMA) and a maximum predicted concentration of **45.7 $\mu\text{g}/\text{m}^3$** .)
 - (ii) At Gilesgate close to the Gilesgate roundabout (12 receptors within the Air Quality Management Area (AQMA) and a maximum predicted concentration of **47 $\mu\text{g}/\text{m}^3$** .)
 - (iii) At **Church Street and Hallgarth Street, New Elvet** (9 receptors of which 6 are on the recently extended section of the AQMA on Church Street and a maximum predicted concentration of **47.4 $\mu\text{g}/\text{m}^3$**) and 3 receptors on **Hallgarth Street** outside the boundary of the extent of the current

AQMA and a maximum predicted concentration of **42.1 µg/m³**.

- 21 This stage also involved identifying the sources of emissions of nitrogen dioxide and this identified the contribution of Light Goods Vehicles (LGVs), diesel cars and buses at some locations as the most significant. Therefore, this highlights the requirement for intervention to improve air quality by targeting these sources from the vehicle fleet profile in Durham City.

The Review of the Air Quality Action Plan (Stage 2: Consultation)

- 22 A key factor in determining the success of the implementation of the action plan is establishing options for action measures that are integrated with other strategies, policies and plans developed elsewhere within the Council. Examples of this include the Sustainable Transport Plan and the Climate Emergency Response Plan both of which incorporate actions that will also be beneficial for air quality.
- 23 The possible options have therefore been identified through internal consultation with other sections of the Council and at a Members briefing held on Tuesday 18th October 2022. A focus has been placed on options for actions in relation to targeting traffic travelling into Durham City rather than through traffic since the latter is more difficult to control.
- 24 In addition to developing some of the existing actions, the following two additional options have been proposed:
- (i) The micro-consolidation of freight deliveries to and from the city to target the impact of Light Goods Vehicles. This concept involves establishing storage and distribution facilities on the periphery of the city, where relevant goods can be brought, and then using low or zero emission means of travel to make deliveries into the Air Quality Management Area.
 - (ii) The introduction of emission based, variable parking charges for Council owned car parks within Durham City, which takes into consideration the polluting potential of vehicles.

- 25 The above two options for action measures were discussed at the Members Briefing referred to in 18 above, where it was agreed that they would be explored further in relation to their feasibility, in association with other relevant reviews of Council policies and plans.

Review of the Air Quality Action Plan – Stage 3 Options Development & Appraisal

- 26 The work highlighted for establishing and developing options for action measures will involve further consultation with other applicable sections of the Council and specifically the Climate Change Team.
- 27 Once viable options are established then the Council can progress to the final stage of the project (Stage 3) that will involve the appraisal of these in relation to costs and benefits including the reduction in emissions of nitrogen dioxide.
- 28 On completion of Stage 3, consultation will be required with interested parties including the public in a similar manner to the Action Plan that was adopted in 2016. It is also required to consult with statutory consultees including DEFRA. This will be followed by the completion of the Action Plan document for formal adoption by the Council.

Legislation update-requirements for Fine Particulates (PM_{2.5})

- 29 Since the last report it is now clearer in relation to the target and limit to be introduced for fine particulates (PM_{2.5} – particles that have a diameter less than 2.5 microns). The proposal is for the introduction of a Population Exposure Reduction Target and an air quality limit value of 10 µg/m³ as a target to be met in accordance with a timescale. This is to be confirmed by the introduction of secondary legislation.
- 30 The review of the Air Quality Action Plan has included the modelling of the levels of PM_{2.5} across the Durham City Air Quality Management Area and its environs. **This shows that there are 3 receptors at which the predicted levels of PM_{2.5} will exceed the proposed air quality limit of 10 µg/m³ in 2024.** The location of these exceedances is at Gilesgate, close to the roundabout.

- 31 The sources contributing towards elevated levels of PM_{2.5} are the same as for nitrogen dioxide but with the addition of petrol cars. The review of the Durham City Air Quality Action Plan will consider options that are targeted towards reducing levels of PM_{2.5} as well as nitrogen dioxide.
- 32 There is already a section within the annual air quality status report that focuses on PM_{2.5} and the measures the Council is taking to reduce levels of this pollutant. The annual review and assessment of air quality will require consideration of the impact of PM_{2.5} across the County and, if necessary, the implementation of further monitoring and/or modelling.

Traffic Measures

- 33 The following measures have been put forward by traffic management to support the work on going in relation to air quality management.

- *Strategic Traffic Management*

Remove incentivised parking to increase Park & Ride usage; Parking tariffs structured to encourage/drive modal shift; Implement Sunday parking charges and Park & Ride service; Optimise traffic signals to reduce queueing; Specify Euro 6 specification engines or better on all our transport contracts; Provide additional Park and Ride spaces; and Implement walking and cycling initiatives.

- *Transport and Infrastructure*

Sniperley Park and Ride Extension; New Inn Junction; Northern Corridor – walking and cycling improvements; City Centre Connectivity project; Intelligent Transport System Updates to junctions; North Road Durham Bus station; and the Eastern Corridor - Gilesgate bank to Belmont Industrial estate -combination of extended inbound bus priority and new cycle routes connecting the city Centre with residential and employment nodes.

- *Integrated Passenger Transport*

Five contracted daytime bus services that operate through AQMAs are specified to EuroVI standard. Could consider widening use of specifications; Work with commercial bus operators, in particular SMEs, to identify barriers to transferring to Zero Emission buses (e.g., grid capacity constraints, lack of capital funding for charging infrastructure investment etc) and identify funding streams to remedy; and incentivise increased bus usage through implementation of BSIP measures.

Conclusions

34 The main areas of work for completion in respect of Local Air Quality Management during the next 12 months are identified as follows:

- (i) The preparation and submission, to DEFRA, of the Air Quality Status Report 2023.
- (ii) The review and revision of the Durham City Air Quality Action Plan.
- (iii) The consultation on the revised Durham City Air Quality Action Plan.
- (iv) The review and revision of the Implementation Plan setting out the responsibility for each of the action measures.
- (v) The review and assessment of fine particulates (PM_{2.5}) across the County taking into consideration the requirements of secondary legislation.

Background papers

- None

Other useful documents

- Durham City Air Quality Plan 2016
- Annual Status Report 2022

Authors:

Denyse Holman – Tel:03000 260992

David Gribben - Tel:03000 260997

Dave Lewin – Tel:03000 263 582

Craig MacLennan – Tel: 03000 267103

Cathy Knight - Tel: 03000 268512

Appendix 1: Implications

Finance

There are cost implications with the implementation of the air quality improvement measures incorporated within the Durham City Air Quality Action Plan. The source of the pollution is from vehicle emissions and therefore the majority of the actions are traffic improvement measures and the capital funds required for these is yet to be determined and would need to be met from the Local Transport Planning budget or other relevant external funding streams. There are also cost implications with the ongoing requirement to carry out monitoring of air quality pollutant (nitrogen dioxide) and 'indicators' e.g. traffic volume flow rates following the implementation of the action measures. A revision of the existing network of monitors that measure air quality pollutants (nitrogen dioxide) is likely to be required going forward.

Staffing

Officers in the Environment Protection Team will be required to plan and then undertake monitoring at locations across the County with a particular focus on the Durham City Air Quality Management Area. The Implementation Plan will need to be reviewed to determine which officers within the Council are going to be responsible for the delivery of actions. This will require the allocation of staff resources in these sections to ensure the actions are prioritised alongside other work commitments.

Meetings of the Air Quality Corporate Steering Group will be required on a regular basis.

Consultation

The Council is legally required to consult, under Schedule 11 of the Environment Act 1995, following the completion of Local Air Quality Management projects. The requirements are to consult with statutory consultees comprising of neighbouring local authorities, DEFRA, the Highways Authority, the Environment Agency and organisations/associations that represent business interests in areas to which the project relates. The main purpose of previous consultation was to obtain feedback on the air quality improvement actions that have been included in the Durham City Air Quality Action Plan.

Equality and Diversity / Public Sector Equality Duty

Local Air Quality Management focusses on improving or reducing the impacts of air quality. Therefore the completion of air quality projects and especially the implementation of the Durham City Air Quality Action Plan will have a

beneficial impact irrespective of the background of the residents of the properties of the areas to which the projects relate.

Human Rights

Not applicable

Climate Change

Many of the action measures in the Durham City Air Quality Action Plan that are targeted towards reducing levels of nitrogen dioxide will also be beneficial for reducing carbon emissions.

Crime and Disorder

Not applicable

Accommodation

Not applicable

Legal

The Council is legally required, under the Environment Act 1995, to implement the air quality improvement actions in an Air Quality Action Plan to demonstrate that it is pursuing compliance with the air quality objectives.

Risk

To fail to carry out this duty may lead to judicial proceedings being taken against the Council and/or intervention by the Secretary of State. In addition, there is a new Office of Environment Protection, introduced under the Environment Act 2021, whose function is to oversee and monitor the performance of Local Authorities' in discharging their air quality management duties.

Procurement

It may be necessary to purchase further monitoring equipment and/or consultancy services to enable the Council to complete these projects. The purchase of further monitoring equipment or consultancy services, if required, will be undertaken in accordance with the applicable Council procurement policies and procedures.