

Air Quality Monitoring and Modelling in Barnsley – Item for Information Only

In response to the actions from the Overview and Scrutiny Committee meeting held on 16th July 2019 on Energy Efficiency and Pollution Reduction; Regulatory Services within the Public Health Directorate have provided the following briefing:

Under Part IV of the Environment Act 1995, the Council has a statutory duty to regularly review and assess air quality in the Borough.

Assessment of air pollution concentrations is undertaken by modelling and monitoring, following technical, statutory Government guidance. Consequently Regulatory Services have undertaken a significant amount of air quality monitoring and modelling over the last 20 years in order to meet these statutory requirements.

Currently, this Service is involved with monitoring at over 50 locations in the Barnsley area, with monitoring being carried out both within, and outside of our six air quality management areas (AQMA's). Our AQMA's have been declared due to road traffic emissions (Nitrogen Dioxide) causing the breaching of the Government's air quality standards.

Monitoring outside of AQMA's is undertaken in those locations where there may be specific air quality issues, which require quantitative assessment. These additional locations include busy arterial roads and junctions. Monitoring is also undertaken to ascertain longer term trends in order to gauge the impact of national and local action to improve air quality, or to assess the impact of new development.

This Service has also previously monitored at other locations, but has now ceased this monitoring, as the subsequent data had clearly demonstrated that air pollution concentrations were not at risk of breaching the air quality standards.

This Service also possesses a sophisticated air quality modelling system, capable of modelling emissions from road and industrial sources in particular. The model works by taking traffic emissions, meteorological and other data to calculate air pollution concentrations. The modelling system is therefore used to initially and quickly assess any specific air quality concerns at specific locations. Modelling is the Government's current recommended initial approach for assessing air quality. If the modelling exercise indicates concentrations breaching air quality standards, then a lengthier air quality monitoring investigation is subsequently undertaken to confirm whether this is the situation or not.

The modelling exercise can be undertaken in such a way in order to consider the very worst case air pollution situation. For instance, if a road is congested twice a day at morning and afternoon peak traffic flow periods, increasing traffic emissions at these times; the model can assume that the road is congested all day, with subsequent increased emissions. Therefore, the conclusions of a modelling exercise are not unduly optimistic.

Further information on the Councils' air quality monitoring results and air quality issues generally can be found at <https://www.barnsley.gov.uk/services/pollution/air-pollution/air-quality/>.