

Health and Wellbeing Board

10 April 2018

Air quality update for Walsall Health and Wellbeing Board April 2018.

1. Purpose

The following report provides a brief update of air quality issues at a national and local level so that the Board members are aware of the current concerns and the Walsall response.

2. Recommendations

That Board Members:

- 2.1 Note the content of this report.
- 2.2 Support the continued PM_{2.5} project working arrangements between Public Health Pollution Control.
- 2.3 Support joint working with Black Country Colleagues and NO₂ modelling capabilities
- 2.4 Have a standing item to notify the Health and Wellbeing Board of any key developments or issues on air quality.
- 2.5 Agree to receive an update report after December 2018.

3.1 Background

Despite general downwards trends of late, air quality concerns have risen quickly up the political agenda and are recognised as a major public health issue.

Poor air quality is acknowledged to be the fourth largest risk to public health behind cancer, obesity and cardiovascular disease. Across the West Midlands it is estimated that it is responsible for 2,000 – 2,400 attributable deaths per year (based on 2010/11 estimates).

Air pollutants of key concern both nationally and locally are Nitrogen dioxide (NO₂) and particulate matter (fine particles) expressed as PM_{2.5}.

NO₂ is a gaseous constituent in road traffic exhaust emissions, the principle source of poor air quality. PM_{2.5} corresponds to fine particles (commonly referred to as 2.5 micron in size) that behave in a similar fashion to gaseous pollutants and are hence respirable. Again road traffic is a principle source, PM_{2.5} being generated notably in diesel exhausts alongside vehicle tyre and brake degradation which proportionally can contribute up to as much as 50%.

The physical size of PM_{2.5} is so such that when inhaled it can pass directly from the lungs into the blood stream. The World Health Organization have stated there is no evidence of a (safe) level of exposure to PM_{2.5} below which no adverse health effects occur (WHO 2013).

3.2 ClientEarth Challenge

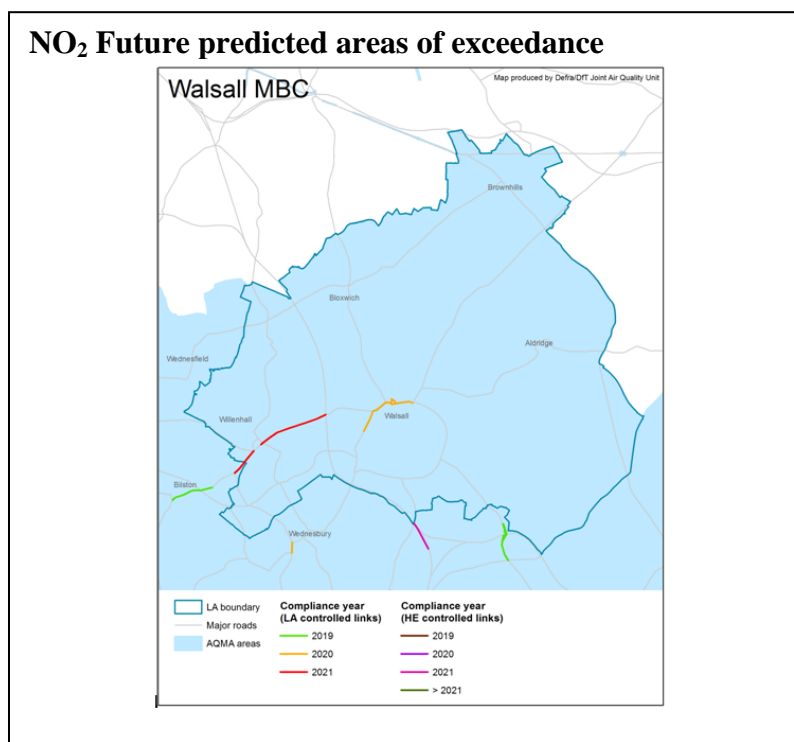
In January and February this year Central Government was successfully challenged for a third time by ClientEarth in regard to its air quality action plans to deal with NO₂ on the basis that the plan does not deliver improvements to comply with the National Air Quality Objective (and EU Air Quality Limit Value) in a sufficiently timely manner.

As a consequence, DEFRA has notified 45 local authorities by Ministerial Direction – including Walsall – that they must produce a feasibility study to consider measures that could bring forward compliance within the shortest possible time. The Direction requires a Targeted Feasibility Study to be completed on the part of the council by 31 July 2018 (or sooner where possible). Government intends to allocate funding to cover resourcing needs for this project.

DEFRA has notified the council of areas where it has predicted NO₂ will remain problematic by 2020/21. These are shown as an output from DEFRA's Pollution Climate Mapping model that is used in reporting to the EU on air quality in the UK.

The identified areas have already been subject to air quality modelling by the council and either continuous or selective monitoring. This work will inform the response the council provides to DEFRA in light of the Ministerial Direction.

The recently approved planning application for the reconstruction of Junction 10 M6 has an obvious bearing on air quality along the A454 Black Country Route (which DEFRA has identified as an issue). This scheme will take approximately two years to complete and is not expected to commence until late 2019 at the earliest.



3.3 Strategic Air Quality Limits

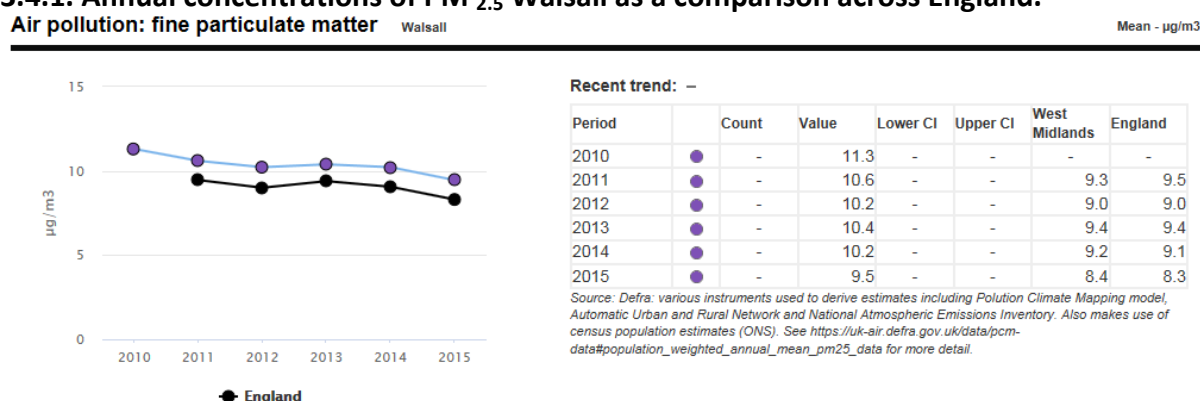
The National Air Quality Strategy prescribes an air quality objective for NO₂ of 40 micrograms per cubic metre, $\mu\text{g m}^{-3}$, as a maximum annual mean average concentration for public exposure to safeguard public health. This is numerically equivalent to the EU Air Quality Limit Value that the UK is currently obliged to comply with as a member state.

There is no numerical air quality objective in England for PM_{2.5}, however it is noteworthy that Scotland has a statutory air quality objective set as an annual mean concentration of 10 micrograms per cubic metre maximum and the EU has set an Air Quality Limit of 25 micrograms per cubic metre maximum. For England a Target Exposure Reduction of 15% has been set. This is set against the ‘no safe level’ statement of the World Health Organisation, which Government acknowledges.

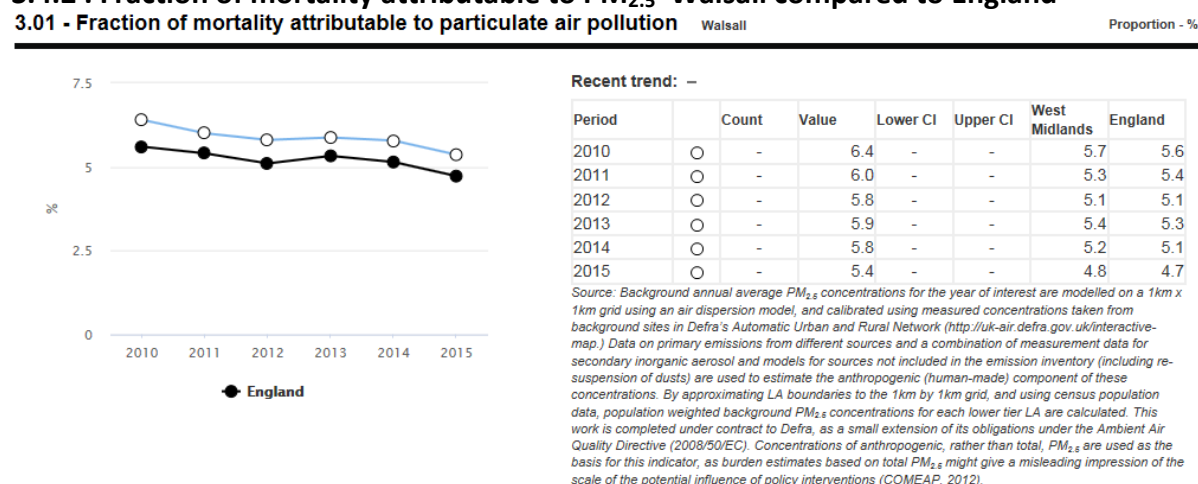
3.4 Public Health outcomes framework (PHOF)

Due to the major implication of PM_{2.5} on public health, the PHOF currently includes two air quality indicators at present:

3.4.1. Annual concentrations of PM_{2.5} Walsall as a comparison across England.



3.4.2 . Fraction of mortality attributable to PM_{2.5} Walsall compared to England



[There is currently no PHOF indicator NO₂]

3.5 Air Quality Policy and Monitoring in Walsall

NO₂ monitoring has been undertaken in the borough for over 20 years. The council currently maintains a strategic continuous air quality monitoring network which, besides being used to assess air quality across the borough at key road network points, serves to inform annual (mandatory) reporting requirements to DEFRA on air quality. It is used to verify the council's road traffic air quality model which for the past two years has been extended to encompass all of the Black Country.

PM_{2.5} monitoring is a relatively new concept following a requirement in the Government's Local Air Quality Management Policy Guidance (PG16), which introduced a new role for local authorities to work towards reducing levels of PM_{2.5} in England, alongside the statutory objective for PM_{2.5} in Scotland. Prior to this, PM_{2.5} monitoring was undertaken regionally on behalf of DEFRA and Walsall had no monitoring stations within the borough boundary.

Details and results are available via the council's web site:

https://go.walsall.gov.uk/air_quality

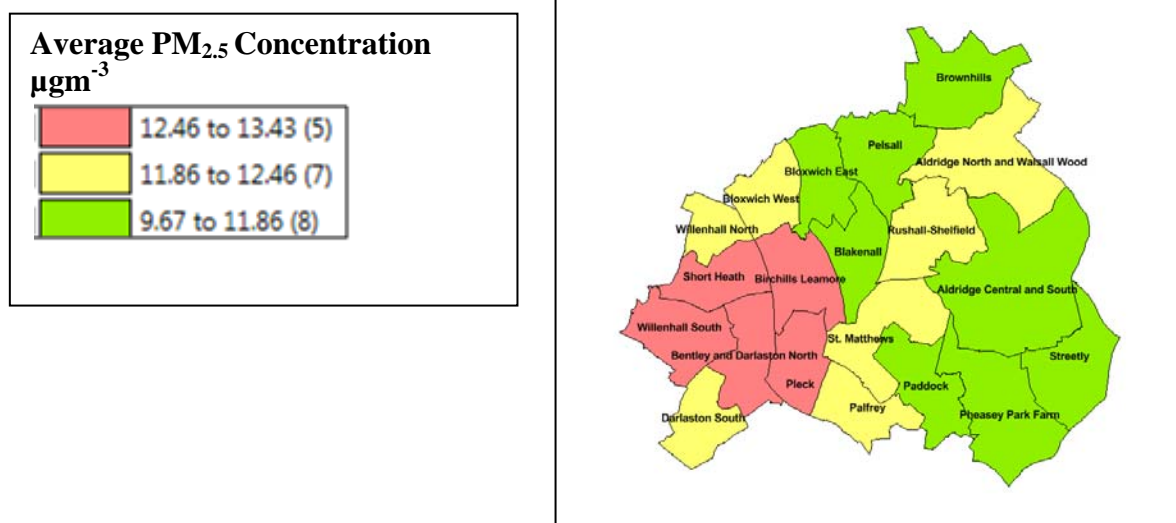
The 2016 Policy points to the PHOF, and the intention to enable Directors of Public Health to prioritise action on air quality in their local area to help reduce the health burden from air pollution, providing impetus to join up action between the various different local authority departments which impact on the delivery of air quality improvements.

3.6 Joint Public Health and Pollution Control PM_{2.5} Project

A joint initiative has been set up between Public Health and the council's Pollution Control team whereby for the past two years monitoring of PM_{2.5} has been carried out in conjunction with NO₂. This is providing data to bench mark pollutant levels and to be used in analysis of health statistics across wards particularly in relation respiratory and cardiovascular illnesses. This can inform the need for interventions and we are in the process of a second phase of data analysis on the impacts of PM_{2.5} on Walsall residents.

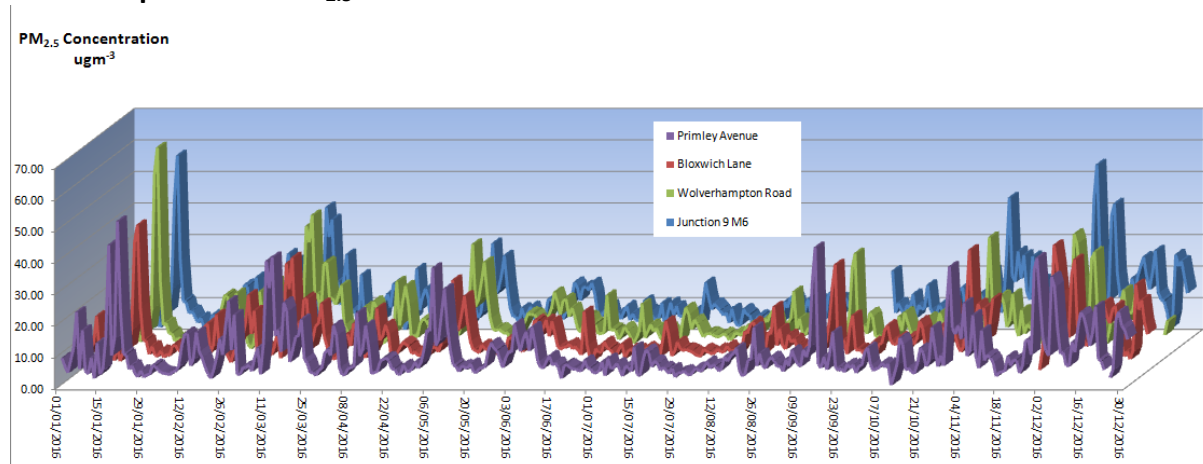
Monitoring data has also been utilised to develop a borough-wide PM_{2.5} road traffic model. As an example of the outputs from this work, the image below depicts average modelled PM_{2.5} within wards, and show that the more deprived areas in the west are subject to higher concentrations.

3.6.1



In due course the council will accrue more data to assess specific health impacts and a validated PM_{2.5} model output will be published.

3.6.2 Comparison of PM_{2.5} concentrations.



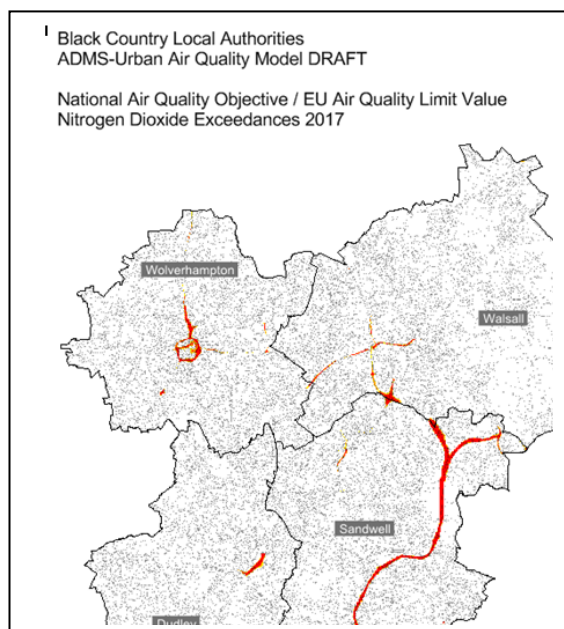
4. Implications for Joint Working arrangements:

In light of the requirement for the council to respond formally to Government on its actions to redress identified areas of NO₂ exceedance, it is intended to commence work on a revision and update to the Council’s air quality action plan based on the findings of feasibility studies. As part of positive initiatives to improve air quality the council promotes uptake of low emission technology arising from collaborative work it has engaged in as part of the West Midlands Low Emissions Towns and Cities Programme and the Black Country Air Quality Supplementary Planning Document. This is introduced the planning process as part of new development requirements where appropriate.

The Black Country councils are intending to work as a joint body for the purposes of addressing DEFRA’s concerns on air quality for the region, under the auspices of the Black Country Director of Transport

The council intends to support joint working with its NO₂ modelling capabilities, and is seeking additional resources to both sustain and develop its air quality modelling functions. This is to extend its capabilities so as to undertake air quality forecasting in future years. Funds may be available from DEFRA, partner councils or Birmingham University (if it is successful in a current bid for funding from the National Environment Research Council to commence the West Midlands Air Quality Improvement Programme).

4.1 Areas of NO₂ Exceedance across the Black Country



5. Health and Wellbeing Priorities:

Working to improve the air quality in Walsall will positively impact on people at all stages of life maximising their health, wellbeing and safety.

Background papers

- Air Quality Standards Regulations 2010
- DEFRA/PHE (2017) Air Quality: A briefing for Directors of Public Health
- DEFRA (2016) Local Air Quality Management Policy Guidance (PG16)
- Environment Act 1995
- EU ambient Air Quality Directive 2008
- EUROPEAN COMMISSION (2016) Environment Air Quality Standards
- West Midlands Combined Authority (19/05/2017) Wellbeing Meeting: Transport and Air Quality update

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