

Title of meeting: Cabinet Decision Meeting

Date of meeting: 25th June 2019

Subject: Assessment of Air Quality - Annual Statement Report 2019

Report by: Director of Culture, Leisure and Regulatory Services

Wards affected: All

Key decision: No

Full Council decision: No

1. Purpose of report

1.1 To provide the Cabinet information on the:

- Local Air Quality Management (LAQM) process and the 2018 Review and Assessment (R&A) of air quality (AQ) in Portsmouth through the publication of the 2019 Annual Status Report (ASR)
- Legal responsibilities placed upon Portsmouth City Council (PCC) in respect to AQ by the Department for Environment, Food and Rural Affairs (DEFRA)
- Actions undertaken and proposed by PCC which are likely to positively impact upon air pollution levels in Portsmouth.

2. Recommendation

2.1. That the Cabinet approves the:

- **submission of the 2019 ASR as attached as Appendix 1 to DEFRA**
- **publication of the documentations set out in Section 9.4.**

3. Reason for the recommendations

3.1. To fulfil the duties placed upon PCC under the Environment Act 1995. LAQM is the statutory process by which the government requires PCC to monitor, assess and take action to improve local AQ.

3.2. The main pollutant of concern in Portsmouth is Nitrogen Dioxide (NO₂). Public Health England (PHE) advises that it is well established that NO₂ is a respiratory irritant that can cause inflammation of the airways. PHE state that studies have demonstrated that long-term exposure to air pollution (over several years) reduces life expectancy, mainly due to cardiovascular and respiratory causes from lung cancer.

- 3.3 In 2018 there were no exceedances of the national AQ objectives (NAQO) for particular matter (particulates that are less than 10 microns (μm) or 2.5 μm in diameter (PM_{10} and $\text{PM}_{2.5}$)). There is however an extensive body of evidence that long-term exposure to PM increases mortality and morbidity from cardiovascular and respiratory diseases. Outdoor air pollution particularly PM, has also been classified by the International Agency for Research on Cancer (IARC) as carcinogenic to humans (a Group 1 carcinogen) and causing lung cancer.
- 3.4. It should be noted that upon approval the 2019 ASR will be submitted to DEFRA on or before the 30th June. DEFRA will then consider the suitability of its content in accordance with its guidance. Only following approval by DEFRA can the document be considered to be officially accepted. Any comments made by DEFRA will be brought to the attention of the Cabinet at the earliest possible point in time.

4. Summary of key AQ actions for 2019 / 2020

- Deliver reductions in air pollution
- Achieve compliance with statutory obligations under LAQM regime
- Publish the 2019 ASR by the 30th June 2018
- Comply with the Ministerial Directions issued under the Environment Act 1995 by the Parliamentary Under Secretary of State for DEFRA issued in 2018 to achieve compliance with the NO_2 statutory limits in the shortest possible timeframe
- Deliver a new comprehensive plan to tackle air pollution by 31st October 2019.

5. The need for action

- 5.1. Air pollution has substantial health, economic and environmental impacts in the UK and locally. LAQM seeks to reduce the impact of air pollution upon human health. In March 2019 PHE published a review of evidence on how to improve air quality in the United Kingdom UK. Within this document PHE state that air pollution has a significant effect on public health, and poor air quality is the largest environmental risk to public health in the UK. PCC recognises the serious consequences of these harmful impacts and acknowledges that the costs to UK society are estimated at more than £20 billion every year.
- 5.2 DEFRA has identified that nationally, the most deprived groups tend to have the highest ambient levels of air pollution, including NO_2 . This is also the case in Portsmouth where our areas of highest deprivation correspond to the areas of poorest air quality air pollution.

6. LAQM

- 6.1 PCC uses the LAQM R&A process to assess and take action to improve local AQ. Where we identify areas of non-compliance with the NAQO set to protect human health and where there is relevant public exposure, we have a statutory duty to declare the geographic extent of non-compliance as an AQ Management Area (AQMA) and to draw up plans detailing remedial measures to address the problem.
- 6.2 PCC is required to produce the AQ ASR which must present the measures employed to improve AQ and document any progress that has been made.
- 6.3 The ASR process is designed to allow sufficient understanding in the analysis of pollutant occurrence to support the identification of new non-compliant areas (i.e. 'hot spots') and to report on progress within existing AQMAs.
- 6.4 Whilst the use of the DEFRA ASR template is mandatory, this approach does not preclude the flexibility to provide added detail, updated information, or further analysis where this has taken place. The 2019 ASR takes advantage of this allowance.

7. New NO₂ monitoring data in Portsmouth

- 7.1 In 2018 a different assessment regime of the European Union (EU) Directive on AQ led to DEFRA placing an obligation on PCC to develop a plan to tackle areas where NO₂ levels are in excess of the NAQO standards set to protect human health.
- 7.2 This new assessment criteria was in addition to where we have previously identified pollution hotspots and where we have been monitoring pollution concentrations for many years (and accordingly have obtained long term data sets). Consequently, in 2018 a part of Portsmouth not previously assessed under the LAQM regime and where there is an absence of long-term public exposure (i.e. pavements alongside busy roads with no nearby residential uses) became a new focus. The main areas of concern centred around Alfred Road between Hope Street roundabout and the Queen Street / Anglesea Road / Alfred Road intersection and Mile End Road between the southern end of the M275 and Church Street roundabout. These areas were mentioned in the 2018 ASR however we now have limited (short term) NO₂ monitoring data for these sites.
- 7.3 In addition to deploying monitoring devices along the above named roads, during 2018 PCC further increased its number of NO₂ diffusion tube monitoring locations around the city. The reason for this was twofold, firstly as a consequence of DEFRA's interest in new geographic areas where exposure to NO₂ is possible and secondly to assess the impact of PCC's activities to reduce NO₂ in these areas over the longer term.
- 7.4 This increased level of monitoring, in new areas not previously assessed has enabled a higher resolution picture to be formulated in respect to NO₂ concentrations than that which was available in previous years. Consequently this has created a slightly different narrative in respect to areas *displaying an*

exceedance of the NAQO standards and those which are *demonstrating levels in excess* of the NAQO.

- 7.5 For further clarity, the pre-2018 NO₂ monitoring focused upon areas exceeding the NAQO standards where *relevant exposure* occurred. Relevant exposure is defined as areas where there are homes, schools, hospitals and similar building uses. During and post-2018 monitoring has also focused upon areas *in excess* (or likely to be in excess) of the NAQO standards where the public may be exposed to high levels of pollution. Exposure of this type is deemed to occur at roadside locations where the public may be present for short durations such as pavements.
- 7.6 Whilst the data sets from the new monitoring locations are of short duration all data achieving the minimum level of validation (i.e. 3 months or more) have been verified and included within the 2019 ASR.
- 7.7 PCC is in regular discussion with officials of DEFRA's Joint Air Quality Unit (JAQU) to determine the extent of measures necessary to achieve a satisfactory outcome to the issues identified in Portsmouth and a report detailing these will be published in 2019 (See section 9).
- 7.8 PCC currently has 5 AQMAs declared on the grounds of monitored or modelled exceedances of the annual mean NO₂ NAQO.
- 7.9 As a result of the increased monitoring regime in and around the AQMAs which have previously demonstrated long term compliance with the NAQO objectives we have no intention to revoke AQMAs even where levels have been consistently recorded in compliance with the NAQO. The new monitoring sites have increased the number of locations known to be in excess of the NAQO however where long term monitoring has been established the number of exceedances remains consistent with previous years.

8. AQ action planning

- 8.1 Within DEFRA's 2019 Clean Air Strategy DEFRA acknowledge that an efficient transport system is an essential part of modern life and a healthy economy, and that average levels of NO₂ at the roadside are at their lowest level since the government first started to collect their statistics. Despite this PCC recognises the fact that our most immediate air quality challenge is to reduce roadside concentrations of pollutant below the NAQO in the shortest possible timeframe and therefore our primary focus is upon reducing emissions from road vehicles.
- 8.2 DEFRA is currently providing extensive direction, guidance and support to PCC, requiring us to develop plans to reduce pollution and assess their predicted positive impacts upon pollution concentrations.
- 8.3 DEFRA require us to benchmark our actions against the Clean Air Zone (CAZ) Framework for England published in 2017 so that they can have confidence that our plans will achieve compliance in the same time or a quicker time than the implementation of a CAZ. This is the reason why DEFRA use the terminology of "*the shortest possible timeframe*".

- 8.4 The support provided by DEFRA includes funding to enable PCC to help take the necessary action to improve air quality whilst minimising the impact of these plans on individuals and businesses. Where impact occurs DEFRA have confirmed that they will be working with us to consider viable mitigation measures whilst delivering the required improvements in pollution levels.
- 8.5 In 2018 Ministerial Directions were issued to 33 local authorities, including Portsmouth, requiring the identified authorities to submit studies (See section 9) on the steps we can take to comply with roadside NO₂ limits in the shortest amount of time. In October 2018 the government published a supplement to this original plan prescriptively setting out what work we need to do. Portsmouth is now required to take forward, following approval of our plan, new measures to tackle air pollution.
- 8.6 Additionally, and critically, PCC are now able to carry out a more comprehensive study outlining in detail how we will tackle the more persistent air quality problems we have previously identified and those identified by DEFRA in 2018.
- 8.7 PCC further acknowledges that this work has dramatically surpassed our previous action planning aspirations. The government's procedural requirements and financial assistance has significantly exceeded our unilateral abilities to assess and deliver solutions to areas of localised pollution and develop a city wide approach to reduce harmful emissions. To further assist us in our endeavours DEFRA has also produced guidance on the more directly effective and ambitious measures and how these need to be assessed which we will need to adopt to improve air quality.

9. AQ local plan - the government's requirements

- 9.1 The study DEFRA is mandating PCC to undertake is called the Air Quality Local Plan (AQLP). It comprises of a local assessment of air quality to consider the best option to achieve compliance with the NAQO within the shortest possible time.
- 9.2 The first section of the AQLP is the strategic outline case (SOC). Our draft SOC was presented to DEFRA in January 2019. The government requires that our final plan is submitted no later than 31 October 2019, in the form of an Outline or Full Business Case. The purpose of the SOC is to establish the case for change by providing the context for the rationale that supports options for the reduction of NO₂ concentrations in Portsmouth. It seeks to provide a suggested way forward by refining a long list of options to a short list of options to be further developed in the Outline Business Case.
- 9.3 The government also requires that the submission of our short list of actions to improve air quality must include a benchmark option that will achieve compliance in the shortest possible time. The government's starting assumption is that the benchmark option will be a charging CAZ of a high enough class to bring about compliance and therefore PCC must comply with this requirement.

9.4 The SOC and the information from which it is formed are available from the background links provided at the end of this report. These documents include:

- Portsmouth Source Apportionment Study (PCC, 2017) that quantified the contributions of different road vehicle types to ambient pollutant concentrations in the areas of exceedance and determined the emissions reductions to achieve compliance
- Targeted Feasibility Study 1 (PCC, 2018) to deliver NO₂ compliance in the shortest possible time – focusing on two links identified in the Defra Pollution Climate Mapping National Model as having projected excesses of the annual mean NO₂ NAQO
- Targeted Feasibility Study 2 (2018) to deliver NO₂ compliance in the shortest possible time – focusing on the A2047 London Road (AQMA 6) identified from local air quality monitoring data as having projected exceedances of the annual mean NO₂ NAQO
- Proposal for Local Plan Development (2018) - focusing on PCC studies to implement actions to meet the annual mean NO₂ NAQO within the shortest possible timeframe

10. 2019 ASR conclusions

10.1 5 key conclusions of the 2019 ASR are:

- NO₂ levels in Portsmouth are a significant concern
- Delivering compliance with statutory obligations and further reducing harmful levels of pollution is the key priority. Compliance may require the deployment of CAZ.
- Despite having information in respect to pollution levels in areas of the city not previously assessed, at sites where historical information is available the data contained within the 2019 ASR is not considered to represent a significant deterioration in air quality.
- In 2019 PCC will continue to increase its knowledge of NO₂ levels by redeploing its current number of monitoring sites to further explore the geographical extent of possible hotspot areas and to seek evidence of longer term trends.
- PCC commits to working together with DEFRA and other interested parties through the AQ Steering Group to assess the complex needs of the city whilst undertaking this necessary and important work.

10.2. The key results are shown in Table 1 below:

Table 1

NDDTS = Nitrogen Dioxide Tube Survey
CAQMS = Continuous Air Quality Monitoring Station
*All results are annual averages
N/A = Not applicable

NO ₂ DOWNWARD trend* recorded at long term monitored locations		
NDDTS year		Improvement?
2014 - 2018	60.71%	Yes
2013 - 2017	34.37%	
2018	53.57%	No
2017	64.28%	
Locations in excess of NO ₂ NAQO* (long term sites)		
NDDTS year		Improvement?
2018	7.14%	No
2017	7.14%	
No. of sites exceeding NAQO* (long term sites) located outside an AQMA		
NDDTS year		Improvement?
2018	0	N/A
2017	0	
5 year NO ₂ trend*		
CAQMS Station		Improvement?
London Road	Downward	Yes
Gatcombe Park	Downward	Yes
Burfields Road	Downward	Yes
Mile End Road	Downward	Yes
NO ₂ 2017 compared with 2018*		
CAQMS Station		Improvement?
London Road	10.08% decrease	Yes
Gatcombe Park	1.83% decrease	Yes
Burfields Road	3.03% decrease	Yes
Mile End Road	1.03% increase	No
Exceeding NO ₂ NAQO*		
CAQMS Station		
London Road	Yes	
Gatcombe Park	No	
Burfields Road	No	
Mile End Road	No	
Anglesea Road	No	

10.3 The 2018 data demonstrates that no exceedances of the objective levels set in respect to PM (both PM₁₀ and PM_{2.5}) have occurred.

11. Equalities Impact Assessment

- 11.1. A full equality impact assessment is not required as the recommendations do not have a negative impact on any of the protected characteristics as described in the Equality Act 2010. The provisional EIA is attached as **Appendix 2**.

12. City Solicitor's comments

- 12.1. The timetable submitting the ASR is provided Section 2.5 of the Local Air Quality Management Technical Guidance 2016 (updated in February 2018).
- 12.2. The aim of the assessment of AQ is to identify with reasonable certainty whether or not a likely exceedance of the NAQO will occur. The AQ (England) Regulations 2000 (SI 928) and The Air Quality (England) (Amendment) Regulations 2002 (SI 3043) make it clear that likely exceedances of the objectives should be assessed in relation to the quality of the air at locations which are situated outside of buildings or other natural or man-made structures, above or below ground, and where members of the public are regularly present. It is particularly important that our assessments focus on those locations where members of the public are likely to be regularly present and which are likely to be exposed for a period of time appropriate to the averaging period of the objective.
- 12.3. **It has been previously confirmed (Decision Report 2018 regarding the 2018 ASR) that current EU enforcement is in train and will, in effect 'carry-over' post Brexit.** Additionally in the context of national engagement the government, by reason of a series of successful Judicial Reviews, continues to be put to task to cascade the message that the consequence will be applicable enforcement, further directly applicable legislation and a greater requirement upon local authorities to engage and achieve targets of compliance.
- 12.4. It remains sensible to again confirm that whilst the current Judicial Review applications focus upon the government there is nothing in law to prevent such private applications being aimed at local authorities either failing to engage or failing to achieve compliance suitably interested individuals or groups could mount significant challenges. The defence is to fully commit and act as a reasonable Local Authority would.

13. Head of Finance comments

- 13.1. The costs of continuing to R&A AQ in Portsmouth will need to be met from within existing budgets.

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Signed by: Stephen Baily, Director of Culture, Leisure and Regulatory Services

Appendix 1: 2019 Annual Status Report of AQ
Appendix 2: Equality Impact Assessment

Background list of documents: The following list of documents discloses facts or matters, which have relied upon to a material extent by the author in preparing this report:

Title of Document	Location
Gov. UK - Guidance Health Matters: air pollution - Public Health England	https://www.gov.uk/government/publications/health-matters-air-pollution/health-matters-air-pollution
DEFRA - UK and EU Air Quality Limits	https://uk-air.defra.gov.uk/air-pollution/uk-eu-limits
DEFRA - LAQM Technical Guidance (TG16)	https://laqm.defra.gov.uk/technical-guidance/
Gov.UK - Policy Paper - Clean Air Strategy 2019	https://www.gov.uk/government/publications/clean-air-strategy-2019
Gov.Uk - Policy Paper - Air quality plan of NO ₂ in UK 2017	https://www.gov.uk/government/publications/air-quality-plan-for-nitrogen-dioxide-no2-in-uk-2017
Gov.UK - Government to fund local authority plans to tackle air pollution	https://www.gov.uk/government/news/government-to-fund-local-authority-plans-to-tackle-air-pollution
Gov.UK - Air quality: clean air zone framework of England	https://www.gov.uk/government/publications/air-quality-clean-air-zone-framework-for-england
Access to the documents detailed in Section 9.4	https://preview-portsmouth.cloud.contensis.com/Preview/1/ext/environmental-health/air-quality-and-pollution/air-quality-in-portsmouth.aspx

The recommendations set out above in 2.1 above were approved / approved as amended / deferred / rejected by the Cabinet on 25th June 2019

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 Signed by: Councillor Gerald Vernon Jackson, Leader of Portsmouth City Council