

POLICY OVERVIEW COMMITTEE

8 September 2020

AIR QUALITY ANNUAL STATUS REPORT 2020

1. Summary

1.1 To provide Members with information on pollution levels across the Borough and within the four declared Air Quality Management Areas and an update on the Council's Air Quality Action Plan.

1.2 To provide for Members' information the Council's Air Quality Annual Status Report.

2. RECOMMENDATION

2.1 That the contents of the report be noted, together with the 2020 Annual Status Report attached as Appendix A.

3. Background and Discussion

3.1. Air pollution is increasingly recognised as a contributing factor to the onset of chronic health conditions including respiratory disease, heart disease and cancer. Air pollution particularly impacts upon children and older people or those with existing health conditions.

3.2. It is estimated by Public Health England that by 2035 the health and social care costs of air pollution in England could reach £5.3 billion. Poor air quality may also result in up to 2.5 million more new cases of coronary heart disease, stroke, lung cancer and child asthma resulting from poor air quality.

3.3. Local air quality is comprised of two components; background pollution and that from localised sources. Localised sources include emissions from road vehicles and transport as well as any localised industrial sources. Background pollution is heavily influenced by large scale pollution which transverses boundaries and includes sources such as wood burning fireplaces, agricultural and industrial sources (including intercontinental sources).

3.4. In addition, pollution is heavily influenced by prevailing climatic conditions. Air quality is generally worse in periods of still weather when there is less dispersion of pollution by wind. During warmer months, secondary pollutants such as Ozone are formed when Nitrogen Dioxide reacts with sunlight. When ozone reacts with particles in the air (particularly in urban areas) smog can occur. In winter, cold air (temperature inversion) can trap emissions at ground level.

3.5. At a local level, pollution levels in Dartford Borough are heavily influenced by the strategic and local road networks including the A282/

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M25 & A2 (managed by Highways England and local roads (managed by Kent County Council).

- 3.6.** The strategic roads are major traffic arteries for passenger and freight vehicles moving East/West and North/South throughout the county. These roads are heavily used by vehicles not stopping in the Dartford Area. Traffic flows along these routes are heavily influenced by obstructions at the Dartford Crossing along the M25 and along the A2.
- 3.7.** During periods of congestion on the strategic road network increased pressure is placed on local roads which are used as 'cut-throughs'. This stop-start traffic generates increased emissions making pollution in residential areas away from the major roads worse.
- 3.8.** Part IV of the Environment Act 1995, places a statutory duty on local authorities to periodically review and assess the air quality within their area. Where it appears that the air quality objectives will not be met by the designated target dates, local authorities must declare an Air Quality Management Area (AQMA) and develop action plans in pursuit of those objectives.
- 3.9.** The Council currently has four AQMAs within the Borough, the first of these was declared in 2001 along part of the A282 tunnel approach road for predicted exceedance of the NO₂ and particulate matter (PM₁₀) annual mean objectives.
- 3.10.** In 2006, three additional AQMAs were declared. Two for exceedance of the NO₂ annual mean objective in the areas of Dartford Town and approach roads, and Bean Interchange. A third AQMA was declared along the A226 London Road for exceedance of the NO₂ and PM₁₀ annual mean objectives.
- 3.11.** Dartford Borough Council monitors compliance with the following National Air Quality Objectives:
 - Particles (PM₁₀) - 50ug.m³ measured 24hr mean, not to be exceeded more than 35 times per year.
 - Particles (PM₁₀)- 40ug.m³ measured as an annual mean
 - Nitrogen Dioxide (NO₂) - 200 ug.m³ measured as a 1 hour mean, not to be exceeded more than 18 times per year.
 - Nitrogen Dioxide (NO₂) - 40 ug.m³ measured as an annual mean.
- 3.12.** These objectives are those most commonly associated with emissions from traffic which modelling has shown to be the dominant source of air pollution within the borough.
- 3.13.** The Council does not currently monitor particles smaller than PM₁₀ and does not have equipment capable of assessing PM_{2.5}. Local Authorities are however expected to work towards reducing emissions of PM_{2.5} as

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particles of this size are known to have a clear link to adverse health. The Council is continuing to develop a new Air Quality Action Plan (AQAP) with the assistance of Bureau Veritas. This AQAP will include appropriate measures to reduce PM_{2.5} as well as other priority pollutants.

- 3.14.** The Annual Status Report (ASR) is a report produced annually for Defra as part of the Council's local air quality management responsibilities. The purpose of the ASR is to report on progress in achieving reductions in concentrations of emissions relating to relevant pollutants and to identify new or changing sources of emissions.
- 3.15.** The ASR shows that in 2019 nitrogen dioxide pollution levels have decreased re-establishing the downward trend that had been observed prior to 2018 (when there was an increase in recorded NO₂ levels likely due to unfavourable weather conditions).
- 3.16.** The Council monitors air quality using 3 automatic monitoring stations (Town Centre, Bean Interchange and St Clements Roundabout) and a network of passive diffusion tubes sited at 53 locations throughout the borough
- 3.17.** PM₁₀ levels can only be monitored at the automatic monitoring stations but remained well below objective levels in 2019 at all sites. In addition, air quality at all stations complied with the 1 hour mean NO₂ objective.
- 3.18.** For the first time, there were no occasions where the hourly mean exceeded the 200ug/m³ threshold at any of the automatic monitoring stations (hourly mean objective of 200ug/m³ not to be exceeded more than 18 times per year).
- 3.19.** Only 7 of the 53 monitoring locations breached the annual objective level. All these locations are within existing AQMAs.
- 3.20.** Exceedances of the objective level continued to occur at three locations close to the eastern edge of the A282 at Brent Way and Bow Arrow Lane. However, the overall trend in this area shows a reduction in NO₂ levels at 12 of the 13 monitoring sites along the A282. The exception is at DA84 Brent Way 2 where levels slightly increased on those measured in 2018 however even at this location monitored NO₂ levels are significantly lower than measured prior to 2017.
- 3.21.** Within Dartford Town, NO₂ objective levels were only exceeded at DA01 Lowfield Street (where the highest level within the borough of 54.6 ug.m³ was recorded) and DA61 West Hill II. All other sites remain below the objective level and again monitored levels are below those seen in 2018 at nearly all sites.
- 3.22.** Officers have already undertaken a rudimentary source apportionment exercise for Dartford Town Centre. This has identified that the biggest source of NO₂ pollution (33%) is from Diesel Cars. A further 29% is from buses and coaches and 26% from Light Goods Vehicles. HGVs account for only 7% of NO₂ emissions.

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- 3.23.** NO₂ continued to exceed objective levels at the Air Quality Monitoring Station at Bean. Pollution levels at Hope Cottages (DA70), Little Dale (DA72) and (DA87) Ightham Cottages however remain, as in 2018, below the objective level.
- 3.24.** Exceedances of the objective level were also monitored at the junction of Princes Road and Lowfield Street; and along Bob Dunn Way at Marsh Street.
- 3.25.** Between March 2018 and May 2019, the Air Quality Station at St Clements was closed whilst improvements were undertaken to the junction by Kent County Council. As a result, it has not been possible to report a full year of data within the 2020 ASR. Following completion of these work to the St Clements junction the analyser had to be repositioned along the edge of the London Road.
- 3.26.** Highways England have now commenced works at the Bean Interchange. As part of this scheme it will be necessary to relocate the Bean Air Quality Monitoring Station from its current location adjacent to Ightham Cottages (which will be removed as part of the scheme) to Hope Cottages on the other side of the carriageway. It is anticipated that whilst this work is undertaken the station will need to be closed for a period.
- 3.27.** Similarly, the Town Centre Air Quality Station is going to be impacted by the works to improve Market Street within the town centre and will need to be removed or relocated.
- 3.28.** When a local authority has declared an Air Quality Management Area it has a statutory duty to produce an AQAP detailing measures aimed to improve air quality.
- 3.29.** The current AQAPs for Dartford were produced in 2001 and 2009. Many of the measures highlighted in the plans have either been carried out, or have been deemed not to be viable following assessment.
- 3.30.** Whilst improvement in levels of air pollution have been seen across the Borough in the last ten years, pollution levels remain high and above air quality objectives at some road side locations. A new air quality action plan is therefore required to set out new measures to seek further improvements.
- 3.31.** The production of an AQAP is a multi-stage piece of work, which requires the use of complex computer modelling that cannot be carried out internally by Officers. The Council has therefore engaged the services of a specialist environmental consultant, Bureau Veritas to produce the AQAP.
- 3.32.** In order to fully understand the problems and causes of local pollution the first stage of this process consists of an air quality review of the current road network including a source apportionment exercise to identify the source of pollution in the local area. This work also includes

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a review of the existing AQMAs to determine if some of them can be reduced or revoked to reflect the improvements that have been seen since they were declared.

- 3.33.** Unfortunately, owing to the Covid-19 Pandemic, this work has not progressed as quickly as was initially intended. However, preliminary discussions with Bureau Veritas have indicated that the Council may be in a position to consider revoking some of the existing Air Quality Management Areas as a result of improvements in air quality. Once we have received the completed analysis from Bureau Veritas we will report on this matter to Cabinet for decision.
- 3.34.** The second stage of this work will be to carry out an appraisal of potential measures to determine the best options for emissions reduction. These options will be assessed using computer modelling (scenario testing) to quantify the reductions of pollution levels associated with their implementation.
- 3.35.** Any viable measures identified through this process will be then be consulted upon. This will allow Members, residents, and other stakeholders, an opportunity to consider the implications of any suggested measures and will allow the Council to determine which actions it will seek to implement.
- 3.36.** Through the engagement process it is hoped that any identified measures will be able to gain political and community buy-in which will lend credibility and impetus to them being carried out.
- 3.37.** As it should be possible to quantify potential improvements in air quality resulting from each measure, the implementation of actions will allow the Council to demonstrate compliance with its legal obligations.
- 3.38.** Once clear measures have been identified, it may be possible to identify additional funding streams to allow them to be implemented (i.e. via DEFRA grants, Government funding or via developer contributions such as CIL).
- 3.39.** In the interim period, before the AQAP is completed, Officers continue to take measures to either improve air quality or ensure that existing levels are not made worse.
- 3.40.** All planning applications within the borough are considered in the context of any air pollution, which may arise from additional traffic movements. Additionally, residents of new developments are protected from exposure to existing poor air quality through the implementation of design measures.
- 3.41.** Although now a member of the London Air Quality Network, the Council continues to work with the Kent Air Quality Partnership and participate in countywide initiatives aimed at reducing pollution. This also includes promoting policy and guidance such as the Partnership's planning Guidance Mitigation document for developers.

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- 3.42.** Officers continue to work with other council departments including planning to promote measures to reduce pollution. The installation of electrical vehicle charging points/ infrastructure by developers is encouraged and Officers have supported the use of Ultra Low Emission Vehicles on the Fast Track route through Ebbsfleet.
- 3.43.** Work has been undertaken with Kent County Council and local bus companies to reduce pollution around schools by preventing vehicle idling. It is anticipated that this work will continue and the scope widened to include education of parents during school pick up times as well as engaging with children to drive changes in behaviour.
- 3.44.** Officers will continue to work with Kent County Council over the formation of an Energy and Low Emissions Strategy. The aim of the strategy is to identify and prioritise action to reduce harmful emissions that contribute to climate change and poor air quality leading to impacts on people's health.
- 3.45.** Officers will continue to engage with KCC and Highways England in relation to major projects such as the Lower Thames Crossing, Ebbsfleet and Bean Interchange junction improvements.
- 3.46.** Finally, Officers in Environmental Health continue to enforce legislation that can have an impact on air quality such as reducing pollution from construction sites and ensuring rules within smoke control areas are complied with, responding to complaints about domestic bonfires and utilising enforcement powers to ensure compliance with legislation.

4. Financial, legal, staffing and other administrative implications and risk assessments

Financial Implications	None
Legal Implications	None
Staffing Implications	None
Administrative Implications	None
Risk Assessment	No uncertainties and/or constraints

5. Details of Exempt Information Category

Not applicable

6. Appendices

A The 2020 Annual Status Report

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BACKGROUND PAPERS

<u>Documents consulted</u>	<u>Date / File Ref</u>	<u>Report Author</u>	<u>Section and Directorate</u>	<u>Exempt Information Category</u>
Air Quality Annual Status Report 2019	July 2019	James Fox	Environmental Health	N
https://www.gov.uk/government/news/new-tool-calculates-nhs-and-social-care-costs-of-air-pollution	August 2020	Public Health England	N/A	N
A282 Tunnel Approach Road Action Plan	September 2002		Environmental Health	N
Dartford Town and Approach Roads, A226 London Road and Bean Interchange Action Plan	2009		Environmental Health	N