

Surrey Heath Borough Council
Performance and Finance Scrutiny Committee
6 March 2024

Local Air Quality Management Update

Strategic Director/Head of Service Cllr Morgan Rise, Net-Zero, Wellbeing & Environment
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Wards Affected: All

Summary and purpose

This report updates Members with information on measured air pollution concentrations across the borough in 2022 and provides an update on the Council's Local Air Quality Management Area work. The report also recommends that the Licensing Committee revoke the Air Quality Management Area (AQMA) and sets out the new duties for Local Authorities with regards to the Environment Act 2021 and the National Air Quality Strategy.

Recommendation

The Committee is advised to RESOLVE:

- (i) The contents of this report be noted together with the 2023 Air Quality Annual Status Report and to note the work that the Council has undertaken under its Local Air Quality Management statutory duties;
- (ii) That the Licensing Committee be advised to revoke the current Air Quality Management Area (AQMA).
- (iii) That the Licensing Committee be advised to agree to the development of an Air Quality Strategy for Surrey Heath.

1. Background and Supporting Information

- 1.1 An Air Quality Annual Status Report (ASR) is produced and submitted to Defra annually as part of the Council's local air quality management responsibilities. Its purpose is to report on measured concentrations of relevant pollutants, compare measured concentrations against the national objectives, and report on actions completed as set out within the air quality action plan. The 2023 ASR may be viewed on the Council's website at https://www.surreyheath.gov.uk/environment/pollution/air-quality#lqd-guides__title.
- 1.2 The 2023 ASR for Surrey Heath has been approved and accepted by Defra.

2. Air Quality Objectives

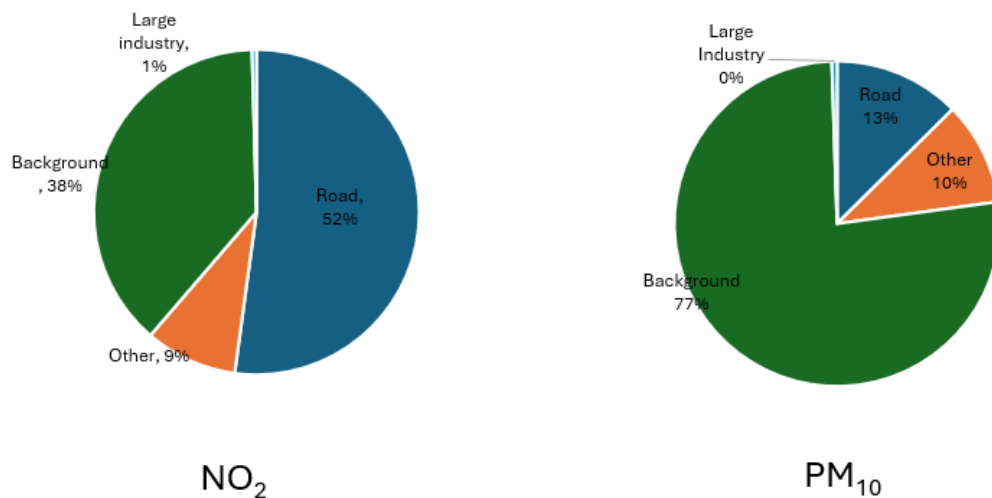
The relevant pollutants and objectives are included in table 1.

Table 1 Air Quality Objectives for nitrogen dioxide (NO₂) and Particulate matter (PM₁₀).

Pollutant	Air Quality Objective	
	Concentration	Measured as
Nitrogen Dioxide (NO ₂)	200 µg/m ³ not to be exceeded more than 18 times a year	1-hour mean
	40 µg/m ³	Annual mean
Particulate Matter (PM ₁₀)	50 µg/m ³ , not to be exceeded more than 35 times a year	24-hour mean
	40 µg/m ³	Annual mean

The main sources of these air quality pollutants are varied, and percentage contributions are indicated in figure 1.

Figure 1: Source apportionment of Air Quality Pollutants for Surrey Heath

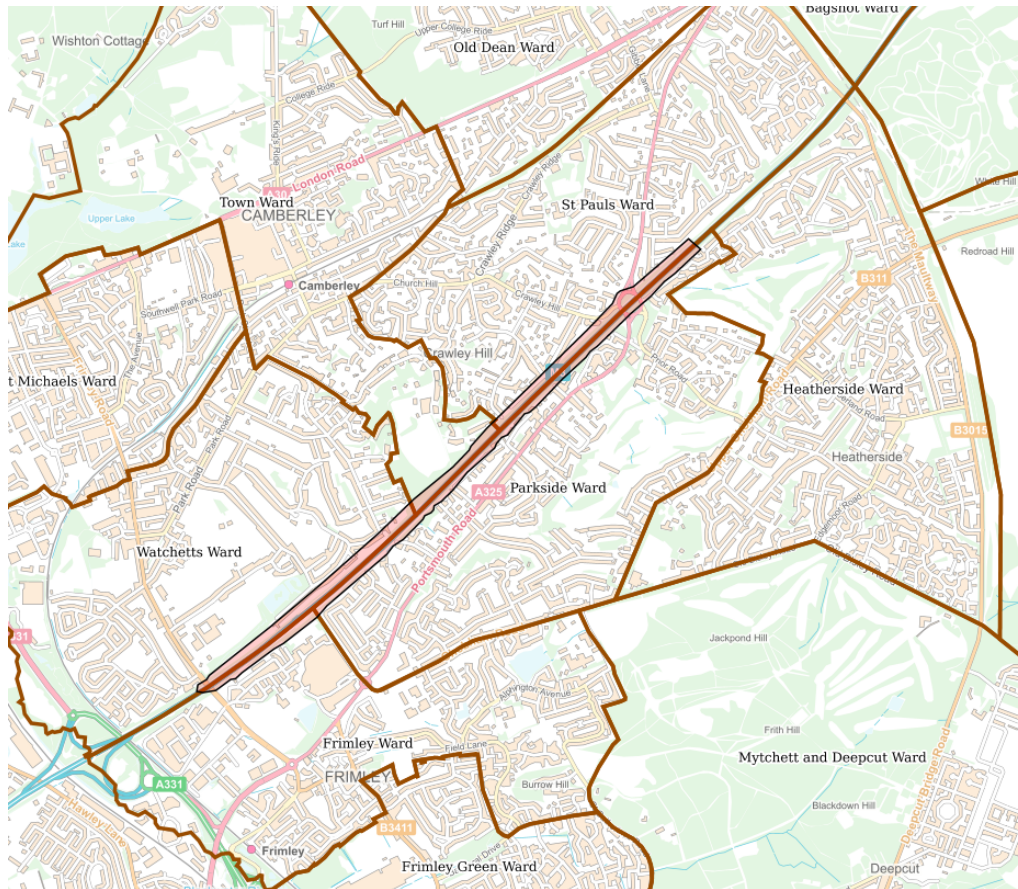


2.1 Air Quality Management Area (AQMA)

2.2 In 2002, measured concentrations of the above pollutants were in excess of the above objectives set out in table 1, therefore the Council designated an area of land adjacent to the M3 motorway as an AQMA.

2.3 The AQMA is identified in figure 2 and is designated as a twenty-metre-wide strip both sides of the edge of the M3 from the Frimley Road flyover to just north of the Ravenswood Roundabout A325. To seek compliance within this area, in 2005 an Air Quality Action Plan (AQAP) was produced.

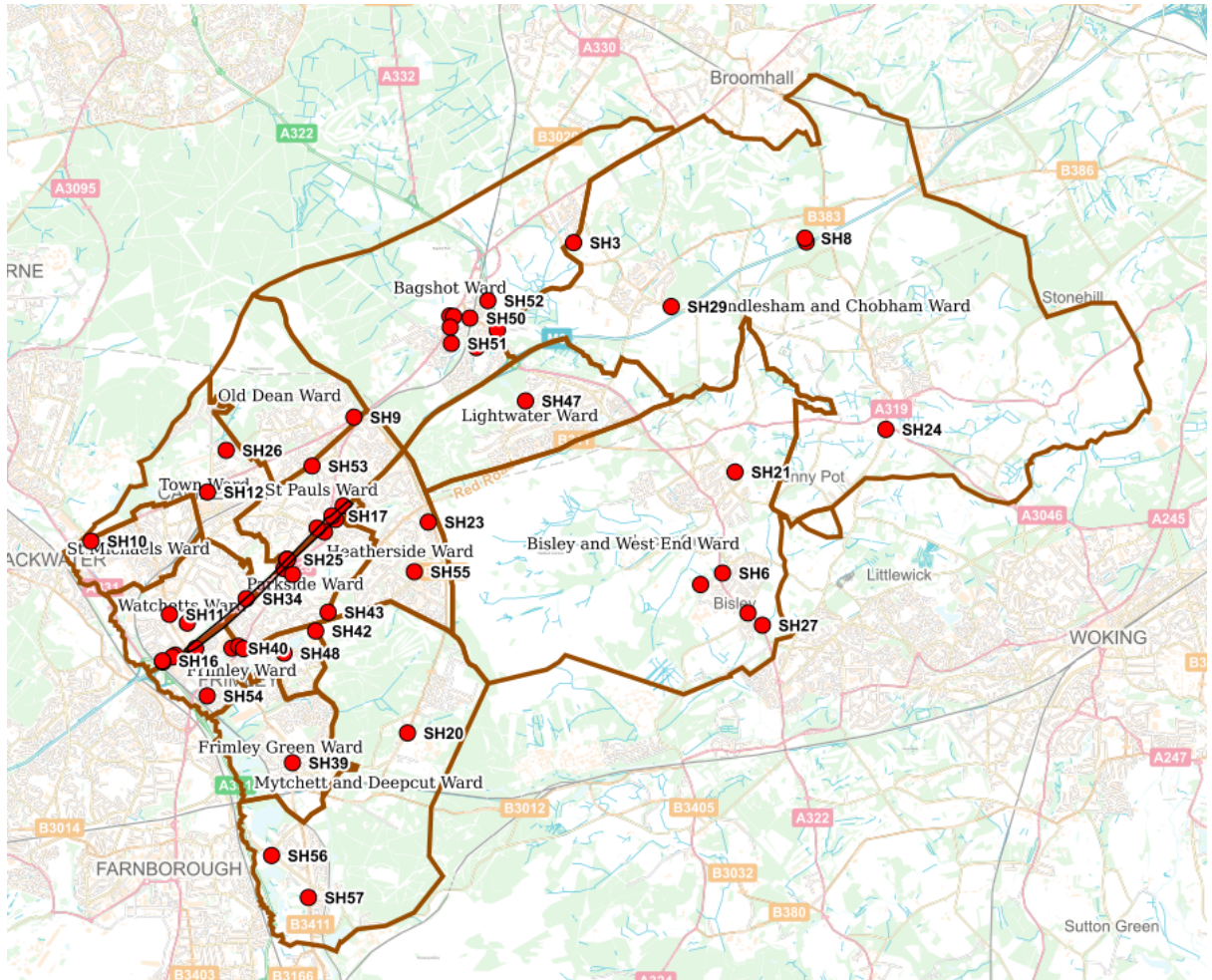
2.4 Figure 2 Extent of Surrey Heaths Air Quality Management Area



3. Air Quality Monitoring in Surrey Heath and analysis of results.

- 3.1 The council's monitoring network consists of 53 diffusion tubes at 51 locations strategically placed across the borough. Diffusion tubes monitor NO₂. Out of the 53 diffusion tubes, 9 are located within the AQMA.
- 3.2 There is one continuous real time monitoring station in the borough at Castle Road, Camberley adjacent to the M3. It provides real time measurements of both NO₂ and PM10 within the AQMA.
- 3.3 The location of the monitoring points is shown in figure 3.

Figure 3 Locations of the air quality monitoring network in Surrey Heath Borough Council.



3.4 The ASR provides a summary of the air quality monitoring results over the past 5 years.

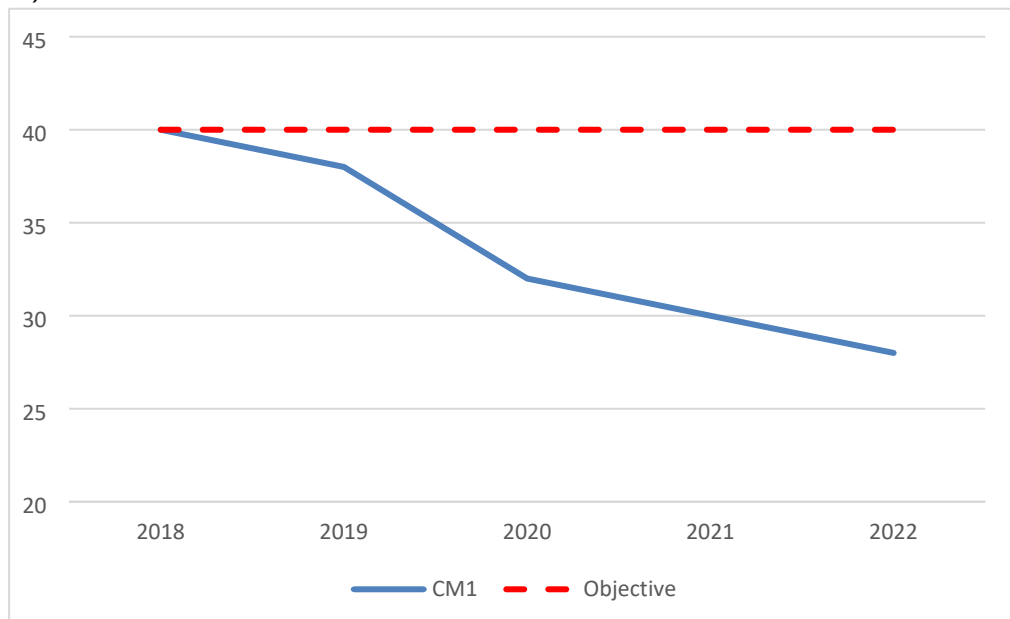
4. Nitrogen Dioxide

4.1 All 51 diffusion tube monitoring locations have continued to measure NO₂ concentrations below the national objective.

4.2 There were no exceedances of the short term hourly mean objective anywhere in the Borough recorded during 2022, which is consistent with previous years' results.

4.3 Figure 4 shows the annual mean NO₂ concentration measured at the continuous monitoring location at Castle Road (CM1). In 2022 an annual mean of 28µg/m³ was recorded. This is a continued reduction in measured concentrations down from 30µg/m³ measured in 2021.

Figure 4 measured annual mean nitrogen dioxide concentration at Castle Road monitoring station (CM1)



- 4.4 The annual mean NO₂ concentration measured at the 51 diffusion tube locations are presented in figures 5 to 8.
- 4.5 In conclusion, there was a marginal increase in measured NO₂ concentrations at 31 of Surrey Heath's diffusion tube monitoring sites, with the remaining 20 diffusion tubes measuring slight reductions in monitored concentrations. The overall trend in measured NO₂ concentrations across most of the monitoring locations continues to remain on a downward trajectory and monitored concentrations are lower than concentration measured pre covid in 2018.
- 4.6 It should be noted that the small increase in NO₂ levels in 2022 is likely to be related to the ending of COVID-19 lockdowns during the year. The Council continues to look closely at the monitoring data as normal traffic levels are restored.

Figure 5 Trends in Annual Mean NO₂ Concentrations – Historic Kerbside and Roadside Locations

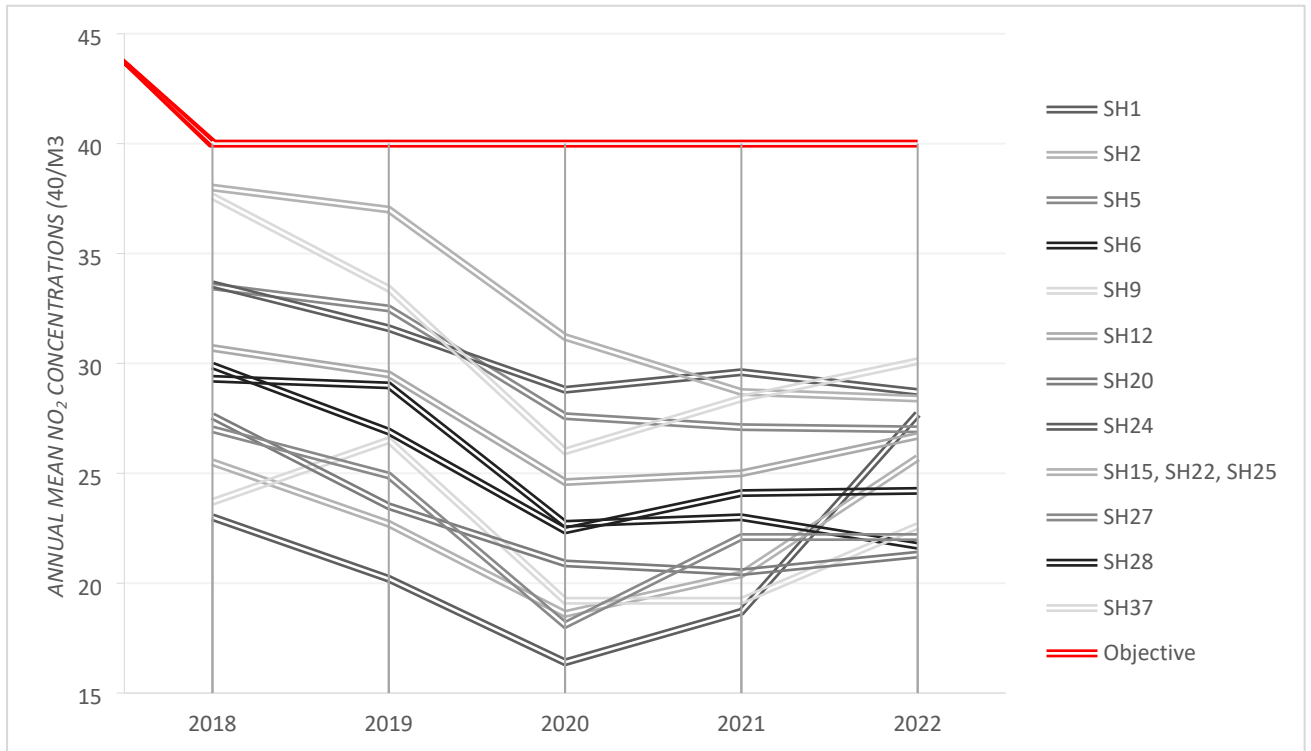


Figure 6 Trends in Annual Mean NO₂ Concentrations – Kerbside and Roadside Locations introduced in 2020

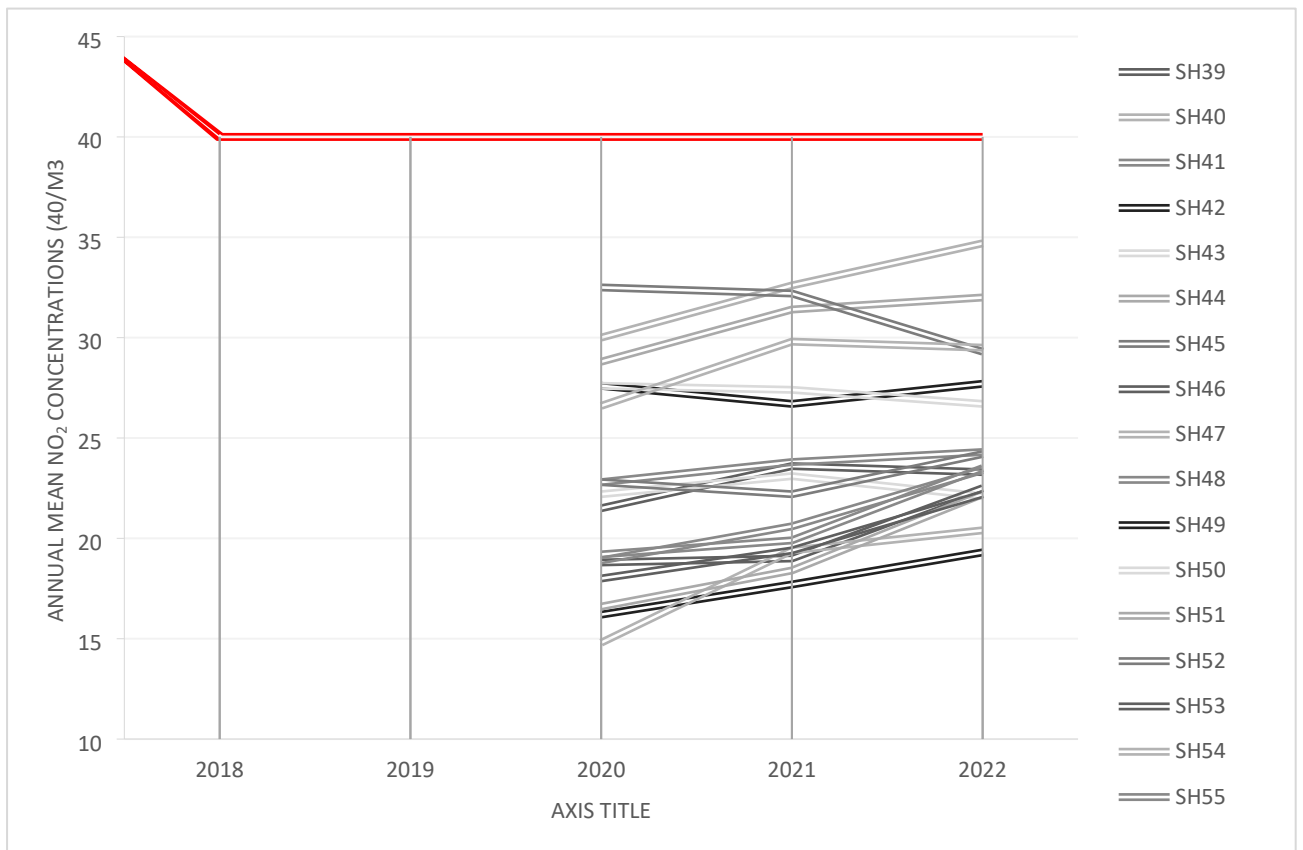


Figure 7 Trends in Annual Mean NO₂ Concentrations – Urban Background and Suburban Locations

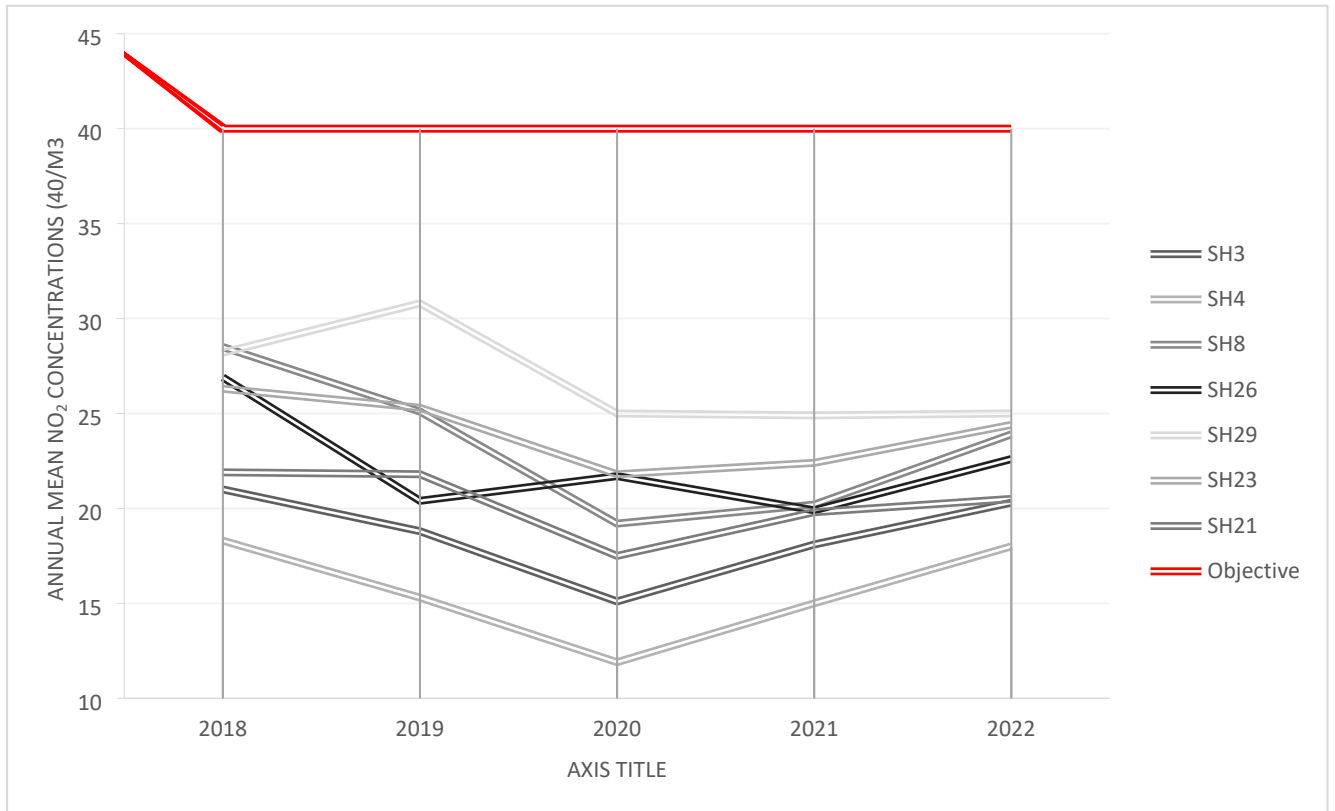
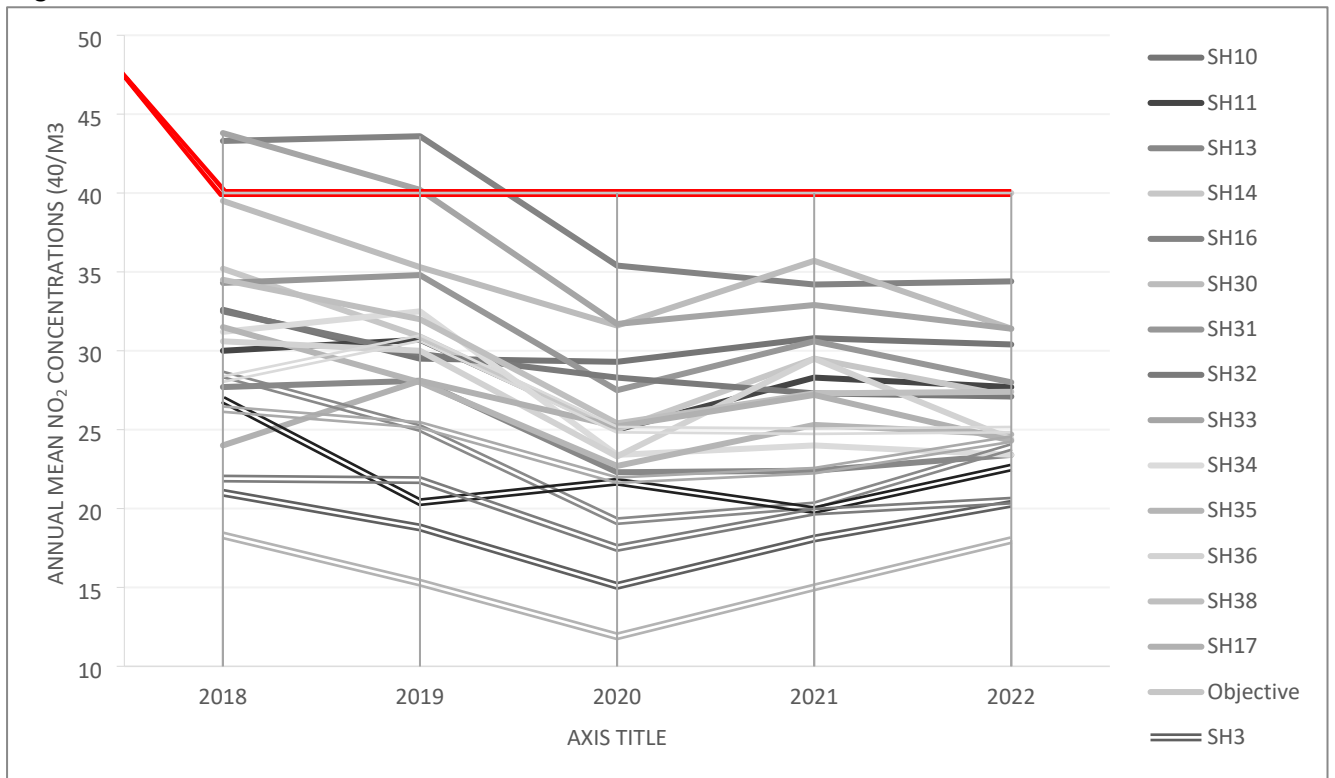


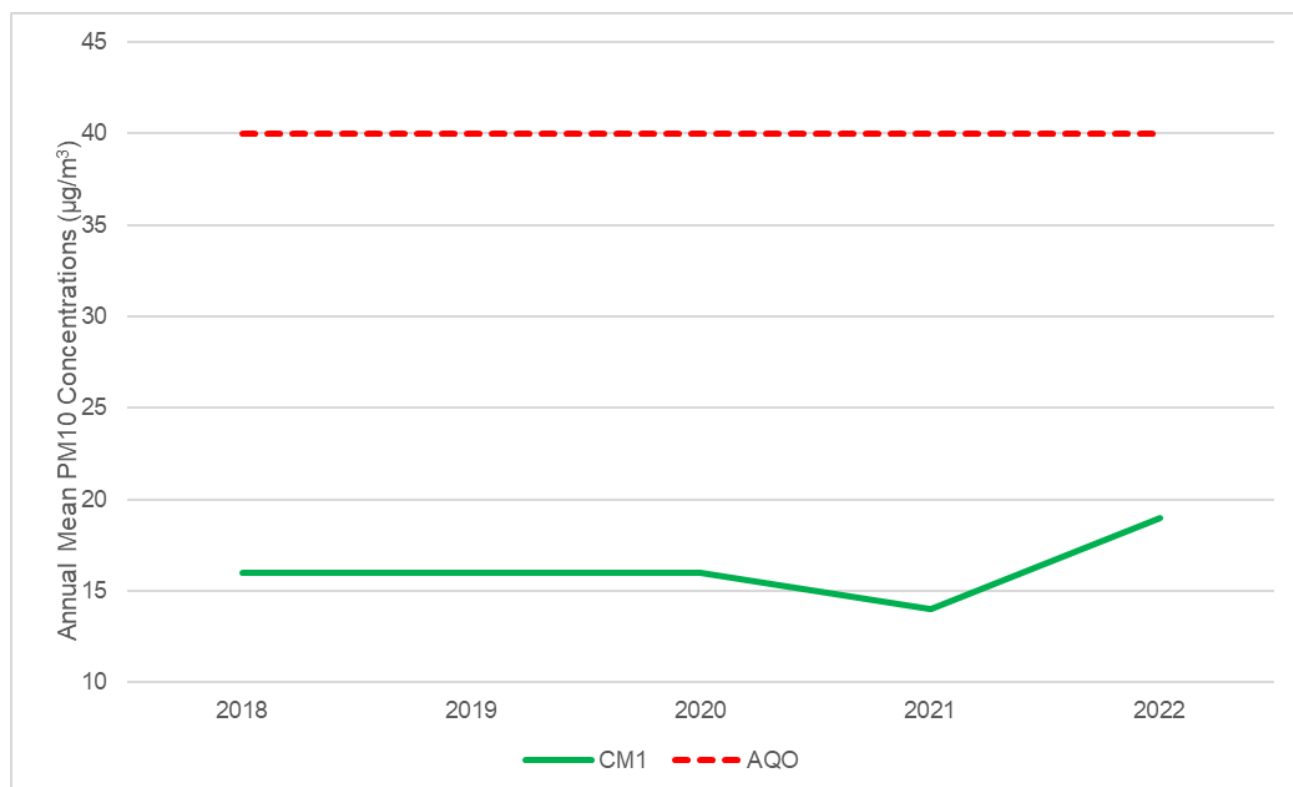
Figure 8 Trends in Annual Mean NO₂ Concentrations – Urban Centre and Other Locations



5. Particulate matter PM10

- 5.1 Analysis of the daily exceedances results determine that short term PM10 concentrations are also well below the corresponding national objective of no more than 35 daily incidences of levels above $50\mu\text{g}/\text{m}^3$ in any one year. Meeting this objective is consistent with past years data.
- 5.2 The annual mean PM10 concentration measured at the continuous monitoring location at Castle Road (CM1) in 2022 was $19.8\mu\text{g}/\text{m}^3$. Measured concentrations have indicated a slight increase up from $14\mu\text{g}/\text{m}^3$ measured in 2021.
- 5.3 It should be noted that the small increase in PM10 levels in 2022 is likely related to the ending of COVID-19 lockdowns during the year. The Council continues to look closely at the monitoring data as normal traffic levels are restored.

Figure 9 Trends in Annual Mean PM₁₀ Concentrations



- 5.4 A full summary of monitoring results for 2022 is available on the Council's website together with real time monitoring which can be accessed by selecting air quality in Surrey Heath where there is also an indication of the health risks associated with the levels. https://www.surreyheath.gov.uk/environment/pollution/air-quality#lgd-guides__title .

6. The Air Quality Management Area Action Plan.

- 6.1 Following the declaration of the AQMA in 2002, the Council were required to prepare an Air Quality Management Area Action Plan (AQAP). The AQAP was adopted in 2005 and set out the measures the Council intended to implement to address air quality issues in the Borough and to meet the UK air quality objectives. The plan identified several considerations and options for National Highways to consider.
- 6.2 Most of the actions identified in the plan have been completed and those outstanding are detailed in Table 2.2 of the ASR. Several National Highways traffic management actions have not been pursued because the good air quality compliance locally meant these were not a priority for them given demands from the rest of the national motorway network.
- 6.3 Where possible the Council has undertaken activities to promote the reduction in traffic pollution levels including promotion of low pollution vehicles and electric vehicle charging infrastructure.
- 6.4 Since the ASR was finalised, the Council has undertaken further work to promote low emission transport, with a project underway to install electric vehicle charging points in Council car parks from August 2023.

7. The A331 Blackwater Valley Road.

- 7.1 The Council continues its work as part of the Blackwater Valley Group with Rushmoor Borough Council to address exceedances of the NO₂ statutory annual mean limit along part of the A331, identified by Defra in 2017 to be contributing to a national exceedance. As a result of the group's work, in May 2019 a temporary 50mph limit was imposed along the stretch of road in both directions between the A325 Farnborough Road and the Coleford Bridge Road junctions. The monitoring network positions on the stretch of road has now indicated that the interventions have achieved a reduction in pollution concentrations, and we are now compliant with the national objectives, meaning that we are now not an area that is contributing to national exceedance of the Air quality national objectives. We are starting early discussions with the project team and Defra to confirm what they require to sanction its removal.

Future Actions

8.1.1 AQMA Revocation

- 8.1.2 Current guidance issued by Defra states that where that national objectives have been met within the AQMA, revocation of the order should be considered following three consecutive years of compliance with the relevant objective as evidenced through monitoring. Where there have been no exceedances for the past five years, local authorities must proceed with plans to revoke the AQMA. Both NO₂ and PM10 are measured continuously at the Castle Road air quality monitoring stations and NO₂ is measured by diffusion tubes at representative locations where people live aside the motorway through the Borough.

- 8.2 Table 2 set out the location of the monitoring within the AQMA. Measurements demonstrate that we have been compliant with the relevant national air quality objectives over the last 5 years.
- 8.3 In accordance with the guidance and as directed by Defra on approval of the 2023 ASR, the Council are now required to revoke the AQMA.

Table 2: Monitoring of NO₂ in µg/m³ within the AQMA.

Location Adjacent to M3	2018	2019	2020	2021	2022
Castle Road Continuous Monitor	40	38	32	30	28
Brackendale Road SH34	31	33	25	24	23
Prior End SH35	31	33	31	25	24
Youlden Drive SH36	30	30	23	30	24
Crawley Hill Camberley SH37	37	33	26	28	30
AQM Castle Road SH15,22 25	38	37	34	29	28
361 Guildford Road, Bisley SH27	27.0	24.9	18.1	22.1	22.1

- 8.4 The Council remains committed to continuing to implement the outstanding actions within the existing AQAP, in pursuit of further improving air quality within the Borough. However, the M3 motorway is out of the control of the Council. We do not foresee any local measures that can be carried out to reduce traffic emission levels on the M3 other than a speed restriction proposal and remain supportive of this should the monitoring data reveal it is necessary.
- 8.5 With revocation of the AQMA the requirement to have an AQAP is removed although will be replaced with an overarching local strategy as required by the Environment Act 2021.

9 Implementation of the Environment Act 2021 and Defra National Air Quality Strategy.

- 9.1 The Government has published a National Air Quality Strategy which sets out a framework for local authorities to deliver local air quality improvements and also to contribute to national long-term air quality goals, including ambitious new targets for fine particulate matter (PM2.5).
- 9.2 Defra have set out 6 key themes that local authorities should have regards to help in the reduction of air pollution.
- Planning reforms helping to deliver on air quality.
 - Building capacity in local councils through training, guidance, and knowledge sharing.

- Reducing emissions from industrial sources through improved enforcement of environmental permits.
- Reducing pollution from domestic burning through smoke control areas and cleaner fuels.
- Raising awareness within local communities of air quality impacts and how to reduce them.
- Boosting active travel and public transport to improve air quality.

Under the Environment Act 2021, Defra have set 2 new legally binding air quality objectives for fine particulate matter PM2.5:

- an annual mean concentration target for PM2.5 of 10µg/m³ across England by 2040
- an average population exposure reduction target of 35% in 2040 compared to a 2018 baseline

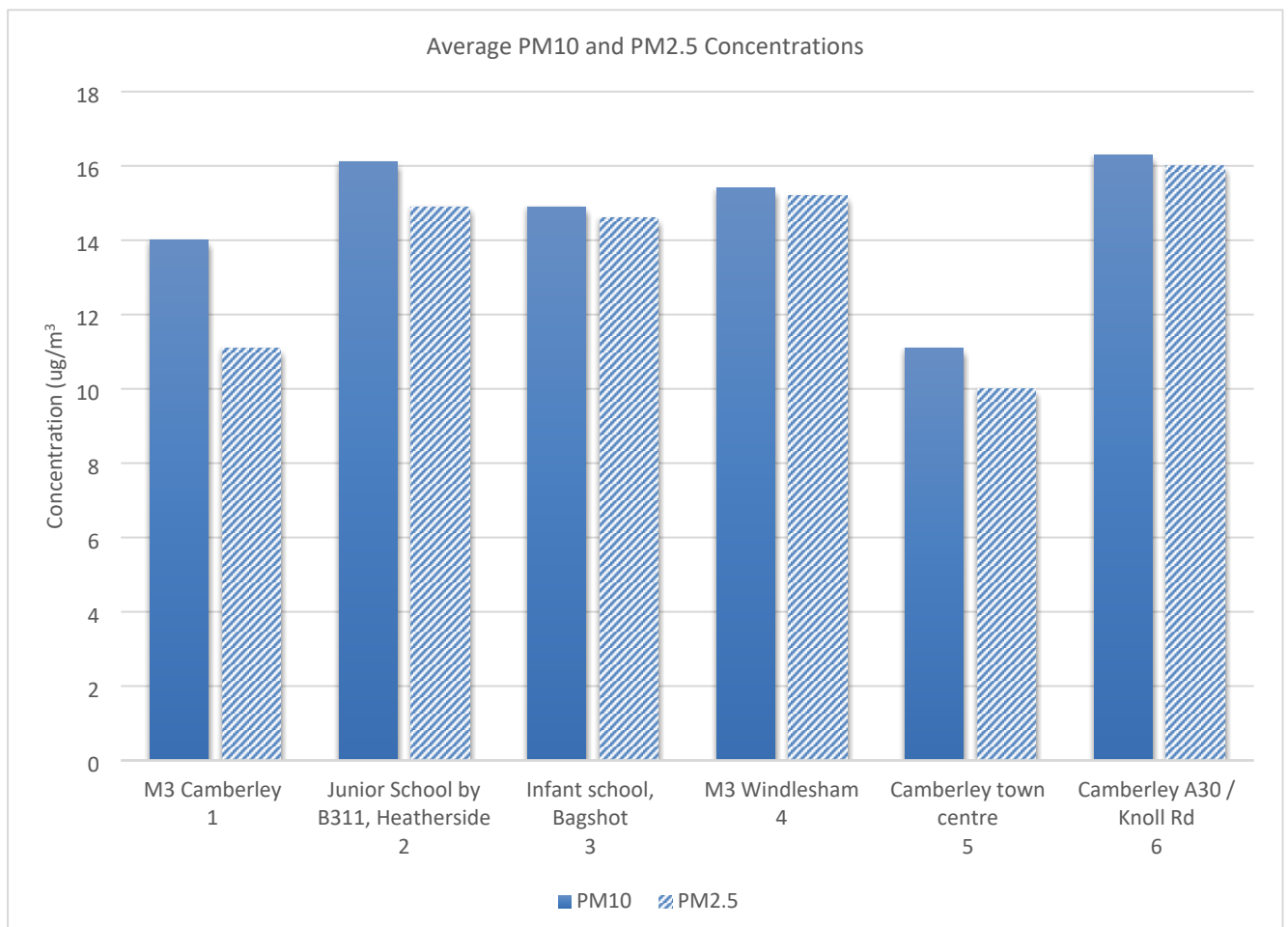
- 9.3 The strategy requires all local authorities to take proactive action to improve air quality, whether or not they have an AQMA. Those without an AQMA must specify the proactive measures they will take by producing a Local Air Quality Strategy which should be informed by their local AQ monitoring and assessments.
- 9.4 To meet Defra requirements, Surrey Heath therefore will be developing a combined climate change and air quality strategy. The scope of the strategy will be developed in partnership with climate change colleagues and supplement the existing climate change action plan to ensure that mutual benefits reducing Carbon dioxide (CO₂) and air pollution are maximised.
- 9.5 In anticipation of the new PM2.5 targets, in 2022 officers submitted and were successfully awarded a grant from Defra, that requested funding to purchase a portable PM2.5/PM10 monitor with supporting packages, and to expand and improve Surrey Heath's air quality webpage to effectively communicate local air quality information to residents.
- 9.6 Since purchasing the monitor, it has been deployed at 6 different locations across the borough, which has provided a valuable indication of current PM2.5 levels for different communities in Surrey Heath. Further information is available in table 3 and figure 10.
- 9.7 We are continuing to seek further locations and work with partners to access different communities, including schools. To facilitate the monitor, it does require access to an external power supply and be in a secure environment to prevent vandalism and theft.
- 9.8 Officers continue to work and liaise with the Surrey Air Alliance members and where appropriate and resources permit, will participate in local air quality projects and initiatives. This, for example, includes Surrey wide air quality modelling, taxi vehicle licensing policy review, the control of sale and burning of domestic solid fuel, and project work with schools.

9.9 Officers will continue to enforce legislation that can have an impact on air quality such as reducing pollution from construction/trade/business sites and responding to complaints about domestic bonfires and smoke.

Table 3: Locations and average concentrations measured by the portable air quality monitor.

No	Location	PM10	PM2.5
1	M3 Camberley	14.0	11.1
2	Junior School by B311, Heatherside	16.1	14.9
3	Infant school, Bagshot	14.9	14.6
4	M3 Windlesham	15.4	15.2
5	Camberley town centre	11.1	10.0
6	Camberley A30 / Knoll Rd	16.3	16.0

Figure 10 Location and average concentrations of measured PM10/PM2.5 measured by the portable monitor.



10 Reasons for Recommendation

- 10.1 The recommendation is that the contents of this report and the findings of the 2023 Air Quality Annual Status Report be noted, together with the work that the Council undertakes under its Local Air Quality Management statutory duties.
- 10.2 As current NO₂ and PM10 levels across the Borough in 2022 met the current health based statutory air quality objectives at places of relevant exposure and as directed by Defra it is recommended that the Air Quality Management Area (AQMA) is revoked and that officers develop a local air quality strategy for Surrey Heath as required under the Environment Act 2021. It is intended to continue with the current level of monitoring as described in the report.

11 Proposal and Alternative Options

- 11.1 As the requirement to carry out the function of local air quality management including monitoring is statutory and as Defra have recommended that the Council to revoke the AQMA in accordance with Government guidance no other option is available.

12 Contribution to the Council's Five-Year Strategy

- 12.1 The Council's local air quality management work is included in the Council's 2024/25 Annual Plan and will contribute to the following aims within the Council's 2022- 2027 Five Year Strategy priorities:
- Environment ENV12 Improve the air quality/air 'inequality'.
 - Health and wellbeing - Support health and wellbeing by promoting and developing initiatives that means residents can lead active and healthy lives.

13 Resource Implications

- 13.1 There are no resource implications at this time. Local air quality management work is funded from existing budgets, with additional Government funding having been successfully sought in the past for specific work in relation to the M3 AQMA and the A331. We were successful in obtaining a grant in 2022, for the purchase of the PM2.5/10 analyser. Additional funding may be required to maintain/replace monitoring equipment that is coming to the end of its serviceable life and to implement the requirements of the Environment Act 2021 although this will be subject to scoping and a further report to Members.

14 Section 151 Officer Comments:

- 14.1 There is no additional s.151 officer comments to add to the information already contained within the report.

15 Legal and Governance Issues

- 15.1 The Council's Local Air Quality Management work is a statutory duty. The Environment Act 1995, as amended by the Environment Act 2021, places a duty on Local Authorities to regularly monitor, assess and take action to improve local air quality under the statutory

process of Local Air Quality Management. This involves comparing the measured or predicted pollutant levels against national air quality standards and objectives prescribed in regulations. The air quality objectives applicable to local air quality management in England are set out in the Air Quality (England) Regulations 2000

- 15.2 Diffusion tubes continue to be supplied and analysed by Lambeth Scientific Services, a NAMAS approved laboratory and readings from the continuous monitor are ratified and adjusted by an external consultant to ensure accuracy of results. Quality assurance details are contained in Appendix C of the ASR 2022.

16 **Monitoring Officer Comments:**

- 16.1 There are no additional monitoring officer comments to add to the information already contained within the report.

17 **Other Considerations and Impacts**

Environment and Climate Change

- 17.1 We are committed to working with climate change colleagues to ensure that when scoping any air quality strategy, the mutual benefits in both reducing CO₂ and air quality pollutants are maximised.
- 17.2 The Councils LAQM work will contribute to Objective 3 of the Climate Change Action Plan;
- 17.3 Work with partners to support initiatives and infrastructure to increase the uptake of walking, cycling and public transport, and low emission vehicles.

Equalities and Human Rights

- 17.4 The work on air quality is of universal benefit to all residents and visitors of the borough regardless of age, sex, race, faith, disability, and sexuality. Improving air quality has benefits especially to those vulnerable members of the community having health problems, the old and the very young who are most affected by poor air quality.

Risk Management

- 17.5 The local air quality function is statutory and to not undertake the role would incur sanctions against the Council from central government.

Community Engagement

- 17.6 The Annual Status Report and real time monitoring from Castle Road is accessible from the Council website.
- 17.7 We have been actively working with relevant community groups, publicising the portable air quality monitor and using our website and Heathscene to raise awareness of pollution issues e.g. Clean Air Day and Clean Air Night campaigns.

Annexes

None

Background Papers

National Air Quality Strategy – <https://www.gov.uk/government/publications/the-air-quality-strategy-for-england>