

## BOROUGH OF KETTERING

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|--------------------------|--|-------------------------------|----------------|
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| <b>Report Originator</b> | Shirley Plenderleith<br>Head of Public Services      | <i>Fwd Plan Ref No:</i>       |                |
| <b>Wards Affected</b>    | All  | 4 <sup>th</sup> February 2020 |                |
| <b>Title</b>             | <b>AIR QUALITY MONITORING AND EV CHARGING POINTS</b> |                               |                |

### 1. PURPOSE OF REPORT

- 1.1 The purpose of this report is to provide an overview of the air quality issues in Kettering Borough Council's administrative area and to update on the progress with electric vehicle charging points.

### 2. INFORMATION

- 2.1 Local authorities in the UK have a statutory duty to manage local air quality under Part IV of the Environment Act 1995. They are required to carry out regular reviews and assessments of air quality in their area against standards and objectives prescribed in regulations for the purpose of local air quality management (LAQM).
- 2.2 Part IV of the Environment Act 1995 places a duty on local authorities to review and assess the air quality within their area in accordance with Government Guidance, Defra Technical Guidance LAQM.TG (16). Local authorities must review air quality locally on an annual basis and report progress against any air quality action plan relating to Air Quality Management Areas (AQMAs) in their district.
- 2.3 The Report identifies if there is a breach of the national Air Quality Objectives (AQOs). If there is a breach, then there is a need to consider further assessment and this may lead to the declaration of an Air Quality Management Area. The national AQOs are set out in table 1 below:

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**Table 1 National Air Quality Objectives**

| Pollutant  | Air Quality Objective  |                     |
|--|--|---------------------|
|  | Concentration  | Measured as         |
| Benzene  | 16.25 µg/m <sup>3</sup>  | Running annual mean |
|  | 5.00 µg/m <sup>3</sup>   | Annual mean         |
| 1,3-Butadiene  | 2.25 µg/m <sup>3</sup>   | Running annual mean |
| Carbon monoxide                                      | 10 mg/m <sup>3</sup>   | Running 8-hour mean |
| Lead   | 0.50 µg/m <sup>3</sup>   | Annual mean         |
|  | 0.25 µg/m <sup>3</sup>   | Annual mean         |
| Nitrogen dioxide                                     | 200 µg/m <sup>3</sup> not to be exceeded more than 18 times a year   | 1-hour mean         |
|  | 40 µg/m <sup>3</sup>   | Annual mean         |
| Particulate Matter (PM <sub>10</sub> ) (gravimetric) | 50 µg/m <sup>3</sup> , not to be exceeded more than 35 times a year  | 24-hour mean        |
|  | 40 µg/m <sup>3</sup>   | Annual mean         |
| Sulphur dioxide                                      | 350 µg/m <sup>3</sup> , not to be exceeded more than 24 times a year | 1-hour mean         |
|  | 125 µg/m <sup>3</sup> , not to be exceeded more than 3 times a year  | 24-hour mean        |
|  | 266 µg/m <sup>3</sup> , not to be exceeded more than 35 times a year | 15-minute mean      |

- 2.4 AQOs are based on the best available medical and scientific understanding of the effect of the specified pollutants on public health (from recommendations by the Expert Panel on Air Quality Standards, The European Union Air Quality Daughter Directive and the World Health Organisation). As scientific research and understanding of the health effects of these pollutants have developed, the Objectives have been progressively refined and strengthened.
- 2.5 The Regulations make it clear that the Air Quality Objectives are in relation to **relevant exposure**, i.e. applicable in locations where people are likely to be regularly present and exposed for the appropriate time period of the Objective. These are defined within the Environment Act 1995 for the annual mean as “all locations where members of the public might be regularly exposed, e.g. building facades of residential properties, schools, hospitals, libraries etc.”. For the one-hour Objectives it also includes kerbside sites (e.g. pavements of busy shopping streets) and outdoor locations to which the public might reasonably expect to spend one hour or longer.
- 2.6 Determining where monitoring takes place is dependent on several considerations as specified in national guidance Local Air Quality Management Technical Guidance TG16. This is summarised below.
- A. Road Traffic Sources
- *Narrow congested streets with residential properties close to the kerb;*
  - *Busy streets where people may spend one hour or more close to traffic;*
  - *Roads with a high flow of buses and/or HGVs;*

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- *Busy junctions with receptors within 10 metres of the kerb;*
- *New roads constructed since the last Updating and Screening Assessment;*
- *Roads with significantly changed traffic flows; and*
- *Bus or coach stations*

- B. Other transport sources such as airports or shipping ports.
- C. Industrial sources such as new or proposed installations, substantially increased emissions or petrol stations.
- D. Commercial and domestic sources such as biomass combustion.
- E. New developments with fugitive or uncontrolled sources such as new landfills or quarries.

2.7 All locations are kept under regular review. The Council is in the process of engaging air quality experts to review existing sites.

2.8 Over the last three years the number of monitoring sites have been increased across the Borough as the table below shows.

|                           | 2017 | 2018 | 2019 |
|---------------------------|------|------|------|
| Number of diffusion tubes | 9    | 17   | 38   |

### **2019 Annual Status Report (ASR) and data collection**

2.9 The current ASR reviews the data captured for the calendar year 2018. It incorporates the data collected from diffusion tubes located at monitoring sites across the Borough. In 2018, nitrogen dioxide was measured at 17 locations across the Borough, using diffusion tubes.

2.10 The diffusion tubes are collected and replaced every four to five weeks by officers from the Environmental Protection (EP) Team. The schedule for collection is set annually by DEFRA.

2.11 Once collected, the diffusion tubes are sent for analysis with the laboratory emailing the results to officers. The EP team collate this information following the return of the results from the laboratory. There is a short delay in collection and submission of data before results are available, for example usually the results of the diffusion tubes for December are not received until during February.

2.12 The Council then must wait for DEFRA to publish the national bias adjustment factor to enable the data from the diffusion tubes to be finalised. All local authorities are required to use this adjustment factor. This may not be received by the Council until part way into the year. So, for example for the 2018 data the adjustment formula was received in May 2019.

2.13 Once in receipt of the formula, the ASR then needs to be completed and submitted to DEFRA by the end of June.

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2.14 DEFRA then provide comments to the Council on the report usually around August to September. Officers can respond to these comments and if deemed necessary revisions to the ASR are made by agreement.

2.15 Within the Borough there is only one pollutant, nitrogen dioxide, that presents anywhere near the national objective level. The two areas that have the highest nitrogen dioxide levels are the London Road/St Mary's Road junction in Kettering and Bridge Street in Rothwell.

|  | 2017<br>Diffusion<br>Tube | 2017<br>Nearest<br>Relevant<br>Receptor | 2018<br>Diffusion<br>Tube | 2018<br>Nearest<br>Relevant<br>Receptor | Difference<br>between 2017 and<br>2018 at Relevant<br>Receptor |
|--|---------------------------|---|---------------------------|---|--|
| London<br>Rd/St<br>Mary's Rd<br>junction | 40.2                      | 37.4                                    | 39.5                      | 35.7                                    | <b>-0.6</b>  |
| Bridge<br>Street<br>Rothwell             | 38.5                      | 36.9                                    | 34.8                      | 33.4                                    | <b>-3.5</b>  |

2.16 In 2017, the first year of monitoring at the London Rd/St Mary's Rd junction, the nitrogen dioxide (NO<sub>2</sub>) level at the nearest relevant receptor to this junction was 37.4 mg/m<sup>3</sup>. The national air quality objective for NO<sub>2</sub> is 40mg/m<sup>3</sup>.

2.17 In 2017, the first year of monitoring at the London Rd/St Mary's Rd junction, the nitrogen dioxide (NO<sub>2</sub>) level at the nearest relevant receptor to this junction was 37.4 mg/m<sup>3</sup>. The national air quality objective for NO<sub>2</sub> is 40mg/m<sup>3</sup>.

2.18 The 2018 results for nitrogen dioxide (NO<sub>2</sub>) level at the nearest relevant receptor to this junction are 35.7 mg/m<sup>3</sup>. This is a reduction of 1.7 mg/m<sup>3</sup>.

2.19 The Bridge Street junction in Rothwell town showed NO<sub>2</sub> levels at the nearest relevant receptor for 2017 at 36.9 mg/m<sup>3</sup> and the 2018 figure is 33.4 mg/m<sup>3</sup>, a reduction of 3.5 mg/m<sup>3</sup>.

2.20 Further monitoring is taking place in 2019 to provide additional data to decide on the appropriate future steps for these areas.

2.21 The Council's ASR (**Appendix A**) has been assessed by DEFRA and they have commented that they are satisfied with the report, its contents, and the ongoing monitoring and review of the two highest areas of NO<sub>2</sub>.

### **Actions to Improve Air Quality**

2.22 The Council has been working with Northamptonshire County Council Highways officers to produce a traffic and air quality model for the junction in order to identify the effectiveness of potential traffic management options. This is being funded through Section 106 monies. The report shows that the proposed work is likely

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only to have an imperceptible effect on air quality but that the improvement for traffic flow makes these works worthwhile on Highways grounds.

2.23 In addition to encourage residents and visitors to assist us in our aim to improve air quality and respond to climate change concerns the Council have secured funding from the Office of Low Emission Vehicles (OLEV) to install electric vehicle (EV) charging points in a number of Council car parks; London Road, Commercial Road, School Lane and potentially Churchill Way in Burton Latimer. The funding provides 75% of the cost with the other 25% being provided through Section 106 monies.

2.24 The tender exercise for the procurement of charging infrastructure has been completed with a successful bidder being identified. Officers are in the final stages of completing the contract with the successful bidder and are on track for installation by the end of this financial year.

2.25 The Council have also been engaging in the County Council's VPACH project that is looking at on street charging points. The Council have been forwarding suitable sites within our area to the County Council. Further decisions are still to be made on which sites may receive any funding.

### **3. CONSULTATION AND CUSTOMER IMPACT**

3.1 Should we need to declare an AQMA at any point into the future, before doing so there would need to be a consultation process. It would include residents, businesses and interested parties in the area concerned, and the Council's partners such as the County Council transport, planning and public health teams. Similarly, any AQAP would also be subject to consultation.

### **4. POLICY AND RESOURCE IMPLICATIONS**

4.1 The need to reduce air pollution and improve health falls under the Council's obligations under the Public Health Indicator Framework (PHOF), as well as the primary legislation outlined above. The monitoring and modelling work being undertaken will help to ensure that traffic management is effective and pollution levels are not worsened by changes made. Any improvements to air pollution will also improve health.

4.2 The motion passed by Council relating to Climate Change is relevant as many of the actions proposed will help to address climate change and air quality.

4.3 Traffic management also supports other mitigation options such as the provision of electric vehicle charging points in the Borough to reduce dependency on fossil fuel cars.

4.4 The additional monitoring and modelling for the London Road/St Mary's Road junction is being funded from existing budgets and Section 106 monies.

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- 4.5 The EV charging points are being 75% funded by OLEV with the remaining 25% coming from Section 106 monies.

### 5. LEGAL AND EQUALITY IMPLICATIONS

- 5.1 We are legally required to declare an AQMA if air quality objective levels are exceeded or are likely to be.

### 6. CLIMATE CHANGE IMPLICATIONS

- 6.1 Actions undertaken to improve air quality are likely to have a positive impact on climate change.

### 7. RECOMMENDATION

The Committee is asked to:

- 7.1 Review the information provided in this report and support the approach being undertaken with regards to the ongoing monitoring of air quality.
- 7.2 To note the work undertaken to implement electric vehicle charging points within several public car parks.

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Background Papers:  
2019 Air Quality Annual Status Report  
Local Air Quality Management Technical Guidance TG16  
2019 DEFRA ASR Appraisal Response