

LEISURE, ENVIRONMENT AND COMMUNITY COMMITTEE
15 JANUARY 2019

PART I

6. RESPONSE TO RECEIPT OF A PETITION WITH REGARD TO AIR QUALITY MONITORING IN MAPLE CROSS (DCES)

1 Summary

1.1 A petition with over 100 signatures has been received with regard to installing an Air Quality Monitor in Maple Cross.

1.2 This report responds to the petition and details the options available for monitoring air quality in Maple Cross.

2 Details

2.1 A petition with over 100 signatures has been received with regard to installing an Air Quality Monitor in Maple Cross.

2.2 The petition states the following:

'What is the Air Quality in the local area? No one knows! Therefore we, the undersigned, want TRDC to install a full Air Quality Monitor immediately!

The traffic in all forms: HGV's and LGV's, has steadily increased in our area, it is the biggest cause of pollution. HS2's ongoing works have caused significant levels of dust. Maple Cross residents deserve to know what they are inhaling.'

We therefore demand the immediate installation of an all-encompassing Air Quality Monitoring system in Maple Cross.'

2.3 In keeping with other Local Authorities, TRDC are legally obliged to monitor air quality in the whole of the District and to review and report the data annually to DEFRA. Annual status reports (ASRs) are undertaken by specialist officers to consider all monitored data, existing AQMAs, and any changes in the District since the last ASR such as new developments, infrastructure proposals, and polluting industry that could have an impact on air quality. Once DEFRA have formally agreed the returns the information is publically available.

2.4 The Air Quality Objectives in England require TRDC to consider nitrogen dioxide, particulates, and sulphur dioxide. Sulphur dioxide is normally associated with heavy industry such as electricity generation, there are no known significant local sources of SO₂ and therefore this is not monitored by TRDC. The main source of local pollution in TRDC is from vehicles, both nitrogen dioxide and particulates are released from vehicle sources. Estimated Background Air Pollution Maps for particulates (base year 2015), downloaded from <https://uk-air.defra.gov.uk/data/laqm-background-home> show that the estimated PM₁₀ and PM_{2.5} concentrations within TRDC are significantly below (less than half) the PM₁₀ objective level (40ug/m³) and PM_{2.5} target level (25ug/m³). TRDC therefore focus resources on nitrogen dioxide where exceedances are more likely.

2.5 TRDC currently monitor Nitrogen Dioxide (NO₂) by diffusion tubes. The nearest diffusion tubes to Maple Lodge are at Long Lane/A412, Rickmansworth. The tube

locations have been historically identified and sited in areas where it is most likely that the air quality objectives could be exceeded, Officers also need to consider relevant receptors i.e. dwellings, schools, care homes. Officers would normally decide the locations based on the annual monitoring and data such as traffic counts and queuing data. There is also monitoring at a limited number of locations where there is limited pollution to provide background measurements.

- 2.6 The diffusion tubes at Long Lane were first deployed in 2017. There have been no exceedances of the air quality objective for NO₂.
- 2.7 If there is no history of high traffic volumes and long queues of vehicles, or significant changes since the last review the Council would not normally consider this locality high risk and therefore not monitor at these locations. There has been no evidence in previous studies of any relevant exceedances of air quality in Maple Cross.
- 2.8 HS2 have equipment installed in the area to monitor dust in TRDC. They have 3 monitors, the nearest to Maple Cross is installed opposite the junction of Sunnyhill Road and Chalfont Lane.

3 Options and Reasons for Recommendations

- 3.1 Initially, the lead petitioner should be written to and asked for further details of their concerns. They have referred to increased traffic in the locality but have not provided any specific evidence or detailed the pollution they are specifically concerned about. Officers need to fully understand the concerns raised.
- 3.2 On receipt of this information, which it is assumed will continue to refer to a general increase in traffic movements in the locality, there are four options available to Members:
- 3.3 **Option 1:** Do nothing. TRDC are legally obliged to monitor air quality in the whole of Three Rivers and this is undertaken via monitoring equipment installed in specific locations across the District. The data from this monitoring equipment is analysed in conjunction with other data such as background data and traffic modelling. There is no evidence of a specific concern in Maple Cross and as such no monitoring equipment is installed in the vicinity and no evidence of a need to do so has been shown.
- 3.4 Any further options would incur a cost and could set a precedent for other locations where there is no evidence of the exceedance of AQ objectives. However, there are other options detailed below:
- 3.5 **Option 2:** Nitrogen dioxide levels are monitored by diffusion tubes. A number of diffusion tubes are located in specific locations in the District where evidence has suggested nitrogen dioxide should be monitored. These are sited in close proximity to relevant receptors. These diffusion tubes do not measure particulates but nitrogen dioxide is a good indicator of vehicle pollution from traffic sources.
- 3.6 Diffusion tubes cost around £5 per month each. They are generally sited singularly or in triplicate. They would need to be sited in an agreed location (to be considered and agreed with the appropriate specialists at WBC having regard to the receptors in the locality) and left in situ for 12 months before any formal reporting.
- 3.7 There would be additional but minimal costs associated with the collection of data.

- 3.8 If Members chose to purchase new diffusion tubes for monitoring nitrogen dioxide levels in Maple Cross Officers would recommend 3 tubes at each location. This would cost £180 per location for 12 months monitoring.
- 3.9 Only nitrogen dioxide is measured by this type of monitoring. The AQ objectives are based on long term exposure so Officers would not normally consider the measurement of dust from construction under this regime, this would be covered by either planning conditions or using nuisance based legislation such as the EPA 1990.
- 3.10 **Option 3:** An external specialist company could be employed to undertake a desk top review and modelling exercise; this would provide an estimate for PM2.5, PM10 and NO2. This exercise would then provide TRDC with data that could then be used to establish if further monitoring is required, or confirm that no AQ objectives are likely to be exceeded. This modelling would consider data such as traffic conditions, met data, local diffusion tube data and background mapping.
- 3.11 A specialist company, who have previously collated air quality data for TRDC and continue to do so, have been approached and have suggested a desk top exercise would cost in the region of £2-3k.
- 3.12 If an issue is identified then a specialist company can design the continuous monitoring system requirements. There would be a cost associated with the further work and monitoring, this is currently unknown.
- 3.13 **Option 4:** The only way all particulates can be measured accurately is by the installation of continuous monitoring equipment. This would not be recommended until there is evidence of exceedances of air quality objectives in the locality. It should also be noted that this type of equipment is static and only monitors one location.
- 3.14 A continuous monitoring station would, at a minimum, require the following:
- Monitoring units for nitrogen dioxide and particulates
 - Solid concrete foundation
 - Metal equipment casing
 - Air conditioning unit
- 3.15 There would be additional revenue costs arising from an electrical supply (to be sourced), maintenance and data management collection.
- 3.16 Early estimates suggest a continuous monitoring station would cost in excess of £40,000.

4 Policy/Budget Reference and Implications

- 4.1 The recommendations in this report are within the Council's agreed policy and budgets. However, if Members chose to proceed with alternative options, specifically options 3 and 4 these would either be outside agreed policy and budget or would have the capacity to be so if the desk top study made recommendations for further monitoring. A further report to P&R requesting a growth bid would need to be prepared.

5 Equal Opportunities, Community Safety, Customer Services Centre, Communications & Website and Health & Safety Implications

5.1 None specific

6 Environmental and Public Health

6.1 TRDC are legally obliged to monitor air quality in the whole of the District and to review and report the data annually to DEFRA. There is currently no evidence of any exceedances of air quality objectives in Maple Cross.

7 Staffing

7.1 The TRDC EH service is provided by Watford BC and air quality monitoring is one of their responsibilities. WBC Officers and the TRDC Heads of Regulatory Services would lead on any proposals to monitor air quality. However, additional and/or external support may be required with associated costs if any agreed works go beyond the existing service delegation.

8 Financial Implications

8.1 Air quality monitoring is already undertaken by WBC on behalf of TRDC and reported annually as legally required. A number of options are proposed which all have different financial implications.

8.2 Options 1 and 2 are all within existing budgets. However, it should be noted that if air quality monitoring shows evidence of any exceedances then further reporting and monitoring maybe required. The cost of this is not known at this time.

8.3 Option 3 proposing commissioning of a desk top study would be within existing budgets at a cost of approximately £3k. However, if this study suggested further works these may be outside budget.

8.4 Option 4, at an initial estimated cost of £40k, is outside budget.

9 Legal Implications

9.1 TRDC are legally obliged to monitor air quality in the whole of the District and to review and report the data annually to DEFRA. This work is ongoing.

10 Equal Opportunities Implications

10.1 Relevance Test

Has a relevance test been completed for Equality Impact?	No
Did the relevance test conclude a full impact assessment was required?	N/A

11 Risk and Health & Safety Implications

11.1 The Council has agreed its risk management strategy which can be found on the website at <http://www.threerivers.gov.uk>. In addition, the risks of the proposals in the report have also been assessed against the Council's duties under Health and Safety

legislation relating to employees, visitors and persons affected by our operations. The risk management implications of this report are detailed below.

- 11.2 The subject of this report is covered by the Regulatory Services service plan. Any risks resulting from this report will be included in the risk register and, if necessary, managed within this/these plan(s).

Nature of Risk	Consequence	Suggested Control Measures	Response <i>(tolerate, treat, terminate, transfer)</i>	Risk Rating <i>(combination of likelihood and impact)</i>
Option 1: Third party evidence is provided of exceedance of AQ objectives	Further monitoring by the Council would need to occur to determine next steps	No current evidence exists	Treat – continue to consider the area as part of the ASR.	4-8
Pursuing other options could result in further demand for air quality monitoring in other parts of the District	Further demands received for monitoring air quality in the District with subsequent increase in resource	No current evidence exists of exceedance of AQ objectives	Treat – continue to consider all the District through the ASR	8-12
Option 2: Only Nitrogen Dioxide levels measured	Evidence provided of exceedance of other particulate levels	No current evidence exists If evidence provided Council would need to introduce monitoring	Treat – continue to consider the area as part of the ASR	4-8
Options 2, 3 & 4 Additional monitoring and action required	Additional resource associated with		Treat - respond to any evidence of exceedances	9-12

	monitoring and future actions		of AQ objectives as appropriate	
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11.3 The above risks are scored using the matrix below. The Council has determined its aversion to risk and is prepared to tolerate risks where the combination of impact and likelihood scores 6 or less.

Very Likely ----- Likelihood ----- ▼ Remote	Low	High	Very High	Very High
	4	8	12	16
	Low	Medium	High	Very High
	3	6	9	12
	Low	Low	Medium	High
2	4	6	8	
Low	Low	Low	Low	
1	2	3	4	
Impact				
Low -----▶ Unacceptable				

Impact Score

4 (Catastrophic)

3 (Critical)

2 (Significant)

1 (Marginal)

Likelihood Score

4 (Very Likely (≥80%))

3 (Likely (21-79%))

2 (Unlikely (6-20%))

1 (Remote (≤5%))

11.4 In the officers' opinion none of the new risks above, were they to come about, would seriously prejudice the achievement of the Strategic Plan and are therefore operational risks. The effectiveness of the management of operational risks is reviewed by the Audit Committee annually.

12 Recommendation

12.1 That it is resolved:

- 1) A response is sent to the Lead Petitioner requesting additional information and any supporting evidence and this evidence is reviewed by appropriate specialist Officers

And the decision is delegated to the DCES in consultation with the Lead Member to consider the Officer review of any evidence and agree an option detailed in this report or alternative actions which the local authority has powers to act such as the investigation of dust under the statutory nuisance or planning regimes.

- 2) If following the review of any additional information and evidence it is resolved to pursue Option 2, 3 or 4 then a report be bought back to this Committee for a final decision and a growth bid be submitted if required.

Data Quality

Data sources:

Annual Status Report 2018 / 19

Data checked by:

Nick Egerton, Environmental Health Officer WBC (EH service provider)

Data rating:

1	Poor	
2	Sufficient	x
3	High	

Background Papers