AIR QUALITY MONITORING NETWORK TASK GROUP – 2 AUGUST 2011

A meeting of the Air Quality Monitoring Network Task Group will be held at 5.30 pm on Tuesday 2 August 2011 in Committee Room 1 at the Town Hall, Rugby.

Councillor Ms Robbins
Chairman

A G E N D A

PART 1 – PUBLIC BUSINESS

1. Minutes – to approve the minutes of the meeting held on 13 July 2011.
2. Apologies - to receive apologies for absence from the meeting.
3. Declarations of Interest.

To receive declarations of –

(a) personal interests as defined by the Council’s Code of Conduct for Councillors;

(b) prejudicial interests as defined by the Council’s Code of Conduct for Councillors; and

(c) notice under Section 106 Local Government Finance Act 1992 – non-payment of Community Charge or Council Tax.

Note: Members are reminded that they should declare the existence and nature of their personal interests at the commencement of the meeting (or as soon as the interest becomes apparent). If that interest is a prejudicial interest, the Member must withdraw from the room unless one of the exceptions applies.

Membership of Warwickshire County Council or any Parish Council is classed as a personal interest under the Code of Conduct. A Member does not need to declare this interest unless the Member chooses to speak on a matter relating to their membership. If the Member does not wish to speak on the matter, the Member may still vote on the matter without making a declaration.
   To consider Defra’s comments on the Council’s statutory report and any implications for the review.

   To consider additional evidence regarding details of air quality monitoring contracts, servicing arrangements and equipment levels at other local authorities, and a cost-benefit analysis of some of the options available to the Council for air quality monitoring in the future.

   Task Group to agree its recommendations based on the evidence received and the options outlined in the briefing paper.

7. Planning for final meeting.
   Wednesday 24 August – confirmation of final report and review recommendations.

Any additional papers for this meeting can be accessed here via the website.

Membership of the Task Group: -

Councillors Butlin, Cranham, Mistry, Mrs New, Ms Robbins, Sandison and Mrs Watson

If you have any general queries with regard to this agenda please contact Linn Enticott, Democratic and Scrutiny Services Officer (01788 533523 or e-mail linn.enticott@rugby.gov.uk). Any specific queries concerning reports should be directed to the listed contact officer.

If you wish to attend the meeting and have any special requirements for access please contact the Democratic and Scrutiny Services Officer named above.
### AGENDA MANAGEMENT SHEET

**Name of Meeting**  
Air Quality Monitoring Network Task Group

**Date of Meeting**  
2 August 2011

**Report Title**  
Air Quality Monitoring Network – Briefing Paper 3

**Ward Relevance**  
All

**Contact Officer**  
Debbie Dawson, Tel: 01788 533592

**Summary**  
This briefing paper summarises the key findings from the review, presents additional evidence and outlines some options for the future of air quality monitoring in Rugby to inform the task group’s recommendations.

**Financial Implications**  
The task group is concerned with making value for money recommendations regarding the future air quality monitoring requirements for the borough.

**Risk Management Implications**  
The Council has a legal duty to review and assess air quality, and if an air quality management area is declared, to produce an action plan to manage air quality.

**Environmental Implications**  
Effective air quality management should result in actions that reduce the levels of air pollution in the borough. However, as the main pollution source is traffic, the Council has little control over traffic management.

**Legal Implications**  
The Council’s legal duties regarding the management and monitoring of air quality were detailed in the introductory briefing paper received by the committee.

**Equality and Diversity**  
No new or existing policy or procedure has been recommended.
Summary

This briefing paper summarises the key findings from the review, presents additional evidence and outlines some options for the future of air quality monitoring in Rugby, to inform the task group’s recommendations.

1. INTRODUCTION

This paper presents the key findings from the review, along with the additional evidence that was requested by members regarding details of air quality monitoring contracts, servicing arrangements and equipment levels at other local authorities where this has been made available.

The paper also aims to support the task group in developing its recommendations by identifying the key decisions to be made and offering a cost-benefit analysis of some of the options available to the Council for air quality monitoring in the future.

2. REVIEW FINDINGS

At the first meeting of the task group officers presented detailed background information regarding air quality monitoring in the borough and the legal framework surrounding air quality monitoring. At the second meeting the task group considered additional evidence they had requested, including:

- Data regarding traffic flows in the borough and overall traffic levels, including future predictions, and how this correlates with trends in air quality
- Comparative information from neighbouring local authorities regarding what monitoring equipment they use and what data they collect
- Results of the public consultation on the last Detailed and Further Assessment (Sep 2010)
- Written submission from Warwickshire County Council Transport Planning.

For ease of reference, a summary of the key findings of the review to date is presented below.
2.1 Legislative requirements

The Council has a legal obligation under the Environment Act 1995 to conduct local air quality assessments and to designate an Air Quality Management Area where there is a likelihood that national or international air quality objectives may be exceeded. The air quality standards set by Government are health-based.

There are seven pollutants covered by Local Air Quality Management Regulations in England:

- Benzene
- 1,3-Butadiene
- Carbon monoxide
- Lead
- Nitrogen Dioxide
- Particles (PM10)
- Sulphur Dioxide

Every 3 years the Council must undertake an Updating and Screening Assessment (USA) which reviews any changes in air quality issues that have occurred since the last assessment. Where the USA identifies a risk that an air quality objective may be exceeded, a Detailed Assessment (DA) must be undertaken. The Council is required to produce annual air quality Progress Reports for the years when no USA or DA is due.

Rugby Borough Council declared an AQMA for nitrogen dioxide (NO₂) in December 2004. The AQMA covers the whole urban area of Rugby. This wide area was identified because the issue was traffic pollution, and any action plan would require the whole traffic system around Rugby to be reviewed. At present there is no evidence to suggest the current AQMA will not continue to be needed in the future.

Legislation is biased towards gathering data rather than delivering action plans. In the statutory reports, most data is reported on an annual basis (nitrogen dioxide and particulates) or daily (particulates) as these are the averaging periods for the national air quality objectives at greatest risk of exceedence.

The Environment Agency is responsible for monitoring the emissions from the Cemex plant, not Rugby Borough Council.

The current arrangements regarding air quality monitoring comply with statutory guidelines. However, there are options available for increasing monitoring and reducing costs. Both AECOM and Defra have advised that the Council could fulfil its legal obligations without use of the AQMS and Turnkeys.

2.2 Pollution in Rugby

NO₂ and the respirable particles known as PM₁₀ are the two pollutants of concern in Rugby borough. There is now particular concern regarding NO₂ concentrations in the town centre area. This is thought to be the result of both changes to the national emissions factors and an increase in traffic flows, which have removed the positive impact of technological developments.
Traffic levels and patterns are the key cause of NO₂ exceedences. Traffic flow has a direct impact on emissions of NOx and NO₂, but the complex chemical interactions mean that levels of NO₂ are not directly proportional.

Traffic flow through the town centre has increased. In order to reduce NO₂ to acceptable levels in the town centre, there would need to be an approximate 44% reduction in traffic (data from Detailed Assessment, September 2010).

There is a national issue with elevated levels of PM₁₀. In Rugby PM₁₀ has been monitored since 1999. This has shown some occasional peaks and incidents, with some elevated levels recorded in the vicinity of Cemex, Murray Road and Ling Hall Quarry. However there have been no recorded exceedences of national air quality objectives. Where leaks have occurred from the Cemex plant these have mostly involved large nuisance dust and not respirable particles. The elevated levels in Murray Road are the result of large traffic volumes and construction work.

Other local authorities make savings by not monitoring PM₁₀, and there is no requirement to continue to monitor PM₁₀ in Rugby. There is no practical benefit in monitoring for any other pollutants in the ambient air as the levels are well below any established standards.

2.3 Air Quality Monitoring equipment and costs

The Council owns one Air Quality Monitoring Station (AQMS), which is located on the corner of Newbold Road and Essex Street. It monitors NO₂ and particulates (PM₁₀), and is the most accurate method of measuring air quality. It provides continuous monitoring and can provide average data for 15-minute intervals, and can therefore pick up specific events and data spikes.

However, annual maintenance costs are high, and the unit is costly and difficult to move. If it were moved the continuity of data would be lost and it would be difficult to situate it close to where the problems lie (in the town centre) because it is too big and there are safety, land ownership and electricity source issues. The AQMS unit is 4 years old and has a predicted lifespan of 5 years. The unit is currently covered by a 5-year fixed price maintenance and full repair contract.

The Council also operates 5 Turnkey Units. These are not a Government-approved method of monitoring, but are accepted as a useful screening tool. They are less costly to run and can be more easily moved. Turnkeys are used to monitor particulates.

The Council has 17 diffusion tube sites monitoring NO₂, and 3 monitoring SO₂. They are small and portable, but can only provide data in the form of a monthly average. They cost around £7 per unit, meaning that a year’s monitoring data can be obtained at a cost of £80 per site. Diffusion tubes are not able to monitor particulates (PM₁₀).

Current spend by the Council is approximately £24,000 pa on the AQMS and Turnkeys (including reports and other ancillary activities), and £2,000pa on provision
of monthly monitoring at 20 sites with diffusion tubes. Prior to the last review in 2007, air quality monitoring cost the council £100,000 per annum.

By comparison:

- North Warwickshire have 17 NO₂ diffusion tube sites (20 tubes in total including triplicate collocation ones and 1 control) at a cost of approximately £1,000 pa
- Nuneaton and Bedworth have 42 NO₂ diffusion tubes at a cost of approximately £2,000 per annum. They have 2 air quality monitoring stations, one of which has been put out of service. The service contract for the operational AQMS is £2,000 per annum.
- Stratford on Avon decommissioned and sold their automatic analysers and now rely on diffusion tubes only. They have 26 diffusion tubes, and the cost of monitoring is around £3,000 per annum, excluding officer time.

Some authorities keep costs down by maintaining and servicing their own equipment, however this tends to exclude the officer time costs. There may be potential savings to be made by going out to tender for the maintenance contract and changing the specification regarding ancillary activities.

The use of real time data is unlikely to offer value for money as the system is not widely used and the cost compared to the numbers of users is high. The system would alert the council to rising pollution, but only when it would be too late to inform appropriate people and there would be very little, if any, action that could be taken.

Officers suggest that a total of around 40 diffusion tubes may be adequate for monitoring NO₂ in the borough, at an additional cost of £2,000 per annum. Total cost per annum of diffusion tube monitoring would then amount to approximately £4,000. As traffic pollutants are the main issue, diffusion tubes could offer the flexibility to monitor a wider area in less detail, whilst still informing the Local Transport Plan.

At present, determination of suitable locations and sites for the diffusion tubes involves complicated approval by elected members. The monitoring arrangements could be more responsive if members were to recommend an overall strategy (eg. equipment, approximate numbers of tubes and areas of priority) while allowing officers to determine the detailed site locations.

2.4 How monitoring data is used

The data gathered by the Council is used by developers to inform development plans, and is a factor taken into account by Warwickshire County Council in determining road layout.

There is a statutory requirement for all environmental data to be published and consultants can gather information this way free of charge. It is not possible to require developers to contribute to the costs as part of planning approvals.

2.5 Traffic patterns and planned developments

Warwickshire County Council identified the following routes as being the most congested during peak times:
- A426 Leicester Road/Newbolt Road/Corporation Street
- A428 Crick Road/Hillmorton Road/Lawrence Sheriff Street
- A426 Dunchurch Road/Rugby Road
- B4642 Bilton Road/Coventry Road
- A428 Lawford Road
- Warwick Street Gyratory system
- Oliver Street
- Evreux Way/North Street/Church Street
- Clifton Road/Whitehall Road
- Murray Road/Mill Road/Boughton Road
- B4429 Ashlawn Road

WCC are currently monitoring traffic flow in the areas which will be affected by the forthcoming major developments planned at the Mast Site, DIRFT 3 and Gateway sites. They believe the overall effect will be an increase in traffic.

The pedestriansation scheme will result in traffic being directed to areas where no pollution issues currently exist, which may result in a need for additional monitoring sites. The timescale for delivery of the scheme will be dependent on securing the necessary funding. The speed at which certain key town centre developments come forward will also be instrumental in determining the timescale.

Coventry Airport is likely to commence commercial flights again which could cause NO₂ and PM₁₀ pollutants. It is more likely this will affect Coventry, particularly the Willenhall area, and Coventry City Council will be responsible for this area. At present there is a diffusion tube located at the hotel on the A45 Oxford – Tollbar Island section of road which has recorded levels below the national objective. The Ryton area could be a potential site for a diffusion tube.

There are a number of sites which could be identified for monitoring to build a database of background information and assist in measuring the ultimate impact of the developments due to take place across the town. If more locations were monitored it would be possible to provide trend data, and this may also assist in better modelling and more accurate identification of areas of likely exceedences.

The proposed crematorium will be a brand new facility built to meet all the current emission standards. The Council will run the facility and will be responsible for regulating it, through separate teams.

3. AIR QUALITY MONITORING ARRANGEMENTS IN OTHER LOCAL AUTHORITY AREAS

At the last meeting of the task group, members asked for further details of air quality monitoring contracts, servicing arrangements and equipment levels at other local authorities in order to compare costs and seek ideas as to where potential savings could be made. Officers asked colleagues from nearby authorities for this additional information, and the information received in response is presented in Appendix 1.
4. OPTIONS FOR FUTURE MONITORING – COSTS AND BENEFITS

Detailed options for future monitoring arrangements can be found in Appendix 2.

5. REVIEW RECOMMENDATIONS

In developing the review recommendations, the task group will need to take a view on the following matters:

1. What is the purpose of our air quality monitoring? Is there any value in doing more than fulfilling our legal obligations?

2. Do we wish to continue monitoring PM_{10} levels?

3. What arrangements do we wish to put in place for ongoing maintenance / servicing of air quality monitoring equipment?

4. The Council currently produces quarterly monitoring reports, whereas there is only a legal obligation to report annually. What level of reporting should there be in future?

5. How much and what type of air quality monitoring equipment do we need?
   - Do we wish to retain the AQMS and Turnkeys?
   - Do we wish to expand the diffusion tube network?
## AIR QUALITY MONITORING ARRANGEMENTS
### IN OTHER LOCAL AUTHORITY AREAS

<table>
<thead>
<tr>
<th></th>
<th>Nuneaton and Bedworth Borough Council</th>
<th>Coventry City Council</th>
<th>Warwick District Council</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Equipment</strong></td>
<td>2 x air quality stations although one has currently been put out of service. One station has a TEOM PM10 and NOx/NO/NO2 analyser (this is out of service) and the other simply has a NOx/NO/NO2 analyser and is located in one of the air quality management areas.</td>
<td>5 x automatic units - all measure NOx/NO2 and 3 measure PM10 too (TEOM with recent FDMS upgrades so DEFRA equivalent).</td>
<td>An automatic monitoring site at Jury Street, Warwick measuring NO₂ only</td>
</tr>
<tr>
<td><strong>Do you own the automatic monitoring station(s) or rent/lease them?</strong></td>
<td>We own them</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Which air quality contractor do you use?</strong></td>
<td>Casella</td>
<td></td>
<td></td>
</tr>
<tr>
<td>What services does the contractor provide regarding your AQMS and how much do they charge per year?</td>
<td>Preventative maintenance visits, 48 hour emergency callout including labour and costs, parts insurance, Local Site Operator consumables, Span Gas cylinders, Air Conditioning Cover. Cost is £1495 for this year.</td>
<td>The service and maintenance contract for the automatic units is approx. £14k per year.</td>
<td>Do not have a specific budget for air quality monitoring so unable to provide a figure for the annual cost of monitoring at this time.</td>
</tr>
</tbody>
</table>

| What services do council officers do? | Local Site Operator (LSO) duties - fortnightly service and calibration of instruments. | The work (all air quality aspects) takes up a FTE officer grade 6 £26k salary and 1PTE at grade 4 £14k |  |

| Do you download your own data and how much does it cost if you do e.g. modem line rental? | Yes - 30 mins a day officer time, more if problems, modem line rental of £12 per month |  |  |

| Do you ratify your data and how much does it cost (officer time or contractor costs)? | Yes - 1 day of officer time (7-8 hours) per year - correction and verification |  |  |
| Do you do any servicing or calibration yourselves? If you do what are the estimated council costs (e.g. time, mileage, consumables, electricity)? | Nuneaton and Bedworth Borough Council | Coventry City Council | Warwick District Council |
|---|---|---|
| Fortnightly servicing and calibration - Consumables included in contract, 1 hour per fortnight in officer time, 3 miles per trip. |  |  |

| Do you have to pay for replacement parts and repairs? If you do how much has this cost in the last 3 years? | Nuneaton and Bedworth Borough Council | Coventry City Council | Warwick District Council |
|---|---|---|
| No |  |  |

<p>| Are there any other additional costs e.g. training? | Nuneaton and Bedworth Borough Council | Coventry City Council | Warwick District Council |
|---|---|---|
| Initial time to train in fortnightly service and calibration and operation of Enview software. |  |  |</p>
<table>
<thead>
<tr>
<th>Any other comments?</th>
<th>Nuneaton and Bedworth Borough Council</th>
<th>Coventry City Council</th>
<th>Warwick District Council</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>This relates to the one operational station.</td>
<td>The West Midlands Metropolitan Authorities have co-operated on environmental issues for many years and have a joint group of specialist officers from each authority ensuring close integration of technical work, policy response and action. This is in recognition of the part played by transport (particularly road traffic and congestion) in contributing to air pollution. A further example of joint working is the employment of a joint funded officer based in Birmingham City Council for modelling air pollution within the Metropolitan Area.</td>
<td></td>
</tr>
</tbody>
</table>

Note: request for further information about automatic monitoring equipment were sent to the neighbours that previously responded and had AQMS equipment - Nuneaton and Bedworth Borough Council, North Warwickshire District Council, Warwick District Council and Coventry City Council. Response received from Nuneaton and Bedworth Borough Council only. Coventry City Council and Warwick District Council data based on previous response.
# OPTIONS FOR FUTURE MONITORING – COSTS AND BENEFITS

<table>
<thead>
<tr>
<th>Activity</th>
<th>Options</th>
<th>Costs</th>
<th>Benefits</th>
<th>Risks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nitrogen Dioxide (NO2) monitoring</td>
<td>Automatic</td>
<td>Retain unit – external contractor</td>
<td>Unit already owned by Council.</td>
<td>Any breakdowns would require expensive repairs.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Current contractor estimate £3000 per annum. Tendering could reduce this.</td>
<td>High quality data.</td>
<td>Defra and AECOM have indicated that an automatic monitoring station is not required, though they are considered good practice.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Data and equipment approved by Defra.</td>
<td>Units not suitable to moving (large unit, requires electrical supplies, land owners permission) to areas in the borough where there are problems.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Useful for validating air quality models.</td>
<td>Expensive if mainly used for bias correction of the diffusion tubes as this can be carried out at a neighbouring automatic air quality monitoring unit. The tube manufacturers also provide an annual bias (rather than a local bias) which is usually used in the reports.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Can be used to bias correct diffusion tubes (diffusion tube data and automatic data compared and diffusion tube data corrected).</td>
<td></td>
</tr>
<tr>
<td>Activity</td>
<td>Options</td>
<td>Costs</td>
<td>Benefits</td>
<td>Risks</td>
</tr>
<tr>
<td>----------</td>
<td>---------</td>
<td>-------</td>
<td>----------</td>
<td>-------</td>
</tr>
<tr>
<td>Nitrogen Dioxide (NO2) monitoring</td>
<td>Automatic</td>
<td>Current contractor estimate £3000 per annum. Tendering could reduce this. Other authority experience suggests as low as £2000 per annum but significant increase in officer involvement estimated at £2000 per unit per annum.</td>
<td>Unit already owned by Council. High quality data. Data and equipment approved by Defra. Useful for validating air quality models. Increased use of council staff reduces external cost, but increased internal costs and diversion of resources from other tasks.</td>
<td>Any breakdowns would require expensive repairs. Defra and AECOM have indicated that an automatic monitoring station is not required, though they are considered good practice. Units not suitable to moving (large unit, requires electrical supplies, land owners permission) to areas in the borough where there are problems. Expensive if mainly used for bias correction of the diffusion tubes as this can be carried out at a neighbouring automatic air quality monitoring unit. Potential risk of error by officers who have other duties and are not specialist air quality monitoring officers. Potential increase in overall costs (although some may be “hidden”).</td>
</tr>
<tr>
<td>Activity</td>
<td>Options</td>
<td>Costs</td>
<td>Benefits</td>
<td>Risks</td>
</tr>
<tr>
<td>--------------------------------------</td>
<td>----------------------------------</td>
<td>--------------------------------------</td>
<td>--------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Nitrogen Dioxide (NO2) monitoring</td>
<td>Automatic</td>
<td>Low value due to age and current market. Potential value £0-£10,000.</td>
<td>Significantly reduced revenue costs and repair cost and maintenance costs.</td>
<td>Loss of high quality data, which may affect acceptance of reports by Defra, but has been carried out by Stratford on Avon District Council without any reported problems.</td>
</tr>
<tr>
<td></td>
<td>Decommission and sell unit</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Purchase or lease further units</td>
<td>Approx. £20,000 per unit plus £2000 - £3000 service, calibration and maintenance costs per annum</td>
<td>Potential for monitoring in areas of interest or providing additional useful information e.g. background monitoring.</td>
<td>Very high costs.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Additional monitoring not identified as a need in statutory reports.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Council review in 2007 identified that higher level of monitoring could not be justified economically or scientifically.</td>
</tr>
<tr>
<td>Activity</td>
<td>Options</td>
<td>Costs</td>
<td>Benefits</td>
<td>Risks</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>--------------------------</td>
<td>----------------------------</td>
<td>----------------------------------------------------</td>
<td>----------------------------------------------------------------------</td>
</tr>
<tr>
<td>Nitrogen Dioxide (NO2)</td>
<td>Retain current numbers of tubes</td>
<td>Approx £2000 per annum for 17 sites.</td>
<td>Very low cost. Approved by Defra. Highly mobile and can be located anywhere a problem is identified. Allows detailed data for a large area.</td>
<td>Requires an automatic monitoring station for bias correction but this can be provided by a neighbouring authority. The tube manufacturers also provide an annual bias (rather than a local bias) which is usually used in the reports. Not as accurate as an automatic monitoring station (estimated +/- 20% compared to estimated +/- 10% for automatic monitoring station). Other neighbouring authorities are typically using about 40 diffusion tube sites.</td>
</tr>
</tbody>
</table>
## Appendix 2

<table>
<thead>
<tr>
<th>Activity</th>
<th>Options</th>
<th>Costs</th>
<th>Benefits</th>
<th>Risks</th>
</tr>
</thead>
</table>
| Nitrogen Dioxide (NO2) monitoring | Diffusion Tubes  
Expand the network, e.g. increase the number of nitrogen dioxide diffusion tubes from 17 sites to 40 sites. | Approx £4000 per annum for 40 sites |  
Very low cost.  
Approved by Defra.  
Highly mobile and can be located anywhere a problem is identified.  
Allows detailed data for a large area.  
Much larger area could be monitored at very low cost. A reserve of tubes could also be held to monitor to meet customer concerns.  
Consistent with other neighbouring authorities. | Requires an automatic monitoring station for bias correction but this can be provided by a neighbouring authority. The tube manufacturers also provide an annual bias (rather than a local bias) which is usually used in the reports.  
Not as accurate as an automatic monitoring station (estimated +/- 20% compared to estimated +/- 10% for automatic monitoring station). |
<table>
<thead>
<tr>
<th>Activity</th>
<th>Options</th>
<th>Costs</th>
<th>Benefits</th>
<th>Risks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nitrogen Dioxide (NO2) monitoring</td>
<td>Diffusion Tubes</td>
<td>Cease monitoring with diffusion tubes</td>
<td>Saving approx. £2000 per year.</td>
<td>Small reduction in budget.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Insufficient data to meet Defra requirements.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Areas of known problems would be unmonitored putting residents at risk.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Areas which may have problems may not be identified.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Possible formal action against Council by Defra as council has a duty to review and assess and manage air quality in the air quality management area.</td>
</tr>
<tr>
<td><strong>Activity</strong></td>
<td><strong>Options</strong></td>
<td><strong>Costs</strong></td>
<td><strong>Benefits</strong></td>
<td><strong>Risks</strong></td>
</tr>
<tr>
<td>--------------</td>
<td>-------------</td>
<td>-----------</td>
<td>--------------</td>
<td>-----------</td>
</tr>
<tr>
<td>Respirable particulate (PM10) monitoring</td>
<td>Automatic</td>
<td>Retain unit – external contractor</td>
<td>Current contractor estimate £3000 per annum. Tendering could reduce this.</td>
<td>Unit already owned by Council. High quality data. Data and equipment approved by Defra. Useful for validating air quality models. Highly qualified specialist staff ensure high standard of maintenance and high quality data.</td>
</tr>
<tr>
<td>Activity</td>
<td>Options</td>
<td>Costs</td>
<td>Benefits</td>
<td>Risks</td>
</tr>
<tr>
<td>----------------------------------</td>
<td>----------------------------------------------</td>
<td>----------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Respirable particulate (PM10) monitoring</td>
<td>Automatic Retain unit – external contractor and support from council staff</td>
<td>Current contractor estimate £3000 per annum. Tendering could reduce this. Other authority experience suggest as low as £2000 per annum but significant increase in officer involvement estimated at £2000 per unit per annum</td>
<td>Unit already owned by Council. High quality data. Data and equipment approved by Defra. Useful for validating air quality models. Increased use of council staff reduces external cost, but increased internal costs and diversion of resources from other tasks.</td>
<td>Any breakdowns would require expensive repairs. Units not suitable to moving (large unit, requires electrical supplies, land owners permission) to areas in the borough where there are problems. Potential risk of error by officers who have other duties and are not specialist air quality monitoring officers. Statutory reports and extensive PM10 monitoring has not shown any breaches of the national air quality objectives. It is therefore questionable if this provides any real value. Potential increase in overall costs (although some may be “hidden”)</td>
</tr>
<tr>
<td>Activity</td>
<td>Options</td>
<td>Costs</td>
<td>Benefits</td>
<td>Risks</td>
</tr>
<tr>
<td>----------------------------------------------</td>
<td>----------------------------------------------</td>
<td>------------------------------</td>
<td>-----------------------------------------------</td>
<td>----------------------------------------------------------------------</td>
</tr>
<tr>
<td>Respirable particulate (PM10) monitoring</td>
<td>Automatic Decommission and sell unit</td>
<td>Low value due to age and current market. Potential value £0-£10,000.</td>
<td>Significantly reduced revenue costs and repair cost and maintenance costs.</td>
<td>Loss of high quality data, which may affect acceptance of reports by Defra, but has been carried out by Stratford on Avon District Council without any reported problems.</td>
</tr>
<tr>
<td>Purchase or lease further units</td>
<td>Approx. £20,000 per unit plus £2000 - £3000 service, calibration and maintenance costs per annum</td>
<td>Potential for monitoring in areas of interest or providing additional useful information e.g. background monitoring.</td>
<td>Very high costs. Additional monitoring not identified as a need in statutory reports. Council review in 2007 identified that higher level of monitoring could not be justified economically or scientifically. Statutory reports and extensive PM10 monitoring has not shown any breaches of the national air quality objectives. It is therefore questionable if this provides any real value.</td>
<td></td>
</tr>
<tr>
<td>Activity</td>
<td>Options</td>
<td>Costs</td>
<td>Benefits</td>
<td>Risks</td>
</tr>
<tr>
<td>----------------------------------</td>
<td>-------------------------------</td>
<td>-----------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------</td>
<td>-----------------------------------------------------------------------</td>
</tr>
<tr>
<td>Respirable particulate (PM10) monitoring</td>
<td>Turnkeys</td>
<td>Retain unit – external contractor</td>
<td>Current contractor estimate £2000 per unit per annum. Tendering could reduce this, but market unknown as few authorities operate them.</td>
<td>Easily moved to other sites. Useful screening tool and for spatial monitoring. Relatively low cost to maintain. 5 units, so option for reducing numbers e.g. 1-3, to monitor sites of concern or move to identify areas where there may be a risk. Any breakdowns would require expensive repairs. Statutory reports and extensive PM10 monitoring has not shown any breaches of the national air quality objectives. It is therefore questionable if this provides any real value. Not approved by Defra for legal air quality assessment purposes.</td>
</tr>
<tr>
<td>Activity</td>
<td>Options</td>
<td>Costs</td>
<td>Benefits</td>
<td>Risks</td>
</tr>
<tr>
<td>----------------------------------------</td>
<td>-------------------------------------------------------------------------</td>
<td>--------------------------------------------</td>
<td>--------------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Respirable particulate (PM10) monitoring</td>
<td>Turnkeys: Retain unit – external contractor and support from council staff</td>
<td>Current contractor estimate £1000 per unit per annum. Tendering could reduce this, but significant increase in officer involvement estimated at £1000 per unit per annum</td>
<td>Easily moved to other sites. Useful screening tool and for spatial monitoring. Relatively low cost to maintain. 5 units, so option for reducing numbers e.g. 1-3, to monitor sites of concern or move to identify areas where there may be a risk.</td>
<td>Any breakdowns would require expensive repairs. Potential risk of error by officers who have other duties and are not specialist air quality monitoring officers. Not approved by Defra for legal air quality assessment purposes. Statutory reports and extensive PM10 monitoring has not shown any breaches of the national air quality objectives. It is therefore questionable if this provides any real value. Potential increase in overall costs (although some may be “hidden”)</td>
</tr>
<tr>
<td>Activity</td>
<td>Options</td>
<td>Costs</td>
<td>Benefits</td>
<td>Risks</td>
</tr>
<tr>
<td>----------------------------------</td>
<td>--------------------------</td>
<td>------------------------------------------------</td>
<td>-----------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Respirable particulate (PM10) monitoring</td>
<td>Turnkeys</td>
<td>Decommission and sell unit</td>
<td>Low value due to age and current market. Potential value £0-£2000 per unit. (we currently have 3 spare units which we have been unable to sell)</td>
<td>Significantly reduced revenue costs and repair cost and maintenance costs.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Loss of ability to react quickly and easily to concerns from residents or members about respirable particulates.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Monitoring at various levels for PM10 since 1999 has identified only a small number of occasions where the data has been of local interest, but has not shown any breaches of the national air quality objectives.</td>
</tr>
<tr>
<td>Activity</td>
<td>Options</td>
<td>Costs</td>
<td>Benefits</td>
<td>Risks</td>
</tr>
<tr>
<td>--------------------------------</td>
<td>------------------------------</td>
<td>------------------------------------------------</td>
<td>--------------------------------------------------------------------------</td>
<td>-----------------------------------------------------------------------</td>
</tr>
<tr>
<td>Respirable particulate (PM10)</td>
<td>Turnkeys</td>
<td>Purchase or lease further units</td>
<td>Potential for monitoring in areas of interest or providing additional useful information e.g. background monitoring.</td>
<td>Very high costs.</td>
</tr>
<tr>
<td>monitoring</td>
<td></td>
<td>Approx. £8,000 per unit plus £1000 - £2000 service, calibration and maintenance costs per annum</td>
<td></td>
<td>Additional monitoring not identified as a need in statutory reports.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Council review in 2007 identified that higher level of monitoring could not be justified economically or scientifically.</td>
</tr>
<tr>
<td>Activity</td>
<td>Options</td>
<td>Costs</td>
<td>Benefits</td>
<td>Risks</td>
</tr>
<tr>
<td>----------</td>
<td>---------</td>
<td>-------</td>
<td>----------</td>
<td>-------</td>
</tr>
<tr>
<td>Other Local Air Quality Management pollutants (1,3-butadiene, benzene, sulphur dioxide, carbon monoxide, lead)</td>
<td>Monitor</td>
<td>Unknown</td>
<td>Can be used to confirm assessments in statutory air quality reports.</td>
<td>No statutory air quality report has indicated that any of these are likely to breach national air quality objectives. It is therefore questionable if this provides any real value.</td>
</tr>
</tbody>
</table>

Potential for significant costs when no identified risk.
Respirable particulates – PM2.5

<table>
<thead>
<tr>
<th>Activity</th>
<th>Options</th>
<th>Costs</th>
<th>Benefits</th>
<th>Risks</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Monitor</td>
<td>Approx. £2000 per annum (if existing TEOM converted).</td>
<td>A new air quality directive (Directive 2008/50/EC of the European Parliament and of the Council of 21 May 2008 on ambient air quality and cleaner air for Europe) came into force in June 2008, and was transposed into national legislation in June 2010. This provides a new regulatory framework for PM2.5. UK Air Quality Objectives annual mean 25 μg/m³ by 2020, target of 15% reduction in concentrations at urban background between 2010 and 2020.</td>
<td>Particulate matter with size fraction of less than 2.5 μm (PM2.5) is currently not included for Local Air Quality Management (LAQM)(council duty) purposes. No duty to monitor at present. It is therefore questionable if this provides any real value. No guidance on how to monitor this pollutant.</td>
</tr>
<tr>
<td>Activity</td>
<td>Options</td>
<td>Costs</td>
<td>Benefits</td>
<td>Risks</td>
</tr>
<tr>
<td>--------------------------------</td>
<td>---------</td>
<td>--------------------------------</td>
<td>-----------------------------------------------</td>
<td>----------------------------------------------------------------------</td>
</tr>
<tr>
<td>Non-statutory pollutants</td>
<td>Monitor</td>
<td>Not quantifiable at this stage</td>
<td>Identification of risk from non-statutory pollutants</td>
<td>No high risk identified by government or regulators (e.g. Environment Agency) of main polluters.</td>
</tr>
<tr>
<td>e.g. mercury</td>
<td></td>
<td></td>
<td></td>
<td>No statutory duty to monitor. It is therefore questionable if this provides any real value.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Many do not have standards.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>If breaches found no powers to deal with them.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>High cost as many require specialist and expensive equipment.</td>
</tr>
<tr>
<td>Activity</td>
<td>Options</td>
<td>Costs</td>
<td>Benefits</td>
<td>Risks</td>
</tr>
<tr>
<td>---------------------------------------------------</td>
<td>----------</td>
<td>---------------------</td>
<td>--------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Non-statutory reports – quarterly and annual reports</td>
<td>Continue</td>
<td>Approx. £5000 per annum</td>
<td>Detailed results and trend analysis quarterly and annually which can identify trends and inform officers and members about changing priorities or actions needed.</td>
<td>Non-statutory and not carried out by most local authorities. Council has little control over actions to control air quality (most actions have to be coordinated through Warwickshire County Council as mainly traffic related pollution) and rarely over such short time periods. Only of value if automatic monitoring continued, or data will have to be obtained from other authorities, reducing its value. Mainly academic value. Little interest in the reports from the public.</td>
</tr>
<tr>
<td>Activity</td>
<td>Options</td>
<td>Costs</td>
<td>Benefits</td>
<td>Risks</td>
</tr>
<tr>
<td>--------------------------------</td>
<td>---------</td>
<td>-----------------</td>
<td>--------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------</td>
</tr>
<tr>
<td>Non-statutory reports – <em>ad hoc</em> reports</td>
<td>Continue</td>
<td>Approx. £2000 per annum</td>
<td>Useful for unusual complaints from residents/businesses, unauthorised releases from industrial and commercial sites and national/local events e.g. Icelandic volcano dust.</td>
<td>Mainly for respirable particulates (PM10) and unauthorised releases which would require continuation of automatic or Turnkey monitoring. Number of complaints and unauthorised releases low. While they often identify nuisance dust (dust which is not generally considered a health risk, e.g. dust on cars), they have not resulted in identification of any statutory breaches of air quality objectives.</td>
</tr>
</tbody>
</table>