

## SHROPSHIRE HEALTH AND WELLBEING BOARD

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**Paper title:** Air Quality

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### 1. Summary

Air pollution exceeds legislative objective levels of pollution in Shrewsbury and Bridgnorth with Air Quality Management Areas (AQMAs) declared. This report identifies the need for a review of the Council's Air Quality Action Plan (AQAP) to identify interventions required to meet the air quality challenge and ensure aligned workstreams are supported to take forward necessary interventions and ultimately revoke the AQMAs. Aligned workstreams include SBTP, active transport, LTP4, Local Plan, bus strategies and climate change. Support for a coordinated approach has already been expressed from these areas. In addition, trial interventions are proposed to gather additional data in hard to model areas ensuring best available evidence is used to support future action plans.



### 2. Recommendations

It is recommended that endorsement is given to the Council taking forward the following steps:

- the move forward with AQAP review to fulfil DEFRA requirements
- taking forward trial interventions to gather data to help evidence the AQAP review.

This will take place through:

1. revising the AQAP to bring it up to date and capture aligned topical agendas namely potential Shrewsbury North West Relief Road impacts, Shrewsbury Big Town Plan and place planning agendas and LTP4.
2. identifying the costs of revising the AQAP through the commissioning of a consultant to carry forward the process including necessary modelling,

3. the formation of an Air Quality Officer Steering Group authorised to lead the AQAP direction with input from relevant service areas at the appropriate level
4. moving forward with a trial intervention in the Castle Foregate area of Shrewsbury to capture relevant data to inform the AQAP process.

### 3. Report

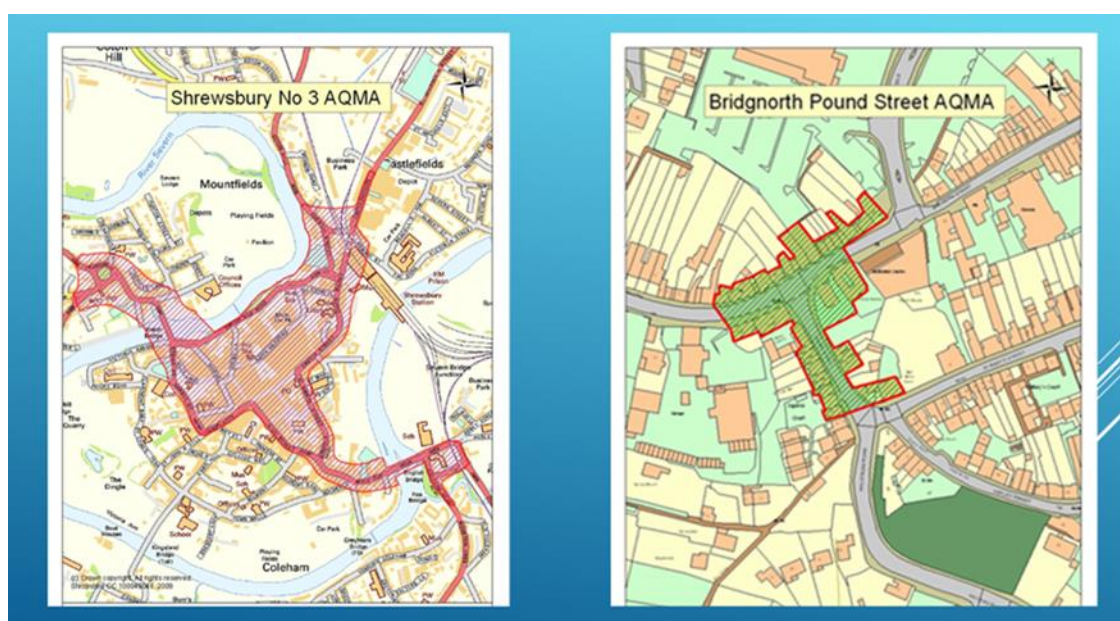
Air pollution is associated with many adverse health impacts. It is correlated to the onset of heart disease and cancer as well as mental health onset such as dementia. Air pollution particularly affects the most vulnerable in society: children and those with heart and lung conditions. Exposure to air pollution can reduce lung function in children causing life-long health impacts. There is often a strong correlation with equalities issues, because areas with poor air quality are also often the less affluent areas.

The annual health cost to society of the impacts of particulate matter alone in the UK is estimated to be around £16 billion.

The Local Air Quality Management process, stemming from Part IV of the Environment Act (1995), places an obligation on all local authorities to regularly review and assess air quality in their areas, and to determine whether the air quality objectives are likely to be achieved. Where an exceedance is considered likely the local authority must declare an Air Quality Management Area (AQMA) and prepare an Air Quality Action Plan (AQAP) setting out the measures it intends to put in place in pursuit of the objectives.

Shropshire Council has two Air Quality Management Areas (AQMAs) in force; Bridgnorth Pound Street AQMA and Shrewsbury No 3 AQMA. Figure 1 below shows their location and extent:

Figure 1a: delineation of existing AQMAs



Recent DEFRA grant funded work has provided near real time air pollution heat maps of the town showing the hot spots for air pollution, see Figure 2.

Figure 2: near real time air pollution maps of Shrewsbury (left) and Bridgnorth (right).



Monitoring data shows the scale of the air quality challenge. The national air quality objective for annual mean nitrogen dioxide, the pollutant for which an AQMA has been declared is  $40 \mu\text{g}/\text{m}^3$ . This was exceeded by 30.5% in Shrewsbury and 17.5% in Bridgnorth in 2019 with annual average concentration of pollutant monitored at  $52.2 \mu\text{g}/\text{m}^3$  and  $47 \mu\text{g}/\text{m}^3$  in Shrewsbury and Bridgnorth respectively. To meet the national objective level a reduction of 33% (Shrewsbury) and 21% (Bridgnorth) in emissions from the main contributing source, road vehicles, is required.

In 2020 a marked reduction in vehicles in the town centre occurred due to the national and local measures put in place as a Covid-19 response. Data collected found that the national objective level was achieved with the highest nitrogen dioxide annual mean in Shrewsbury recorded at  $39.7 \mu\text{g}/\text{m}^3$  and in Bridgnorth  $39.4 \mu\text{g}/\text{m}^3$ . This indicates the scale of the challenge required to meet national objective levels.

There are legal requirements to have an AQAP to establish how air pollution will be reduced to within legal standards. Current AQAPs were carried out in 2008 and require a review. DEFRA has commented on Shropshire Council's the last two Annual Status Reports stating the need to review the AQAP.

It is recommended that the AQAPs are reviewed and brought up to date to include the measures required to achieve legal standards with a timescale of implementation. Many interventions will be linked to current or planned workstreams however additional measures may be identified.

A proposal to move forward to establish likely costs for commissioning the AQAP is suggested as the time requirement to carry out the review internally would be a risk to completion.

As part of the AQAP review it is recommended that air quality models capable of being interrogated to quantify the potential impact of interventions will be formed and will form part

of the work. Where necessary transport models may be required with which to base air quality models upon. The advantage of producing these models is that they will be available for further interrogation for impacts of future schemes or proposals. This may reduce costs to other projects in future.

A drafted AQAP will require Council adoption. It is important for high level support to be provided from the outset. Discussion of potential interventions to be included requires a steering group containing input from across council services. Many individuals and subject areas have been made aware of the need for input through discussion at Climate Officer Group, Shrewsbury Programme Board, Transport Development and Infrastructure Group and now Health and Wellbeing Board. Members from these areas would be required to have input through any formally created steering group. Guidance on the formation of an AQAP recommends the formation of a steering group early in the process. It is recommended that support is given to the formation of this group with individuals identified.

The junction outside the train station in Shrewsbury is a hot spot for air pollution in the town. A potential intervention is to close the right-hand lane to increase distance between the source of pollution, road traffic, and residential receptors. This intervention is aligned to the Shrewsbury Big Town Plan which aspires to reduce traffic dominance in areas of the town with the train station highlighted as one of those areas. It would align with a reduction in vehicle numbers expected with a live NWRR and would fill the gap created by reduced vehicle numbers should the NWRR be taken forward. On paper the intervention would create significant air quality gains of a reduction of 16% of nitrogen dioxide. The NWRR has modelled a similar impact on pollution in this area.

Grant money has been secured with which to test the impact of the above trial on air quality. Initial internal discussions have suggested collecting travel time data to consider the impact on this dimension. Discussion with active travel, public transport, signalling and wider highways colleagues has been carried out. No objections have been raised to date. Concerns of congestion potential has been raised. It may not be possible to address this during a trial of limited duration however it is a point that could be considered should any permanent intervention be considered in the area.

The trial is being considered for October 2021 to avoid known sensitive periods and meet grant time lines.

The trial lane closure would not stop traffic moving through the area and as such does not require wider movement consideration.

By trialling an intervention which may have such significant impact on air quality this may limit the number of interventions which may be required to achieve legal standards which can reduced costs associated with managing the air quality agenda in terms of staff time and monitoring equipment.

Support to carry out the trial and gather information including potential costs of implementing the intervention full time is requested.

## **Conclusion**

Air quality exceeds national legal objective levels in Shrewsbury and Bridgnorth.

An AQAP is required to identify how national legal objective levels can be attained. DEFRA have expressed a need for a review of the current AQAPs.

To enable a comprehensive AQAP to be created in a timely fashion to fit in with other workstreams commissioning the services of a consultant to form the AQAP is recommended.

Expertise from across the Council will be required to feed in to and shape any AQAP. An air quality steering group is required to ensure adequate input from relevant services is brought together.

Interventions have already been highlighted which can help address the air quality challenge in Shrewsbury. Some funding is available through an Air Quality Grant Fund previously secured to carry out a trial in Shrewsbury.

Support to move forward with work to gather information with which to consider commissioning of the AQAP review, a review noted as necessary in Shropshire Council's JSNA documentation on air quality, is requested. Support for moving forward with trial interventions is requested in line with current grant project key milestones. Trials will provide information to feed into the AQAP review to ensure the review is evidence based.

## **4. Risk assessment and opportunities appraisal**

(NB This will include the following: Risk Management, Human Rights, Equalities, Community, Environmental consequences and other Consultation)

Opportunities include:

- Providing a tool to identify interventions to realise national air quality objectives and evidence how Air Quality Management Areas could be revoked in future creating improved environments for health outcomes of communities in and around the areas.
- Creating a tool to prioritise air quality initiatives and interrogate future scenarios
- Supporting agendas which could realise air quality improvements and uphold Council priorities and visions
- Creating an officer steering group to capture linked workstreams. The steering group will be responsible for risk management of any actions moved forwards.
- The ability to capture data on expected impacts of interventions through trials particularly where modelling has limitations
- The ability to report to DEFRA through annual reports that Air Quality Action Plan review is in progress



- By moving forward swiftly cross over with the LTP4 can be achieved ensuring synergy between strategic plans for the Council's forward direction.

#### Risks of not moving forwards

- action by individuals impacted by air pollution
- the potential for air quality to become a barrier to development and/or additional expense to developers
- the potential of being mandated into action by regulating bodies in a timescale not set by the Council if a sound plan is not in place

#### Risks of moving forward:

- recognition that intervention costs to achieve air quality goals cannot be realised within existing budgets
- Limited risks of progression with trials and AQAP formation. These actions are to inform decision makers of the actions available to meet legislative thresholds of pollutants and capture information to allow further scoping of interventions to be carried out where required.

### 5. Financial implications

Quotes for AQAP formation are being sought at the time of writing this report. Quotes can be discussed internally however are not available at this time for public dissemination. It is expected that additional resource will be required in addition to existing budgets to fund this work.

Trial interventions currently under consideration have funding available through an existing grant provided by DEFRA. Further funds are available for additional consideration of interventions within this existing budget. Due to grant funding status funds cannot be used for other aspects of work in this area.

#### **List of Background Papers (This MUST be completed for all reports, but does not include items containing exempt or confidential information)**

##### **Annual Status Report 2020:**

[https://www.shropshire.gov.uk/media/17096/sc\\_asr2020\\_final\\_v3.pdf](https://www.shropshire.gov.uk/media/17096/sc_asr2020_final_v3.pdf). Provides information on the scale and extent of the current air quality challenges. All approved data source information is presented in the report. NB an additional report (Annual Status Report 2021) is available. This report provides 2020 data which is not considered a comparable data set due to impact of national and local lock down measures creating significant reductions in road vehicle numbers.

##### **Existing Air Quality Action Plan for Shrewsbury:**

<https://www.shropshire.gov.uk/media/5218/shrewsbury-aqap-2008.pdf>

##### **Existing Air Quality Action Plan for Bridgnorth:**

<https://www.shropshire.gov.uk/media/5215/bridgnorth-dc-action-plan-pdf.pdf>

**Shropshire Council's JSNA documentation on air pollution:**

<http://www.shropshiretogether.org.uk/wp-content/uploads/2016/06/Shropshire-Air-Quality-and-Health.pdf>

**Cabinet Member (Portfolio Holder) or your organisational lead e.g. Exec lead or Non-Exec/Clinical Lead**

Cllr. Dean Carroll, Portfolio Holder for Adult Social Care, Public Health and Assets

**Appendices**