

Executive Summary: Air Quality in Our Area

Air pollution is associated with a number of adverse health impacts. It is recognised as a contributing factor in the onset of heart disease and cancer. Additionally, air pollution particularly affects the most vulnerable in society: children and older people, and those with heart and lung conditions. There is also often a strong correlation with equalities issues, because areas with poor air quality are also often the less affluent areas^{1, 2}.

The annual health cost to society of the impacts of particulate matter alone in the UK is estimated to be around £16 billion³.

The Council has a duty to review and assess air quality within its district under the Part IV of the Environment Act 1995 and this Annual Status Report has been prepared to fulfil this requirement.

Air pollutants can arise from a variety of sources, including transport and industry. Pollutant levels are assessed against health-based national air quality objectives. Where the objectives are not met, Air Quality Management Areas (AQMAs) must be declared and an Action Plan put in place to improve the air quality in these areas.

Air Quality in South Gloucestershire

The main air pollutant of concern locally is nitrogen dioxide (NO₂), which originates primarily from road traffic emissions.

The air quality in South Gloucestershire is generally good. However, there are some areas in the district where the air quality does not meet the national air quality objective for nitrogen dioxide, mostly due to the combination of busy, congested roads and the close proximity of people to these roads.

Air Quality Management Areas

There are three AQMAs currently declared in South Gloucestershire in respect of the annual mean objective for nitrogen dioxide:

- Cribbs Causeway – adjacent to the M5 Junction 17 roundabout

¹ Environmental equity, air quality, socioeconomic status and respiratory health, 2010

² Air quality and social deprivation in the UK: an environmental inequalities analysis, 2006

³ Defra. Abatement cost guidance for valuing changes in air quality, May 2013

- Staple Hill – in the centre around the Broad Street/ High Street/ Soundwell Road/ Victoria Street crossroads
- Kingswood – Warmley – from the Bristol/ South Gloucestershire boundary in Kingswood along the A420 to the junction with Goldney Avenue in Warmley.

Full details of these AQMAs are included in Table 2.1 of the report and maps are available in Appendix E. Further information on the AQMAs are available on the Council website at www.southglos.gov.uk/airquality.

Trends in monitored concentrations

There is no clear trend in nitrogen dioxide concentrations at the diffusion tube monitoring sites across the district. Pollutant concentrations can vary significantly from one year to another due to a number of factors, but in particular the meteorological conditions. Within the Kingswood – Warmley and Staple Hill AQMAs, concentrations have remained relatively stable over the past decade, although since 2012, the number of sites exceeding the annual mean objective has fallen and the nitrogen dioxide concentrations have decreased at the majority of the monitoring sites in both AQMAs, but persistent pockets of exceedance remain.

The Yate automatic monitoring site shows the annual mean nitrogen dioxide concentrations have been generally stable over the past decade, although a downward trend in monitored concentrations can be observed from 2013. The trend in particulate matter (PM₁₀) concentrations at this site also shows that annual mean concentrations have generally been stable since 2005. While there has been a downward trend in monitored concentrations since 2010, this has levelled off and remained constant at 15 µg/m³ from 2013 to 2015. Concentrations of both pollutants remain well below the relevant objectives at this site.

The trends within the AQMAs are discussed fully in Chapter 3 of the report and all trend graphs are available in Appendix A.

Pollutant sources

The following pollutant sources were considered as part of the review of air quality for this report, as detailed in the Defra LAQM Technical Guidance (LAQM.TG16)⁴.

- Road Traffic Sources

⁴ <http://laqm.defra.gov.uk/technical-guidance/>

- Non-Road transport Sources
- Industrial Sources
- Commercial and Domestic Sources
- Fugitive and Uncontrolled Sources

No new major sources of emissions were identified. Full details are provided in Appendix D of the report.

How the Council works to manage local air quality

South Gloucestershire Council is a unitary authority and Planning, Transport and Environmental Health are all within the same Directorate (Environment and Community Services) enabling close working between these teams. This has particularly allowed close working between Environmental Health, with their responsibilities for local air quality management and the Strategic Transport and Environment Policy Team, who lead on air quality action plan development and implementation.

A close working relationship has also importantly been developed with Public Health. This has been further advanced by the appointment of a specific officer within the Public Health Team with responsibility for the built environment, recognising the importance of aligning spatial planning and transport work with its associated impacts on air quality and health.

Further to the recently updated Defra Local Air Quality Management Guidance⁵, the council is revitalising its air quality governance and reporting arrangements in recognition of the public health aspects of poor air quality.

South Gloucestershire also works closely with other neighbouring authorities in the West of England (Bath and North East Somerset, Bristol City Council and North Somerset), particularly with regard to regional strategic work areas such as transport.

Actions to Improve Air Quality

Progress continues to be made in implementing the existing Air Quality Action Plan for Kingswood and Staple Hill. Key progress includes:

⁵ <http://laqm.defra.gov.uk/supporting-guidance.html>

- Completion of several schemes that improve the cycling infrastructure associated with the Bristol/Bath Railway Cycle Path which serves the Staple Hill AQMA.
- Delivery of a scheme to improve pedestrian facilities at the A420 High Street/Alma Road junction, thereby promoting walking in the Kingswood AQMA.
- Funding was awarded under the Clean Bus Technology Fund in December 2015 following a joint bid by Bristol, South Gloucestershire and Bath and North East Somerset Councils. The funding will be used to upgrade 35 of the most polluting Euro II and III local buses by fitting Selective Catalytic Reduction Technology (SCRT), thereby reducing tailpipe NOx emissions on those services, all of which operate in the Bristol, Bath and South Gloucestershire AQMAs.

Full details of progress in implementing the existing Action Plan for Kingswood and Staple Hill are contained in Section 2.2 of the report.

Other actions being progressed on a wider West of England basis aimed at reducing traffic congestion which should contribute to improved air quality include:

- Metrobus - a rapid public transport system which will provide direct routes to key employment, education and leisure destinations around the area⁶. Further information is also provided in Appendix D.
- Cribbs Patchway Metrobus Extension⁷ - an extension of the Metrobus scheme to serve the proposed Cribbs Patchway New Neighbourhood on the former Filton Airfield.
- MetroWest - improved rail services and infrastructure⁸.
- Cycle Ambition Fund – improvements to cycle routes to provide better door-to-door journeys⁹

⁶ <https://travelwest.info/metrobus>

⁷ <https://travelwest.info/projects/cribbs-patchway-metrobus-extension>

⁸ <https://travelwest.info/projects/metrowest>

⁹ <https://travelwest.info/projects/cycle-ambition-fund>

Local Priorities and Challenges

The priority for the coming year is to review and update the Air Quality Action Plan following the extension of the Kingswood AQMA to Warmley in December 2015. A traffic microsimulation model was commissioned in 2015 for the Kingswood – Warmley AQMA to help provide a better understanding of the impact of road traffic network management decisions on local air quality and identify new actions for the Warmley extension. A steering group from across the relevant Council teams, including public health, and other partners, will be set up to review and update the Action Plan. Completion of the Action Plan is anticipated during 2017.

The Council faces major challenges at a time of significant pressure on public finances, particularly in relation to local government funding, which could impact on delivering air quality improvements.

The transport system is subject to significant pressure within South Gloucestershire, due to the sheer level of travel demand generated by the current population and by people coming into the area on a daily basis to work, shop and for leisure reasons. These pressures are shown through traffic congestion on South Gloucestershire's road network and capacity problems on local rail services.

The West of England area as a whole needs at least 85,000 new homes by 2036, as well as transport and other infrastructure. At least 30,000 of these new homes are likely to be built in South Gloucestershire. South Gloucestershire is working with the other West of England authorities to develop a Joint Spatial Plan and Joint Transport Strategy¹⁰.

A Devolution Proposal¹¹ has been submitted by three of the West of England Councils (not North Somerset) which, if it goes ahead, will give more power to make decisions locally about transport, housing, adult education and skills and business support for example, and crucially more funding to improve transport infrastructure, create new jobs and improve adult education and skills. The proposal indicates that clean air zones would be implemented in the combined authority area to help achieve air quality objectives, although it is not clear where these would be located.

¹⁰ <https://www.jointplanningwofe.org.uk/consult.tj>

¹¹ <https://www.gov.uk/government/publications/west-of-england-devolution-deal>

How to Get Involved

Everyone can help to improve air quality. We can all make informed personal choices, particularly with regard to how we travel, and even look after our own health a little better in the process.

By changing our habits and substituting car use, if and when possible, with a bus or train journey, or preferably by walking or cycling, we not only reduce air pollution but improve our health and wellbeing. If possible, consider sharing lifts with colleagues to work as this will save petrol money and as well as reducing the number of cars on the road. When looking to change your vehicle, take air pollution in consideration and opt for the cleanest vehicle you feasibly can. Low emission electric and /or hybrid vehicles are becoming more affordable and government funding and grants are available.

While most air pollution in South Gloucestershire is caused by road traffic, other measures that could be considered include:

- Upgrading boilers to newest and most efficient gas condensing boilers with lowest NO_x (and carbon) emissions.
- “Clean” renewable energy generation, for example via solar photovoltaics.

While difficult, there are decisions we can all make to reduce air pollution. Even relatively small changes can add up and make a difference to the quality of the air we all breathe.

Further information is available on our website www.southglos.gov.uk/airquality.