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BROMSGROVE DISTRICT COUNCIL

MEETING OF THE OVERVIEW AND SCRUTINY BOARD

TUESDAY 6TH JANUARY 2026, AT 6.00 P.M.

PARKSIDE SUITE - PARKSIDE

SUPPLEMENTARY PAPERS 1

The attached papers were specified as "to follow" on the Agenda previously distributed relating to the above-mentioned meeting.

5. **Biodiversity Duty Report - Pre-Scrutiny** (Pages 3 - 12)

6. **Homelessness Prevention, Rough Sleeper and Domestic Abuse Grants Funding 2027/28 and 2028/29 - Pre-Scrutiny** (Pages 13 - 20)

7. **Particulate Monitoring - Pre-Scrutiny** (Pages 21 - 40)

J. Leach
Chief Executive

Parkside
Market Street
BROMSGROVE
Worcestershire
B61 8DA

29th December 2025

BROMSGROVE DISTRICT COUNCIL

Cabinet

7th January 2026

Biodiversity First Consideration Report

Relevant Portfolio Holder		Councillor Sue Baxter
Portfolio Holder Consulted		Yes
Relevant Assistant Director		Judith Wills, Assistant Director of Community and Housing Service
Report Author	Job Title: Climate Change Manager Contact email: matthew.eccles@bromsgroveandredditch.gov.uk Contact Tel: 07816112073	
Wards Affected		All
Ward Councillor(s) consulted		N/A
Relevant Council Priority		
~~Key Decision /~~ Non-Key Decision		
If you have any questions about this report, please contact the report author in advance of the meeting.		

1. RECOMMENDATIONS

The Cabinet is asked to resolve RESOLVE that:-

1) the findings of the Biodiversity Duty First Consideration Report be noted; and

2) Members agree to publish the full Biodiversity Duty First Consideration Report to the Council's website.

2. BACKGROUND

2.1 The Environment Act 2021 places a legal duty on public authorities to conserve and enhance biodiversity. Bromsgrove District Council must publish a Biodiversity Duty Report covering the period up to 1st January 2026 and publish this by 26th March 2026. The Biodiversity Duty Report reviews current activity, identifies gaps, and sets out recommended actions across all service areas.

3. OPERATIONAL ISSUES

3.1 The council is taking active steps to enhance biodiversity across the district. Recent initiatives include planting over a dozen fruit trees in Brook Road Park, Rubery, in partnership with local schools to create a mini orchard and boost pollinator habitats. The council is also implementing Biodiversity Net Gain requirements in planning, ensuring all qualifying developments deliver at least a 10% improvement in biodiversity value through on-site enhancements or off-site habitat

creation. Additionally, schemes such as leaving selected grass verges uncut throughout the growing season in areas like Alvechurch are providing vital habitats for pollinators, invertebrates, and small mammals, supporting ecological connectivity across the district.

3.2 Follow consultation with relevant departments the report identifies existing policies and actions across Planning, Leisure, Environmental Services, Housing, and Regeneration. It highlights opportunities for improvement, including:

- Continued engagement with the Worcestershire Local Nature Recovery Strategy.
- Monitoring and implementing Biodiversity Net Gain (BNG) through planning.
- Enhancing biodiversity on council-owned land.
- Promoting citizen science and community engagement

3.3 A new biodiversity report is required every 5 years

4. FINANCIAL IMPLICATIONS

4.1 Some actions may require capital investment, e.g., new mowing equipment for grass verge management and individual departments will bring forward to Cabinet any capital/revenue requirements.

4.2 Officers will explore funding opportunities (e.g., Defra grants) if available and where required.

5. LEGAL IMPLICATIONS

5.1 The Council is legally required to publish a Biodiversity Duty Report covering the period up to 1st January 2026 by 26th March 2026.

5.2 The biodiversity report has the following mandatory elements that it must cover.

- Policies, Objectives and Actions
- How Other Strategies Were Considered
- Future Actions
- Biodiversity Net Gain Information

6. OTHER - IMPLICATIONS

Local Government Reorganisation

6.1 No direct implications identified at this stage. Any new authority as a result of LGR will also have this legal duty to produce a biodiversity report.

Relevant Council Priority

6.2 Supports the Council's Environment and infrastructure priorities.

Climate Change Implications

6.3 Biodiversity actions contribute to climate resilience, carbon sequestration, and nature-based solutions.

Equalities and Diversity Implications

6.4 The report and associated documents will be made accessible. Equality impact assessments will be undertaken where relevant.

7. RISK MANAGEMENT

7.1 Risks include non-compliance with statutory deadlines and insufficient monitoring of biodiversity outcomes. Mitigation includes establishing a central reporting mechanism and appointing a lead officer.

8. APPENDICES and BACKGROUND PAPERS

Appendix A: Biodiversity First Duty Report

BROMSGROVE DISTRICT COUNCIL

Cabinet **7th January 2026**

9. REPORT SIGN OFF

Department	Name and Job Title	Date
Portfolio Holder	Cllr Sue Baxter	18/12/2025
Lead Director / Assistant Director	Judith Wills, Assistant Director Community and Housing Services	17/12/2025.
Financial Services	Deb Goodall, Assistant Director Finance and Customer Services	17/12/2025
Legal Services	Claire Felton, Assistant Director Legal Democratic and Procurement Services	17/12/2025
Climate Change Team (if climate change implications apply)	Matthew Eccles	28/11/2025

Bromsgrove District Council Biodiversity First Duty Report

Executive Summary

This Biodiversity First Duty Report complies with Section 40 and 40A of the Natural Environment and Rural Communities Act 2006 (as amended by the Environment Act 2021). It includes mandatory and optional sections recommended by DEFRA guidance, providing a comprehensive overview of Bromsgrove District Council's biodiversity actions, achievements, and future plans.

1. Policies, Objectives and Actions

The Council has adopted multiple strategies embedding biodiversity considerations:

- Bromsgrove District Plan 2011-2030 (Policies BDP5A and BDP21)
- Leisure and Culture Strategy (2022)
- Open Space Study (2022)
- Parks and Open Space Strategy (2022)
- Green Infrastructure Baseline Report (2013)
- BNG Supply and Demand Assessment (2024)

Key actions completed include:

- Green Flag Awards for Sanders Park and Lickey End Recreation Ground (2025)
- Citizen Science biodiversity monitoring via iNaturalist
- Grass verge biodiversity initiative (70% verges managed for pollinators)
- Tree planting and species diversification
- Pesticide reduction and alternative weed control methods

2. How Other Strategies Were Considered

The Council actively engaged with Worcestershire Local Nature Recovery Strategy (LNRS) and will integrate its priorities into planning and land management operations.

3. Future Actions

Planned actions for 2026-2031 include:

Action	Timescale	Responsibility
Continue LNRS engagement and integrate priorities	2025 onwards	Planning & Leisure
Implement Parks and Open Space biodiversity recommendations	2025/26 onwards	Parks Team
Submit additional Green Flag applications	2025/26 onwards	Parks Team
Develop BNG policies in emerging Local Plan	2025/26	Planning Policy
Prepare and publish Biodiversity Duty Report	By 26/03/26	Climate Change Manager
Include in the council's climate change strategy monitoring and reporting on Biodiversity	February 2026	Climate Change Manager

4. Biodiversity Net Gain Information

BNG became mandatory on 12 February 2024. Bromsgrove District Council has:

- Monitored planning applications subject to BNG requirements
- Commissioned BNG Supply and Demand Assessment (2024)
- Identified challenges in offsite BNG delivery due to limited suitable land
- Explored policy options for a local hierarchy for offsite BNG delivery

5. Information about the Authority

Bromsgrove District Council serves approximately 101,685 residents across 217 km² (83.8 sq mi). Functions include planning, leisure, housing, environmental services, and community engagement. The Council manages parks, open spaces, and influences biodiversity through planning decisions, operational practices, and partnerships.

Land holdings include major parks (Sanders Park, Lickey End Recreation Ground), recreation grounds, and highway verges. Planning decisions shape biodiversity outcomes through Local Plan policies and development management.

6. Top Achievements

- Green Flag Awards for Sanders Park and Lickey End Recreation Ground (2025)
- Citizen Science biodiversity monitoring via iNaturalist
- Grass verge biodiversity initiative (70% verges managed for pollinators)
- Tree planting and species diversification
- Pesticide reduction and alternative weed control methods

7. How Policies and Actions Have Helped

The council has introduced a number of policies and actions that have contributed to improved biodiversity in parks, enhanced pollinator habitats through verge management, and reduced pesticide use. Working in partnerships such as with LNRS engagement have enabled the council to strengthen its landscape recovery.

8. Awareness and Education

The council has led a number of community engagement initiatives including Citizen Science projects using iNaturalist, signage on biodiversity-friendly verge management, and partnership communications through Bromsgrove Partnership Better Environment Working Group.

9. Monitoring and Evaluation

Monitoring includes ecological surveys for verge management, Citizen Science data collection, and Green Flag Award criteria compliance. The council will include in its new climate change strategy biodiversity as one of its key actions and performance monitoring requirements.

10. Highlights and Challenges

Highlights: Green Flag Awards, successful community engagement, partnership working. Challenges: limited land for offsite BNG, resource constraints for monitoring, balancing biodiversity with development.

Case Study: Managing Tree Health and Biodiversity Resilience – Ash Dieback Strategy

Context
Ash Dieback (*Hymenoscyphus fraxineus*) is a serious fungal disease affecting native European ash trees, leading to crown dieback and eventual tree death. Nearly **1,000**

species are associated with ash, including **69 species highly dependent on ash** (fungi, bryophytes, invertebrates, lichens). The loss of ash trees poses a significant biodiversity risk and impacts ecosystem functions such as nutrient cycling and carbon storage.

Council Response
Bromsgrove District Council has operational tree management practices and biodiversity duties in place, consistent with national guidance and British Standards. Ash Dieback actions are integrated into wider tree safety and biodiversity policies. Key actions include:

- **Risk-Based Tree Inspections**
    - High-risk zones (busy parks, roads): inspected every 12–18 months.
    - Medium-risk zones: every 2 years.
    - Low-risk zones: every 4 years.
- **Habitat Retention**
    - Retain standing deadwood and habitat piles where safe to support fungi, bats, and invertebrates.
    - Identify and preserve disease-tolerant ash for future propagation.
- **Replanting and Recovery**
    - Target: up to **100,000 trees over 15 years** using diverse species for resilience.
    - Apply **canopy volume approach** and **2:1 replacement ratio** to restore ecological function.
- **Community Engagement**
    - Public awareness campaigns: signage in parks, local media, and nature walks.
    - Citizen involvement: tree census, seed collection, propagation, and planting events.
- **Standards and Best Practice**
    - All works comply with **BS3998:2010 Tree Work – Recommendations** and **BS5837:2012 Trees in Relation to Design, Demolition and Construction**.

Biodiversity Benefits

- Maintains habitat for specialist species during decline phase.
- Builds long-term resilience through species diversification.
- Enhances carbon sequestration and climate adaptation.

Future Commitments

- Annual ash dieback surveys and monitoring using Visual Tree Assessment (VTA).
- Integration of tree health data into GIS for strategic planning.
- Continued engagement with stakeholders (Worcestershire Wildlife Trust, Friends Groups, Parish Councils).

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BROMSGROVE DISTRICT COUNCIL

CABINET 7th January 2026

Homelessness Prevention, Rough Sleeper and Domestic Abuse Grants Funding 2027/28 and 2028/29

Relevant Portfolio Holder		Councillor Kit Taylor
Portfolio Holder Consulted		Yes
Relevant Head of Service		Judith Willis Assistant Director Community and Housing Services
Report Author	Job Title: Amanda Delahunty Contact email: a.delahunty@bromsgroveandredditch.gov.uk Contact Tel: 01527 881269	
Wards Affected		All
Ward Councillor(s) consulted		Not Applicable
Relevant Strategic Priorities(s)		Housing
Key Decision		
If you have any questions about this report, please contact the report author in advance of the meeting.		

1. RECOMMENDATIONS

The Cabinet is asked to RESOLVE that:-

1) **The initiatives in 4.5 be approved to receive the Homelessness Prevention and Rough Sleeping Grant and Domestic Abuse Grant allocations of funding for 2027/28 and 2028/29, subject to satisfactory performance; with any uplift and additional initiatives being implemented prior to that period to be the subject of a further report to the Cabinet; and**

2) **Delegated authority be granted to the Assistant Director of Community and Housing Services, following consultation with the Portfolio Holder for Strategic Housing, to use any unallocated grant from this source of grant funding during the year or make further adjustments and uplifts as necessary to ensure full utilisation of the grants, including any mid year Homelessness Prevention Grant top up, for 2027/28 and 2028/29 in support of existing or new schemes.**

BACKGROUND

2.1 From 2026/27, the government has consolidated existing Rough Sleeper and Domestic Abuse grants into a single Homelessness Prevention Grant. This new grant encompasses funding for prevention and relief activities an is being awarded for three-years.

2.2 Officers propose that the grants awarded to partners utilising this funding are for a three-year period. Any uplift (cost of living or service expansion) in advance of each year's award will be brought to members to approve. Grant funding will be subject to satisfactory performance of the services with targets set for continual improvement.

2.4 The grant award is sufficient to meet all spend commitments within this report and there is no requirement for the temporary accommodation element in the Revenue Support Grant in the Local Government Finance Settlement to be utilised to fund these schemes for the period April 2026- March 2029.

2.5 Further to the Homelessness Prevention Grant and Domestic Abuse Grant report of the 19th November 2025 where Council approved for the temporary accommodation element of the Revenue Support Grant to be ringfenced to homeless prevention activities for 2026/27, this report advises that this element of Revenue Support Grant is no longer required.

2.6 The purpose of ringfencing the Homelessness Prevention Grant fund is to give the Council control and flexibility in managing homelessness pressures and supporting those who are at risk of homelessness. The Government expects local authorities to use it to deliver the following priorities

- To fully enforce the Homelessness Reduction Act and contribute to ending rough sleeping by increasing activity to prevent single homelessness.
- Reduce family temporary accommodation numbers through maximising family homelessness prevention
- Eliminate the use of unsuitable bed and breakfast accommodation for families for longer than the statutory six week limit.
- The Government requires that at least 49% of the grant is spent on prevention and relief activities and staffing.

2 OPERATIONAL ISSUES

3.1 The management and administration of grant forms part of the Strategic Housing day to day operations.

3 FINANCIAL IMPLICATIONS

4.1 In addition to the annual Homelessness Grant £112,000, the Council has been awarded by (MHCLG), Homelessness Prevention Grant of £508,380 for 2027/28 and £571,063 for 2028/29.

4.3 The new Homelessness Prevention Grant is ring fenced by MHCLG for activities that prevent and deal with homelessness.

4.4 The Council therefore has the following for Homelessness Prevention and Domestic Abuse Services and Housing Options in 2027/28 and 2028/29 as follows:

Grant	**Expected 2027/28**	**Expected 2028/29**
BDC Homelessness Prevention Grant	£112,000	£112,000
Homelessness Prevention Grant (including Temp Accom element)	£508,380	£571,063
Grant Total Grant Available	**£620,380**	**£683,063**

4.5 It is recommended that the funding is allocated as follows:

Homelessness Grant Allocation	**2027/28 £ (up to £620,380)**	**2028/29 £ (up to £683,063)**
Housing Options Service Top Up Staffing Costs	52,475	52,475
Static Temporary Accommodation for an additional 4 units of accommodation	30,688	30,688
Worcestershire Strategic Housing Partnership Co-ordinator – contribution towards county-wide development and delivery of housing initiatives in partnership with other agencies	10,500	10,500
Severe Emergency Weather Provision	18,347	18,347
St Basils Foyer – provides stable accommodation/support for young people - 14 units – fully occupied during last financial year	50,203	50,203
St Basils Crash pad – provides emergency temporary accommodation for 16 and 17 year olds	19,711	19,711
Bromsgrove Home Choice CBL and Homelessness Module	14,600	14,600
St Basils Young Persons Pathway Worker – support to prevent homelessness for under 25's and Crash Pad to provide a unit of emergency accommodation for young people.	41,116	41,116
NewStarts - Provide Furniture and Volunteering Opportunities for Ex-Offenders – supports tenancy sustainment and provides	15,000	15,000

future employment opportunities/reduces risk of reoffending		
GreenSquare Accord Housing Related Support – helping ex-offenders remain housed/seek employment	31,172	31,172
Maggs Rough Sleeper outreach and prevention service targeting rough sleepers and those at risk of rough sleeping.	35,607	35,607
North Worcestershire Basement Project - Support for young people at risk of homelessness	45,000	45,000
BDHT - Sunrise Project intensive support	46,886	46,886
Mental Health Link Worker (part funded)	21,554	21,554
CAB – Debt Advice for Home Owners and Private Renters	27,611	27,611
CAB – Affordability Assessments	6,021	6,021
Housing First/Housing Led Service	29,563	29,563
Part time Empty Homes Officer	7,680	7,680
Spend to Save Top Up	5,683	5,683
County Rough Sleeper Coordinator	5,500	5,500
Rough Sleeper Access to Accommodation Fund and NFNO/NSNO	1,000	1,000
County Domestic Abuse Co-ordinator	5,112	5,112
County Domestic Abuse Research and Intelligence Officer	4,573	4,573
Top up to DA Housing Options Officer	6,059	6,059
Total committed expenditure	**£531,66**	**£531,661**
Underspend	**£88,719**	**151,402**

4.6 The Housing Options Service Top Up will be awarded to BDHT during 2027/28 and then will be earmarked for funding for the service subject to a contract extension for 2028/29.

4.7 The funding provided supports the Council in its' prevention role and is crucial in helping people remain in their existing accommodation wherever possible. Where homelessness cannot be avoided, services provide support to ensure that it is a brief as possible and non recurring. Affordability issues in all sectors and less churn in social housing, mean that fewer properties are becoming available and resolving homelessness is increasingly challenging.

5. LEGAL IMPLICATIONS

5.1 The Council has statutory duty under the Housing Act 1996 (as amended) to assist those who are threatened with homelessness or experiencing actual homelessness and has placed additional duties on the Council regarding preventing and relieving homelessness.

5.2 The Homelessness Prevention Grant has been ring fenced to homelessness prevention and tackling homelessness by MHCLG.

5.3 The Domestic Abuse New Burdens Grant has been provided to ensure that councils comply with the requirements of the Domestic Abuse Act 2021.

6. OTHER IMPLICATIONS

Local Government Reorganisation

6.1 The new unitary authority/authorities will be required as (a) local housing authority(ies) to provide duties under Homelessness legislation. The three-year funding allocation to organisations would be subject to any implications arising from Local Government Reorganisation.

` Relevant Council Priority

6.2 Homelessness Prevention Grant supports the Council's priority of Housing. It allows the Council to support a range of holistic services to help prevent or tackle homelessness and rough sleeping in the district.

6.3 The combination of practical support such as furniture, compliments those services that provide outreach support to help clients access accommodation, sustain tenancies, manage budgets, engage in positive activities and access employment.

Climate Change Implications

6.4 The recycling of furniture supports the Council's green thread as it minimises waste and provides reuse and recycling of household items wherever possible.

Equalities and Diversity Implications

6.5 The Homelessness Grant and Homelessness Prevention Grant will benefit customers by offering household's more options to prevent their homelessness, support them to remain in their own homes or help the

Council to manage and support households in Temporary Accommodation.

6.6 The grant will also benefit the larger community as opportunities to prevent homelessness will be maximised.

6.7 Domestic Abuse New Burdens Grant will ensure that there are resources to support the provision of a range of services available to meet the needs of those victims/survivors of domestic abuse who become homeless and need support to set up a new home and recover from their experience, many of whom are women.

7. RISK MANAGEMENT

7.1 If the recommended schemes are not approved there is a risk that more households who are threatened with homelessness, or who are in housing need, will have limited alternative options. There is also therefore the risk that they may have to make a homeless approach and this could consequently lead to the following negative outcomes:

- Increased B&B costs with 80% having to be picked up by the local authority.
- Increased rough sleeping in the district
- Impacts on physical and mental health, educational achievement, ability to work and similar through increased homelessness.

7.2 All recipients of grant funding will enter into a grant agreement and have regular monitoring with officers on the delivery of the service and a monitoring report will be taken to Cabinet annually.

8. APPENDICES and BACKGROUND PAPERS

None

BROMSGROVE DISTRICT COUNCIL

CABINET 7th January 2026

9. REPORT SIGN OFF

Department	Name and Job Title	Date
Portfolio Holder	Councillor Kit Taylor Portfolio Holder Strategic Housing	3.12.25
Lead Director / Head of Service	Judith Willis Assistant Director Community and Housing Services	3.12.25
Financial Services	Deb Goodall, Assistant Director of Finance and Customer Services	3.12.25
Legal Services	Nicola Cummings, Principal Solicitor Governance	3.12.25
Climate Change Officer (if climate change implications apply)	Matt Bough, Strategic Housing and Business Support Manager	3.12.25

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BROMSGROVE DISTRICT COUNCIL

Cabinet

7th January 2026

Particulate Monitoring

Relevant Portfolio Holder		Councillor Kit Taylor
Portfolio Holder Consulted		Yes
Relevant Assistant Director		Simon Wilkes, Director - Worcestershire Regulatory Services
Report Author	Chris Poole Job Title: Specialist Lead Officer (Air Quality), WRS Contact email: chris.poole@worcsregservices.gov.uk Contact Tel: 01562 738069	
Wards Affected		All
Ward Councillor(s) consulted		No
Relevant Council Priority		Infrastructure & Environment
Non-Key Decision		
If you have any questions about this report, please contact the report author in advance of the meeting.		

1. RECOMMENDATIONS

The Cabinet RECOMMEND that:-

1.1 additional monitoring of Particulate Matter (air pollution) be delivered as set out in Option E below (3.5); and

1.2 A further report be brought back to Cabinet once final costs have been identified.

2. BACKGROUND

2.1 Worcestershire Regulatory Services (WRS) have been asked by Council to prepare an options paper for additional Particulate Matter Monitoring within Bromsgrove District Council (BDC) area.

2.2 **Particulate Matter (PM)**

2.3 Poor air quality is the largest environmental risk to public health in the UK. The mortality burden of air pollution in England is estimated to be between 26,000 and 38,000 a year, but in addition many people suffer avoidable chronic ill health as a result of it.

2.4 Particulate Matter (PM) is considered to be the most important air pollutant in terms of health impacts. Long-term exposure to PM increases mortality and morbidity from cardiovascular and respiratory

diseases and can cause cancer. Effects are amplified in vulnerable groups including young children, the elderly, and those suffering from breathing problems like asthma. It is also causally linked to dementia and decline in cognitive function. There is growing evidence for associations with adverse birth outcomes and diabetes.

2.5 PM is not a single air pollutant; the composition of particles is in practice very complex, comprising variable amounts of organic and inorganic chemicals derived from direct emissions or from atmospheric processing.

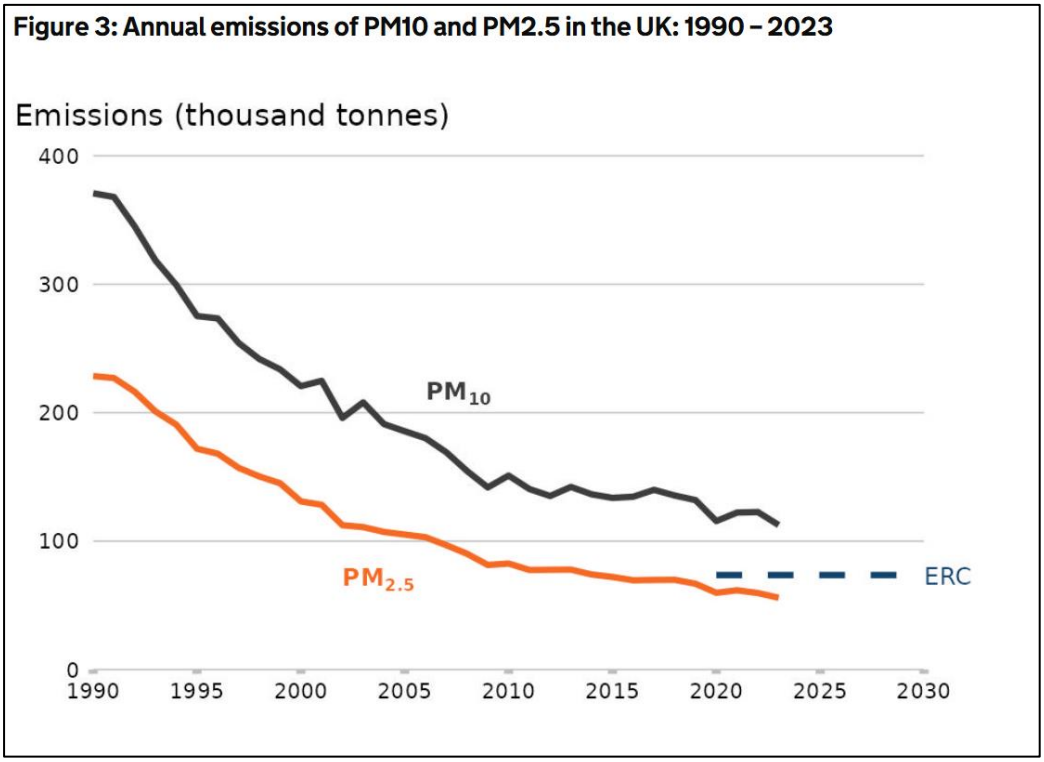
2.6 PM is classified according to aerodynamic size in microns (one-thousandth of a millimetre):

- coarse particles, PM_{10} (particles that are between 10 and 2.5 microns (μm) in diameter)
- fine particles, $PM_{2.5}$ (particles that are less than 2.5 μm in diameter)

2.7 Both PM and the gases that can form it are capable of being transported over large distances, so impacts may occur far from the original source.

2.8 Around **15% of UK PM** comes from naturally occurring sources, up to a **third** from other European countries and around **half from UK human-made sources** (Clean Air Strategy, 2019)

2.9 Appendix 1 demonstrates the various primary sources of PM in the UK (NAEI, 2025). NB this does not include secondary sources as a result of chemical mixing in the atmosphere.



Emissions of air pollutants in the UK – Particulate matter (PM10 and PM2.5) - GOV.UK

2.10 Reduction in burning of coal and improved emission standards for transport and industrial processes were major drivers for significant decreases of PM in the UK between 1990 and the early 2000's Since the late 2000s annual emissions of PM have continued to fall at a reduced rate.

2.11 Considerable decreases in emissions from some sources (e.g. road transport and energy industries) have been partly offset by increases in emissions from other activities, such as wood burning in domestic settings and the burning of biomass-based fuels in industry.

2.12 Emissions from road transport are expected to continue to decline with electrification of the vehicle fleet eliminating exhaust emissions which contribute 4% $PM_{2.5}$ and 2% PM_{10} of primary emissions (NAEI, 2025).

2.13 PM impacts from road sources are dominated by Non-Exhaust Emissions (Brake, Tyre and Road wear) 17% $PM_{2.5}$ and 16% PM_{10}. Brake wear (40%$PM_{2.5}$) is the largest source of NEE with 40% becoming airborne, tyre wear (70%$PM_{2.5}$) is second largest but only 1-5% becomes airborne.

2.14 Electrification will see brake emissions fall, albeit to a lesser degree than exhaust emissions, while tyre emission are expected to rise.

2.15 The upcoming Euro 7 regulations, starting in late 2026, will introduce limits on brake wear emissions, with tyre wear limits following in 2028.

2.16 **Local PM Monitoring and Data**

2.17 Following a successful bid to Defra's Air Quality Grant Scheme 2022-23, 26 low-cost Air Quality sensors were installed across Worcestershire for a period of 3 years between January and May 2024.

2.18 The sensors measure a range of pollutants including PM in real time and monitoring data is accessible via a public portal on WRS website.

2.19 Sensor locations have been chosen to maximise data capture within locations proximal to vulnerable communities, opportunities to encourage behavioural change and/or from a range of sources of air pollution including transport, solid fuel burning, industry and agriculture.

2.20 Three of the twenty-six sensors were installed in the Bromsgrove District, located at:

- Hanover Street, Bromsgrove
- Gunner Lane, Rubery
- Station Road, Hagley

2.21 Appendix 2 provides a graphical representation of PM data recorded by a selection of the sensors in 2024. The sensor data demonstrate similar peak profiles recorded across the County at all locations irrespective of proximity to strategic road or other local sources. This indicates that regional sources of PM from beyond the county borders are significant.

2.22 Appendix 3 provides a summary of averages of the data measured in Bromsgrove and across the county in the context of national air quality objectives and WHO guidelines. Summary:

- UK Annual Mean PM_{10} objective: 40µg/m^3
- Bromsgrove average: 10.86µg/m^3
- WHO Air Quality Guidelines PM_{10} Annual Mean is 15 µg/m^3

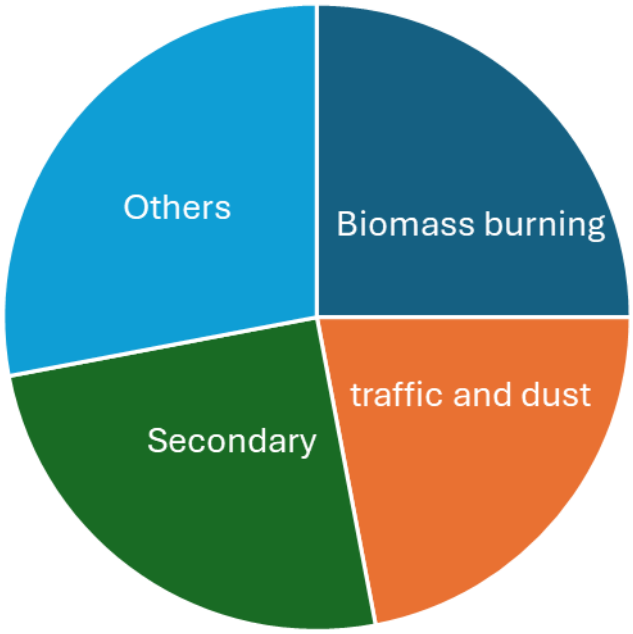
- UK Annual Mean $PM_{2.5}$ 2040 target: 10µg/m^3
- UK Annual Mean $PM_{2.5}$ 2028 target: 12µg/m^3
- Bromsgrove average: 6.99µg/m^3
- WHO Air Quality Guidelines $PM_{2.5}$ Annual Mean is 5 µg/m^3

2.23 No specific sources of PM or exceedances of national objectives have been identified in Worcestershire from 2024 sensor data requiring detailed assessment for Local Air Quality Management (LAQM) purposes at this time.

2.24 It should be noted that low-cost sensors, as well as other standard continuous monitors used in LAQM work, only measure total PM (mass) concentration and do not provide any chemical characterisation which is required to determine sources of PM.

2.25 **Source Apportionment of $PM_{2.5}$ opportunity**

2.26 A summary of a source apportionment of a $PM_{2.5}$ study undertaken by University of Birmingham (UoB) is provided in Appendix 4. This chemical characterisation includes primary and secondary sources of $PM_{2.5}$ pollution.



Contribution of different air pollution sources to $PM_{2.5}$ in Birmingham. Produced from data by Srivastava et al., 2015. This figure shows that biomass burning contributed to a quarter of the $PM_{2.5}$ mass, becoming the most important primary emitted $PM_{2.5}$.

2.27 The study utilised the Birmingham Air Quality Supersite (BAQS), monitoring equipment at another site in Birmingham and sophisticated lab analysis and expertise at the University to undertake the study.

2.28 The study has highlighted the increase of domestic wood burning and biomass burning as sources of PM over the last few decades.

2.29 UoB have recently embarked upon monitoring in Worcestershire to ascertain air quality upwind of Birmingham. A fixed supersite replicating the BAQS facility located at a Malvern Hills location for a period of 12 to 24 months from November 2025. This will be supported by a mobile supersite, mounted either within a van or temporary fixed sites each season over one year. This will provide invaluable insight into PM air pollution in Worcestershire culminating in a published paper in 2 - 3 years' time.

2.30 WRS have approached UoB to assist in the design and implementation of a local source apportionment study of PM in Worcestershire. The study will provide a characterisation of the sources of PM, similar to the UoB study outlined above, utilising the specialist monitoring equipment and expertise available from UoB at this time.

2.31 This is an exciting and unique opportunity unavailable to any other local authorities outside of Worcestershire now or at any other time.

2.32 We may anticipate higher levels of biomass and domestic wood burning, secondary aerosols driven by proximal agricultural sources and biogenic aerosols due to the more rural nature of Worcestershire, and regions upwind of the county, and a lower proportion of traffic related emissions than observed in the Birmingham study.

3. Additional Monitoring Options

3.1 **Low-cost sensors – increased units [Option A].** This option would include purchase and installation of between 1 and 5 additional low-cost sensors in locations to be determined by BDC.

- Costs: c.£11k (1 unit) to £44.5k (5 units)
- Timeline for delivery: 9 – 12 months following Council approval
- Data: PM_1, $PM_{2.5}$, PM_{10}, NO, NO_2 Monitoring Total only

3.2 **Low-cost sensors – extension [Option B]**. Current contract for 3 sensors expires in December 2026. This option would extend life of existing sensors for a further defined period, e.g. 1 – 3 years.

- Costs: c.£ 16.5k (3 units for 3 years, service and subscription) + 10% contingency for 2026 increase
- Timeline for delivery: January 2027 to provide continuous monitoring
- Data: PM_1, $PM_{2.5}$, PM_{10}, NO, NO_2 Monitoring Total only.

3.3 **Low-cost sensors – extension and relocation [Option C]**. As option B. but with additional costs and implementation time for relocation of units to new locations.

- Costs: c.£ 16.5k (3 units for 3 years, service and subscription) + £3k - £4k (relocate 1 – 3 units) + 10% contingency for 2026 increase
- Timeline for delivery: 6 – 9 months following expiry of existing contract or Council approval,
- Data: PM_1, $PM_{2.5}$, PM_{10}, NO, NO_2 Monitoring Total only.

3.4 **Source apportionment study with UoB – mobile supersite [Option D].** This option would utilise state of the art air quality monitoring equipment at a fixed location for one month in summer and one in winter providing a comprehensive set of PM observations. Data analysis and written report provided by experienced academic researcher.

- Costs (rough): c.£ 115,000 + 10% contingency
- Timeline for delivery: approximately 18 months
- Data: Chemical analyses and source apportionment of PM

3.5 **Combination [Option E]**. Option B (or C) and D combined.

- Costs: depending on final solutions
- Timeline for delivery: 6 – 9 months following expiry of existing contract or Council approval for option b (or c) aspect, timeline for option d approximately 18 months.
- Data: Continued automatic monitoring of a range of pollutants for a further period of 3 years and chemical analyses providing source apportionment assessment of PM

3.6 NB all timelines are indicative with consideration for required BDC procurement requirements: source suppliers and quotes, bid process, awarding contracts, and obtaining permissions from Worcestershire County Council for streetlight mounting, structural assessments of streetlights, civil engineering works and licenses as required, installation and power connections, availability of academic researcher and equipment, plus WRS officer time for project.

3.7 **Discussion of options**

3.8 Option A) provides least benefit in respect of PM data obtained of all the options and is the most expensive of the low-cost sensor options. From the data gathered in 2024, as seen in Appendix 2, and noted in section 2.22 above, similar profiles in PM data are recorded at all

locations across the County indicating regional sources of PM from beyond the county borders are significant. At this time, it is anticipated additional monitors will follow the same profile as recorded PM at existing locations and therefore provide minimal value in additional measured data. NB both options A and B will require implementation to increase the current network beyond 2026.

3.9 Option B) is the most beneficial of the low-cost sensor options from perspective of PM data obtained and the least expensive. This option provides data collection at existing locations for a longer period of time enabling continued assessment of concentrations in fixed locations and tracking of reductions or increases in ambient PM over time. Additionally, two of the current sensors are located near schools enabling opportunities to undertake behavioural change activities and the third is located in the one remaining Air Quality Management Area within the Bromsgrove district. Discounted service costs are anticipated through renewal and extension of the existing contract. Please note costings above could increase in 2026.

3.10 Option C) is considered to be the next best cost-effective sensor solution as it utilises existing units and it is anticipated will also benefit from discounted service costs through renewal of the contract. However, some additional costs would occur to relocate any of the units and there could be a period of no data collection between ending of current contract and actual installation at new location. Secondly, relocation of any units would end continued assessment capabilities as described in Option B) above. The benefits are the opportunity to obtain data at a new location, identified source and/or sensitive receptor.

3.11 Option D) provides a unique opportunity not available to any other local authority at any other time to gain insight into sources of PM in Worcestershire. This has greatest benefits in enhancing understanding of pollutant sources and utilising the data gathered and academic expertise available to inform future local, and potentially regional or national, strategies to address PM and other pollution. The mobile air quality supersite will be located at a single urban background location (such as a school) during two seasons (this could be extended to four seasons but doubles researcher staff costs). A constant power supply is required for the supersite and site needs to be secure. Locating at a school also provides an educational opportunity. Considering the EV range of the mobile supersite which is based at UoB campus, Bromsgrove district is an ideal location in the county for such a study.

3.12 Option E) provides ultimate benefit of combination of option B, maintaining current sensors and extending monitoring life for a further

period of time, and option D) providing unique insight into PM profile in Worcestershire utilising state of the art air quality monitoring equipment and supported by academic expertise.

3.13 **WRS recommendation is Option E comprising a combination of Option B and D**.

3.14 **Low-cost sensors – extension [Option B]**. This option would extend life of existing sensors for a further defined period, e.g. 1 – 3 years beyond expiration of current service and maintenance contract due December 2026.

- Costs: c.£ 16.5k (3 units for 3 years, service and subscription) + 10% contingency for 2026 price increases
- Timeline for delivery: January 2027 to provide continuous monitoring
- Data: PM_1, $PM_{2.5}$, PM_{10}, NO, NO_2 Monitoring Total only.

3.15 **Source apportionment study with UoB – mobile supersite [Option D].** This option would utilise state of the art air quality monitoring equipment at a fixed location for one month in summer and one in winter providing a comprehensive set of PM observations. Data analysis and written report provided by experienced academic researcher.

- Costs (rough): c.£ 115,000 + 10% contingency
- Timeline for delivery: approximately 18 months
- Data: Chemical analyses and source apportionment of PM

4. OPERATIONAL ISSUES

4.1 Please outline the reasons for the recommendations or resolutions listed in your report. Outlined above

4.2 Please discuss any operational implications with your Assistant Director. No further operational issues identified

4.3 Please refer to any system upgrades in this section, including for new IT software. No IT systems implications anticipated, will be provided by 3rd parties and incorporated into existing MyAir software (low cost sensors portal) depending on preferred option.

5. FINANCIAL IMPLICATIONS

5.1 The table below shows the estimated costs by each of the options outlined within this report:

	One-off
Option A	£11 – 44.4k
Option B	£16.5 - 18.1k
Option C	£16.5 - 23k
Option D	£115 - 126.5k
Option E	£131.5 – 149.5k

5.2 With any option, it is proposed that expenditure would in year 2026/27.

5.3 There is currently no assigned budget available for this project. Any agreement to the proposal would need to be considered alongside other competing bids for funding from reserves.

6. LEGAL IMPLICATIONS

6.1 Part IV of the Environment Act 1995, the Local Air Quality Management process (LAQM) and subsequent Policy Guidance (LAQM.PG22) and Technical Guidance (LAQM.TG22) documents set out the duty of local authorities to review and assess local air quality within their areas against a set of health-based objectives and work to improving poor air quality identified. Local Authorities in England are expected to report on nitrogen dioxide (NO_2), PM_{10} and sulphur dioxide (SO_2) as standard within their Annual Status Reports. Under the Environment Act 2021, the UK government have set 2 legally-binding long-term targets to reduce concentrations of fine particulate matter, $PM_{2.5}$. Whilst the responsibility for meeting the $PM_{2.5}$ targets sits with national government; local authorities have a role to play in delivering reductions in $PM_{2.5}$. and are also required to report on actions taken within their ASR. The proposal supports the council's obligations to assess local air quality within its boundaries in accordance with LAQM regulations.

6.2 Poor air quality in general can affect peoples' health, playing a role in many chronic conditions such as cancer, asthma, heart disease and neurological changes linked to dementia. Air pollution is estimated to contribute to between 26,000 to 38,000 deaths per year in England (Chief Medical Officer's Report, 2022). Particulate Matter is considered to be the most important air pollutant in terms of health impacts. PM can have short-term health impacts over a single day when concentrations are elevated. Long-term exposure to PM increases mortality and morbidity from cardiovascular and respiratory diseases and can cause cancer. Effects are amplified in vulnerable groups including young children, the elderly, and those suffering from

breathing problems like asthma. It is also causally linked to dementia and decline in cognitive function. There is growing evidence for associations with adverse birth outcomes and diabetes. The World Health Organization (WHO) advises there is no safe exposure level to PM.

7. OTHER - IMPLICATIONS

7.1 Local Government Reorganisation

7.2 No impacts on LGR because it is anticipated the proposed schemes will be implemented before 1st May 2028.

7.3 Climate Change Implications

7.4 No impacts on climate change.

7.5 Equalities and Diversity Implications

7.6 No equality and diversification implications.

8. RISK MANAGEMENT

8.1 Risk from not taking proposed action is limiting understanding of $PM_{2.5}$ within the district's boundaries. Risks from implementing proposed action is that additional monitoring may identify an exceedance of an objective that is a national issue and the local authority is limited in powers to resolve.

9. APPENDICES and BACKGROUND PAPERS

Appendix 1. PM sources (National Atmospheric Emissions Inventory)
Appendix 2. Low-cost sensor PM graphs 2024
Appendix 3. Low-cost sensor PM averages & National AQ Objectives
Appendix 4. WM-Air PM2.5 sources briefing note

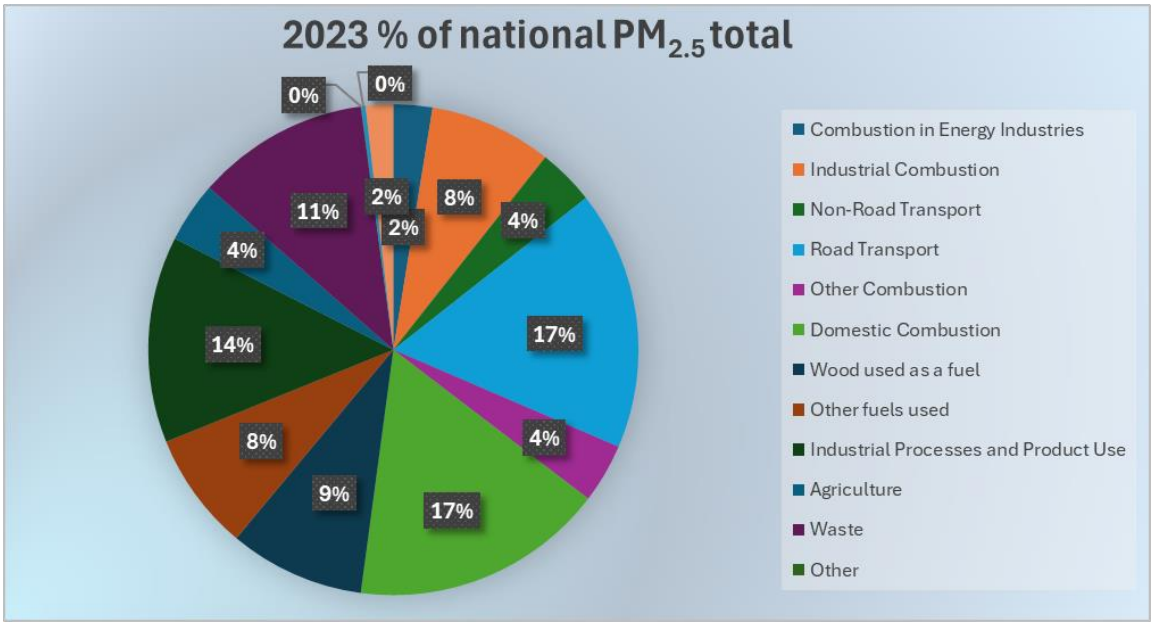
BROMSGROVE DISTRICT COUNCIL

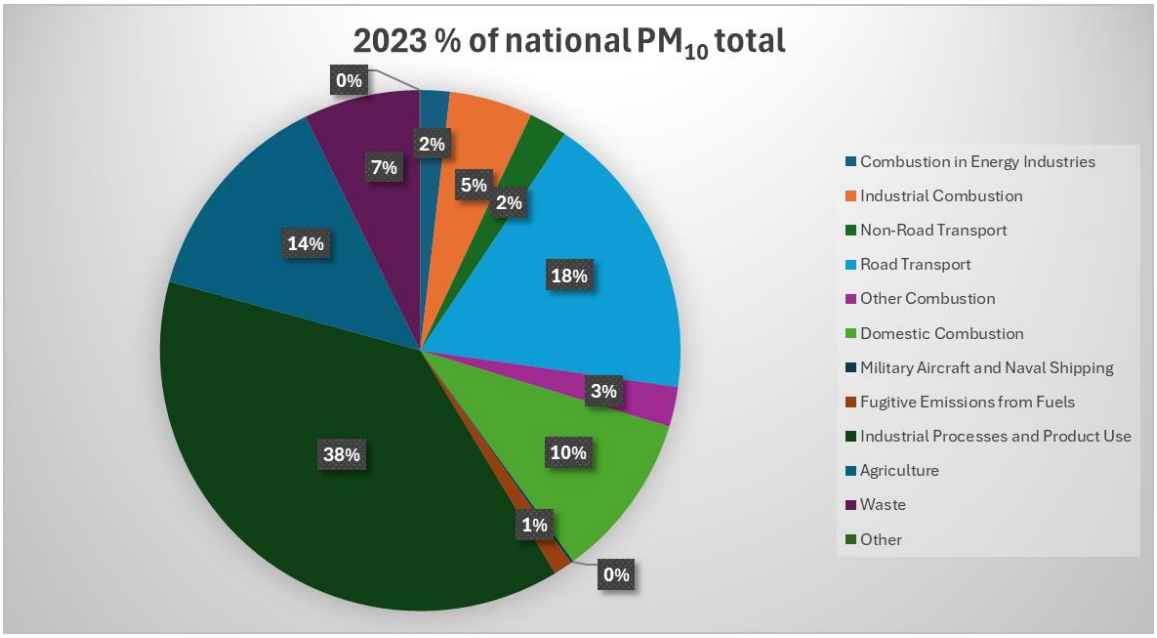
Cabinet **7th January 2026**

9. REPORT SIGN OFF

Department	Name and Job Title	Date
Portfolio Holder	Councillor Kit Taylor.	Advised by email 09.12.2025
Lead Director / Assistant Director	Simon Wilkes	10.12.2025
Financial Services	Debra Goodall	09.12.2025
Legal Services	Nicola Cummings	11.12.2025
Policy Team (if equalities implications apply)	N/A	N/A
Climate Change Team (if climate change implications apply)	N/A	N/A

Appendix 1: National Atmospheric Emissions Inventory – Primary UK Sources of PM, 2023





No single activity dominating:

- Domestic combustion = 20 % $PM_{2.5}$ & 10 % PM_{10}
- Non-exhaust emissions (NEE) from road transport (road wear, brake wear, tyre wear) = 17% $PM_{2.5}$ & 16% PM_{10}
- Exhaust emissions = 4% $PM_{2.5}$ & 2% PM_{10}
- Industrial processes =16% $PM_{2.5}$ & 38% PM_{10}
- Industrial combustion (manufacturing and construction sites) = 10% $PM_{2.5}$ & 5 % PM_{10}
- Emissions from construction activity (mostly roads and non-residential buildings) = 22% PM_{10} & 4% $PM_{2.5}$
- Quarrying activity = 7% PM_{10} and 1 % $PM_{2.5}$

Emissions of air pollutants in the UK - Summary - GOV.UK

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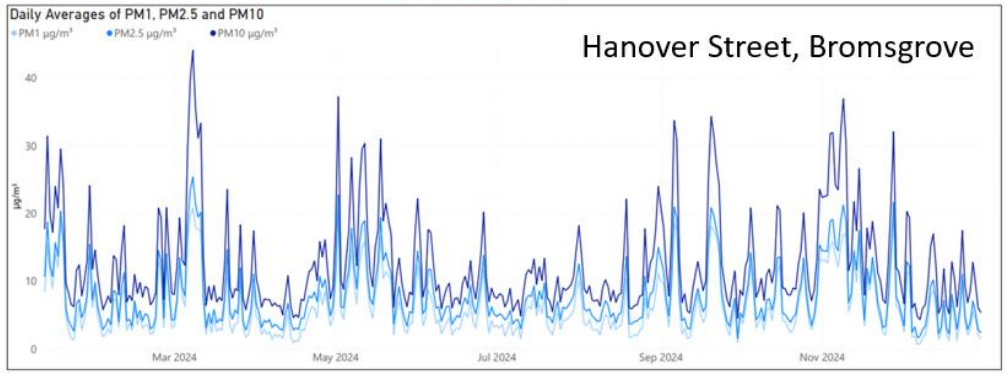
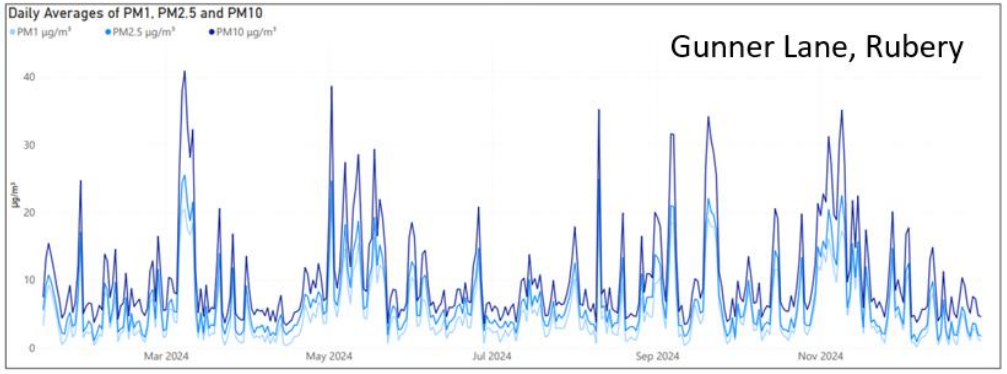
Appendix 2: Low-Cost Sensor PM Graphical Data, Worcestershire 2024

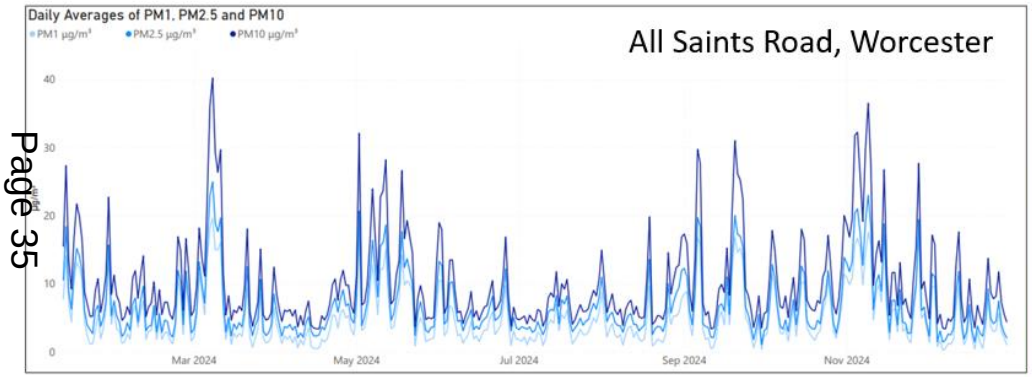
Strategic Roads

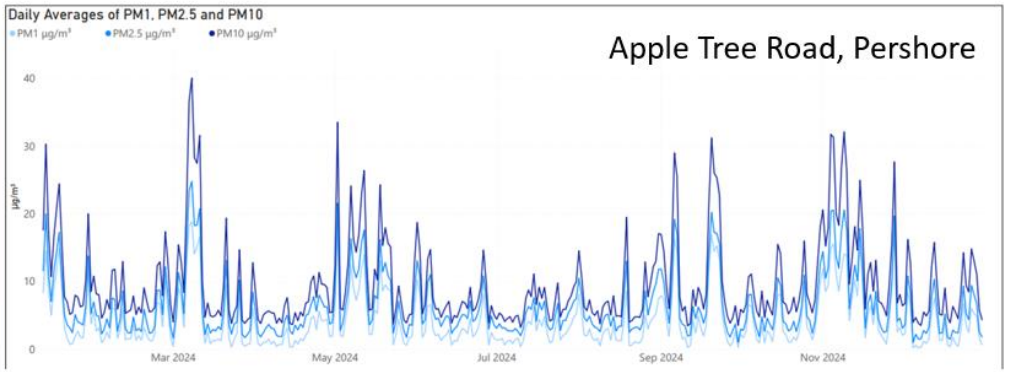
N

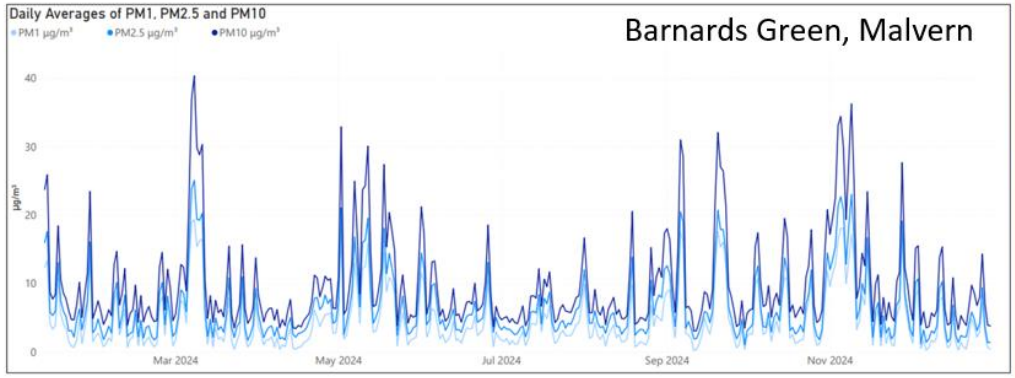
Non-Strategic Roads

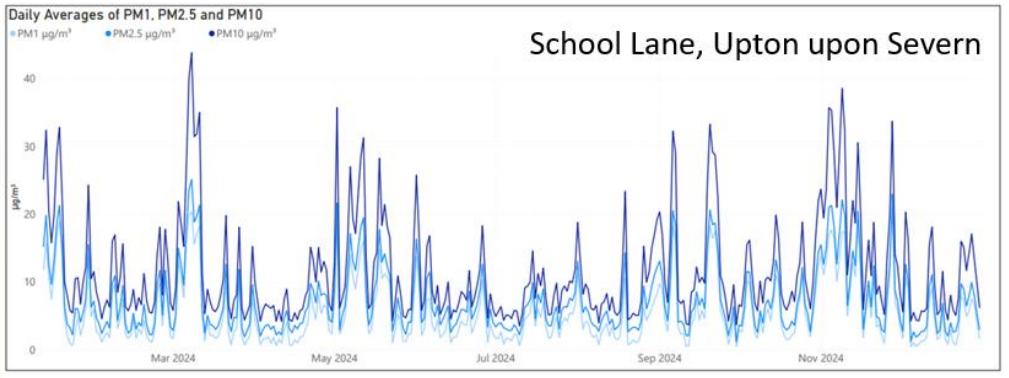












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Appendix 3: PM Data, 2024 and National Air Quality Objectives

Low-cost sensors PM_{10} µg/m^3 2024	
Worcestershire High	12.69
Worcestershire Low	8.53
Worcestershire Average	10.47
Bromsgrove High (Hanover Street)	12.69
Bromsgrove Low (Hagley)	9.41
Bromsgrove Average	10.86
Defra Background Maps (BDC) Average	12.31

Low-cost sensors $PM_{2.5}$ µg/m^3 2024	
Worcestershire High	7.96
Worcestershire Low	5.42
Worcestershire Average	6.90
Bromsgrove High (Hanover Street)	7.96
Bromsgrove Low (Hagley)	6.23
Bromsgrove Average	6.99
Defra Background Maps (BDC) Average	6.57

Also Worcester Road, Wychbold PM_{10} analyser 15.2 µg/m^3 in 2024

6.1 Local Air Quality Management Framework

The Air Quality (England) Regulations 2000 (2002 as amended)

These pollutant limits apply locally under the Air Quality Management framework.

Pollutant	Objective	Averaging Period
Fine and coarse particulate matter - PM10	50 µg/m^3 not to be exceeded more than 35 times/ year	24-hour mean
Fine and coarse particulate matter - PM10	40 µg/m^3	Annual mean

WHO Air Quality Guidelines PM_{10} Annual Mean is 15 µg/m^3

6.2 Environment Act PM2.5

The Environmental Targets (Fine Particulate Matter) (England) Regulations 2023

Pollutant and metric	Target	Target year
PM2.5 annual mean concentration	Interim target: 12 µg/m^3	2028
PM2.5 annual mean concentration	Legally binding target: 10 µg/m^3	2040
PM2.5 population exposure	Interim target: 22% reduction in exposure compared to 2018	2028
PM2.5 population exposure	Legally binding target: 35% reduction in exposure compared to 2018	2040

WHO Air Quality guidelines $PM_{2.5}$ Annual Mean is 5 µg/m^3

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Acton W.J.F., Srivastava D., Shi Z., Harrison R., Bloss, W.J. & the WM-Air Team. Sources of fine particles ($PM_{2.5}$) in the West Midlands. WM-Air Project, University of Birmingham. Funding provided by NERC grant NE/S003487/1.

Sources of fine particles ($PM_{2.5}$) in the West Midlands

A report from the WM-Air project team

Contact: https://wm-air.org.uk; @WMAir_UoB; wmair@contacts.bham.ac.uk

Microscopic airborne particles ($PM_{2.5}$) are the air pollutants with the greatest impact upon health in the West Midlands, responsible for up to 2070 early deaths each year. $PM_{2.5}$ concentrations are 2-3 times higher than World Health Organisation guideline levels. Identifying the sources of $PM_{2.5}$ is key to designing effective policies for cleaner air. Through the application of state-of-the-science methods, the major sources of $PM_{2.5}$ in the West Midlands have been identified as: biomass burning (25%), secondary inorganic aerosol (25%), primary traffic related emissions (22%), secondary biogenic aerosol (10%), industrial activity (9%) and sea salt (9%). Reducing emissions from biomass (wood) burning and road traffic exhaust, should be policy priorities for local, regional and national government to reduce the health impacts of air pollution.

Air quality in the West Midlands

Air quality is the largest environmental threat to human health in the UK [1] with the burden of long-term exposure to air pollution equivalent to 29,000 – 43,000 early deaths a year [2]. In the West Midlands the ambient pollutants of greatest concern are nitrogen oxides (NO_x) and fine particulate matter ($PM_{2.5}$; particles with a diameter of 2.5 µm or below). Of these pollutants, $PM_{2.5}$ has the greatest impact on health with up to 2,070 early deaths attributable to long term $PM_{2.5}$ exposure[3] each year in the region.

Following the Environment Act, 2021, an annual average $PM_{2.5}$ target level for England of 10 µg m^{-3} was set, to be achieved by 2040, with an interim target of 12 µg m^{-3} to be achieved by January 2028. The World Health Organisation issues non-binding guideline levels of air pollutants for the protection of human health with a guideline level for $PM_{2.5}$ of 5 µg m^{-3}.

Unlike NO_x which is primarily emitted by road traffic, $PM_{2.5}$ has a broad range of both primary (particles emitted directly into the atmosphere) and secondary (particles formed in the atmosphere) sources of natural and human origin. $PM_{2.5}$ also has a long atmospheric lifetime, meaning that local concentrations are impacted both by local emission sources and a regional background. The impact of this background on $PM_{2.5}$ concentrations is dependent on the prevailing weather conditions and pollution sources in the surrounding region. Understanding the contribution of both primary and secondary sources to total $PM_{2.5}$ concentrations is necessary when designing policy interventions to control concentrations of $PM_{2.5}$.

Sources of $PM_{2.5}$ in the West Midlands

In order to identify the factors contributing to $PM_{2.5}$ concentrations in the West Midlands region, filter samples were collected from January 2021 to February 2022 at two urban background sites: Birmingham Air Quality Supersite (BAQS) and the AURN sampling site at Birmingham Ladywood (LW)[4].

Filters were analysed for Organic Carbon (OC), Elemental Carbon (EC), Ions, Metals and Organic compounds. These species were then used to

[1] Public Health England: Health matters: air pollution. Guidance. London: PHE, 2018.

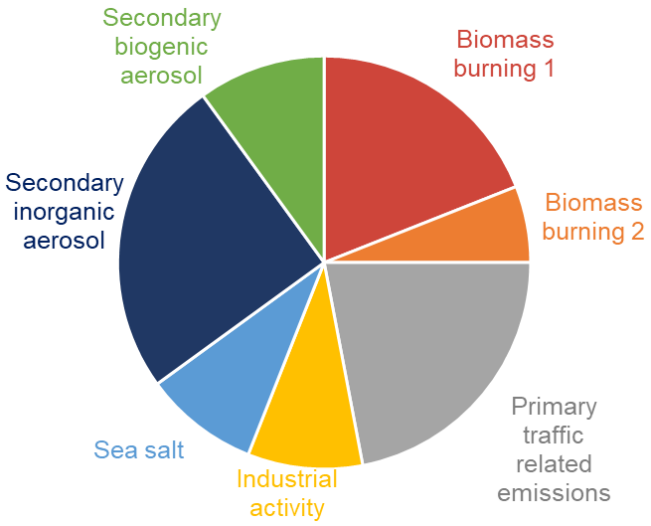
[2] Mitsakou C., et al.: Updated mortality burden estimates attributable to air pollution. Chemical Hazards and Poisons Report, 28, 2022

[3] Hall J., et al.: Regional impact assessment of air quality improvement: The air quality lifecourse assessment tool (AQ-LAT) for the West Midlands combined authority (WMCA) area. Environ Pollut., 356, 2024

[4] Srivastava D., et al..: Comparative receptor modelling for the sources of fine particulate matter ($PM_{2.5}$) at urban sites in the UK. Atmos. Environ., 343, 2025

identify the factors contributing to total $PM_{2.5}$ concentrations using positive matrix factorisation, an extensively used receptor modelling approach. For a full method description see Srivastava et al., 2025[4].

Seven factors were identified: two Biomass burning factors, primary traffic related emissions, industrial activity, sea salt, secondary inorganic aerosol and secondary biogenic aerosol.



Biomass burning

The first biomass burning factor, Biomass burning 1, accounted for 19% of $PM_{2.5}$. This factor followed the profile expected of wood burning for heating with concentrations higher in the winter than in the summer. The contribution of this source to total $PM_{2.5}$ mass was higher at BAQS than at LW which is consistent with the older houses present in Selly Oak and Edgbaston being more likely to have chimneys and fireplaces than the more modern estates around the Ladywood site.

A second biomass burning factor, Biomass burning 2, did not show a seasonal pattern and the contribution of this factor to total $PM_{2.5}$ mass was similar at both sites. This suggests that this source could be linked to other activities such as garden waste burning, barbecues or commercial biomass combustion. This factor accounted for 6% of annual average $PM_{2.5}$ mass across the two sites.

Primary traffic related emissions

Primary traffic related emissions are made up of tyre and brake abrasion as well as resuspension of road dust and particles emitted from the exhaust (many of the gases emitted from vehicle exhausts react in the atmosphere to form secondary inorganic aerosol). This factor made up 22% of $PM_{2.5}$ mass annually.

Industrial activity

Industrial activity, characterised by sulfate (SO_4^{2-}) and metal ions made up 9% of total $PM_{2.5}$ annual average mass concentration.

Sea salt

Sea salt is emitted from the sea as salt spray and from road de-icing salt and is observed throughout the UK. This factor accounted for 9% of total $PM_{2.5}$ mass which is consistent with other sites in the central UK.

Secondary inorganic aerosol

Secondary inorganic aerosol is dominated by nitrate (NO^{3-}), sulphate (SO_4^{2-}) and ammonium (NH^{4+}) ions. These species are formed in the atmosphere from the emission of gaseous pollutants from traffic, industrial and agricultural sources. This factor accounted for 25% of $PM_{2.5}$ mass across the 2 sites.

Secondary biogenic aerosol

Biogenic volatile organic compounds are emitted from plants; many of these are familiar, for example, pine scent and the smell of cut grass. In polluted environments these compounds can be oxidised to form particulates. This factor contributed to 10% of $PM_{2.5}$ mass concentration at both sites.

Table 1. Sources of $PM_{2.5}$ averaged across the Birmingham Air Quality Supersite (BAQS) and the Ladywood AURN sampling (LW) in 2021/2022.

Identified Sources	Contribution to PM mass (%)	Concentration (μg m^{-3})
Biomass burning 1	19	1.5
Biomass burning 2	6	0.5
Primary traffic related emissions	22	1.7
Industrial activity	9	0.7
Sea salt	9	0.7
Secondary inorganic aerosol	25	1.9
Secondary biogenic aerosol	10	0.7