St Albans City and District Council

Air Quality Action Plan

In fulfilment of Part IV of the Environment Act 1995

Local Air Quality Management

February 2024

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Report Reference Number	AQAP 2024
Date	February 2024

Executive Summary

This Air Quality Action Plan (AQAP) has been produced as part of our statutory duties required by the Local Air Quality Management framework. It outlines the action we will take to improve air quality in St Albans City and District Council between 2024 and 2029.

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 billion[3]. St Albans City and District Council is committed to reducing the exposure of people in St Albans to poor air quality in order to improve health.

We have developed actions that can be considered under the following broad topics:

- **Environmental measures:** focusing on building partnerships, development and robustness of implementing plans and policies, use of monitoring and data and infrastructure improvements.
- **Transport measures:** focusing on promotion and transition to low emission transport, active travel, modal shift, and traffic management.
- **Health, education, and awareness:** promotion of health, public information, access to education and behaviour change.

[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

Our priorities include tackling emissions from private vehicle transport, this will be supported through a modal shift towards active travel and public transport. This will be delivered through actions such as delivering top priority schemes identified within the Local Cycling and Walking Infrastructure Plan, increasing car parking charges and consideration of road closures such as High Street. The second key priority involves improvements of bus emission standards by ensuring bus routes through AQMA are only electric and the incorporation of new electric buses into the wider bus fleet. The final key priority is to reduce domestic combustion which will be achieved through actions such as promotion of Clean Air Night, supporting households in a transition to decarbonising their energy supply, considering implementation of a district wide smoke control area, and control of bonfires and other unauthorised fuels.

In this AQAP we outline how we plan to effectively tackle air quality issues within our control. However, we recognise that there are a large number of air quality policy areas that are outside of our influence (such as vehicle emissions standards agreed in Europe), but for which we may have useful evidence, and so we will continue to work with regional and central government on policies and issues beyond St Albans City and District Council's direct influence.

This AQAP was prepared by Ricardo for St Albans City and District Council

Responsibilities and Commitment

This AQAP was prepared by Ricardo on behalf of St Albans City and District Council with the support and agreement of the following officers and departments:

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This AQAP has been approved and signed off by Sarah Perman, Director of Public Health, Hertfordshire County Council.

This AQAP will be subject to an annual review and appraisal of progress. Progress each year will be reported in the Annual Status Reports (ASRs) produced by St Albans City and District Council, as part of our statutory Local Air Quality Management duties.

If you have any comments on this AQAP, please send them to Environmental, Regulatory Services at:

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1 Introduction

This report outlines the actions that St Albans City and District Council will deliver between 2024 and 2029 in order to reduce concentrations of air pollutants and exposure to air pollution, thereby positively impacting on the health and quality of life of residents and visitors to St Albans.

It has been developed in recognition of the legal requirement on the local authority to work towards Air Quality Strategy (AQS) objectives under Part IV of the Environment Act 1995 and relevant regulations made under that part and to meet the requirements of the Local Air Quality Management (LAQM) statutory process.

This Plan will be reviewed every five years at the latest and progress on measures set out within this Plan will be reported on annually within St Albans City and District Council's air quality ASR.

2 Summary of Current Air Quality in St Albans City and District Council

A summary of the current air quality situation in St Albans is provided below. It is based on the 2023 Annual Status Report, finalised in June 2023[4]. This document provides further information on air quality in St Albans.

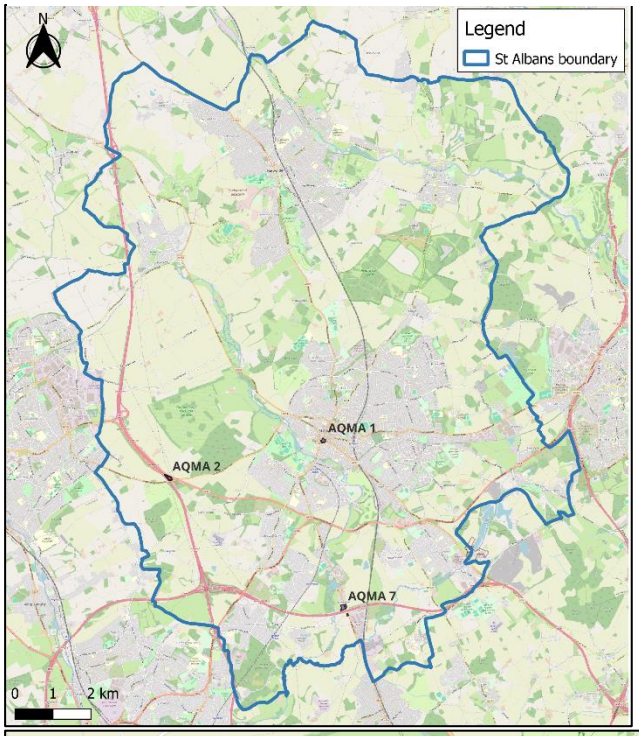
2.1 Air Quality Management Areas (AQMAs)

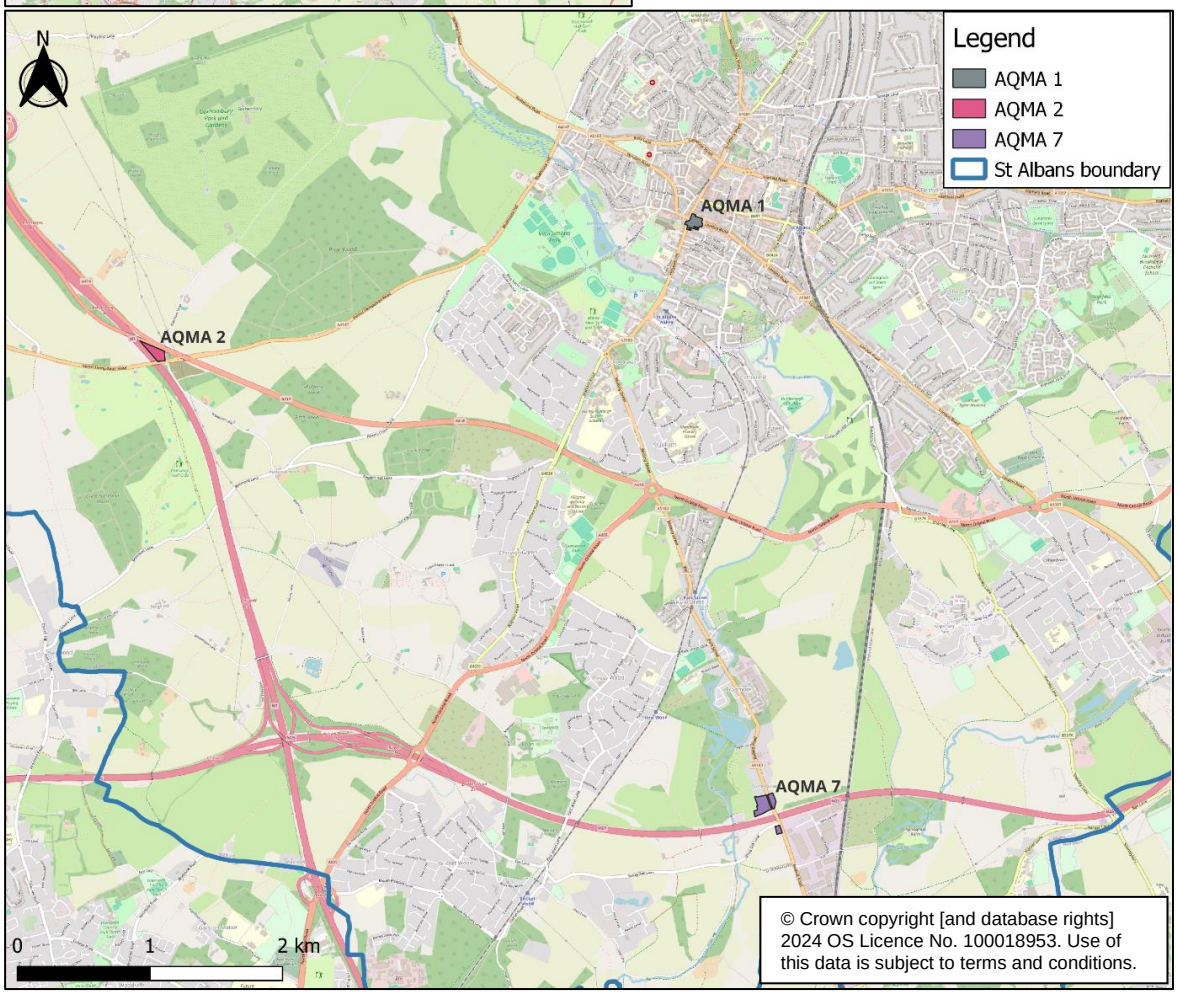
The active and revoked AQMAs in St Albans City are shown in Figure 2-1. There is currently one active AQMA in the St Albans city centre (AQMA No. 1), which was declared in 2004 and implemented under LAQM statutory duties as a result of monitored annual mean NO_2 concentrations exceeding the national objective of 40 μgm^{-3}. AQMA 1 was also declared for PM_{10}. AQMA 1 encompasses the area comprising the odd numbers 1-7 London Road, 1-11c Hollywell Hill and 2-38 London Road.

In 2022, St Albans City and District Council revoked two AQMAs. This decision was based on compliance for the last 5 years in NO_2 monitoring data and continued decreasing trends in concentrations across both AQMAs. AQMA No. 2, declared for NO_2, encompassed the residences adjacent to the junction of the M1 and the M10. AQMA No. 7, declared for NO_2 and PM_{10}, extended across the residential properties in Frogmore and Colney Street in the vicinity of the M25.

[4] St Albans City and District Council, 2023 Air Quality Annual Status Report 2023.pdf (stalbans.gov.uk)

Figure 2-1: Maps of St Albans City and District Council with the active AQMA (AQMA No. 1) and the two revoked AQMAs (AQMA No. 2 and AQMA No. 7).

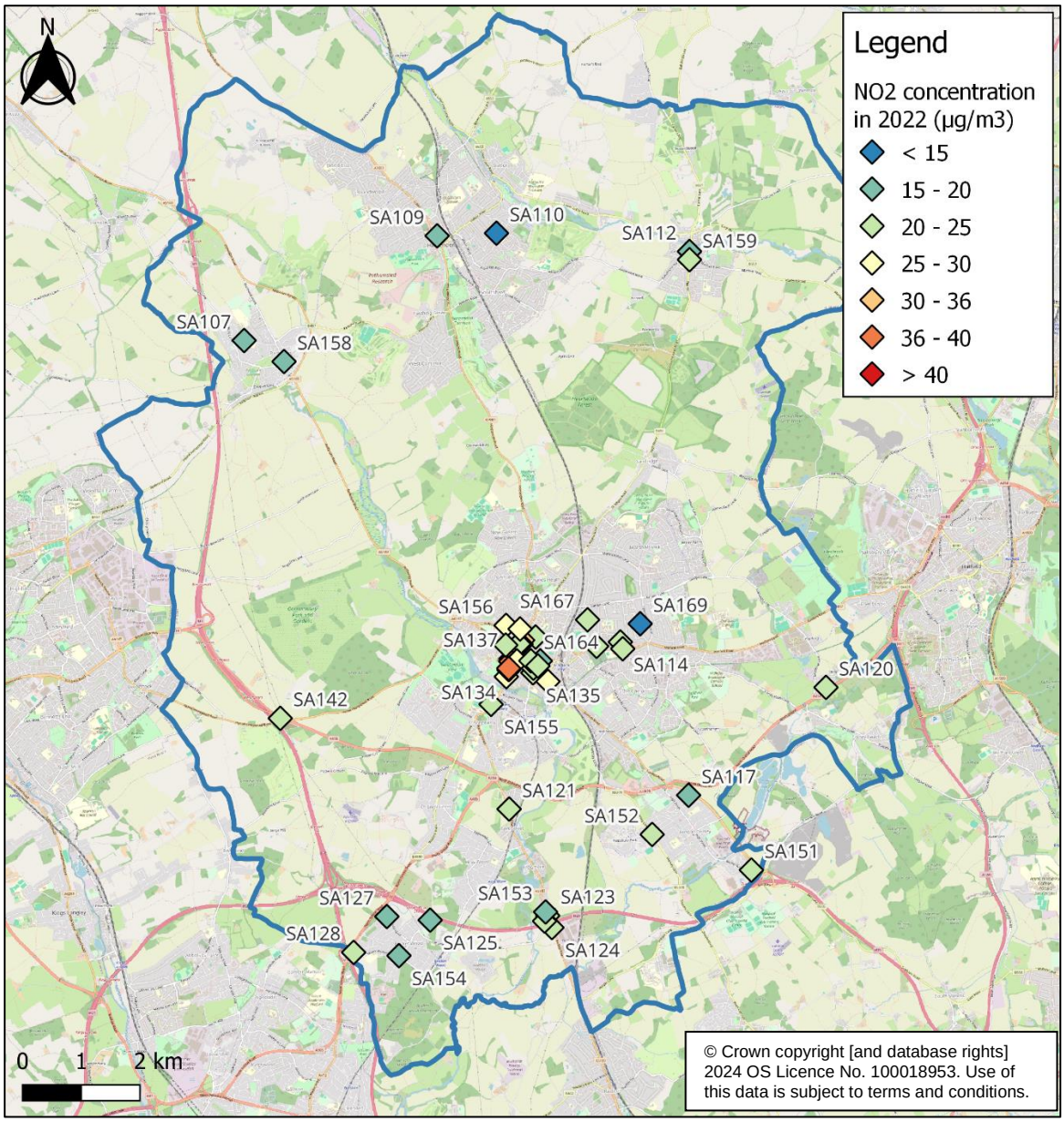




2.2 Monitoring network and 2018-2022 data

In 2022, St Albans City and District Council undertook non-automatic monitoring of NO_2 at 50 sites across the district, including the deployment of 9 new sites in 2022. All diffusion tubes showed compliance with the national 40 μgm^{-3} objective throughout 2022 and have been compliant since 2020. Figure 2-2 shows the locations and NO_2 concentrations at the diffusion tubes in 2022. The NO_2 concentrations between 2018-2022 at each monitoring site can be found in the 2023 Annual Status Report[4].

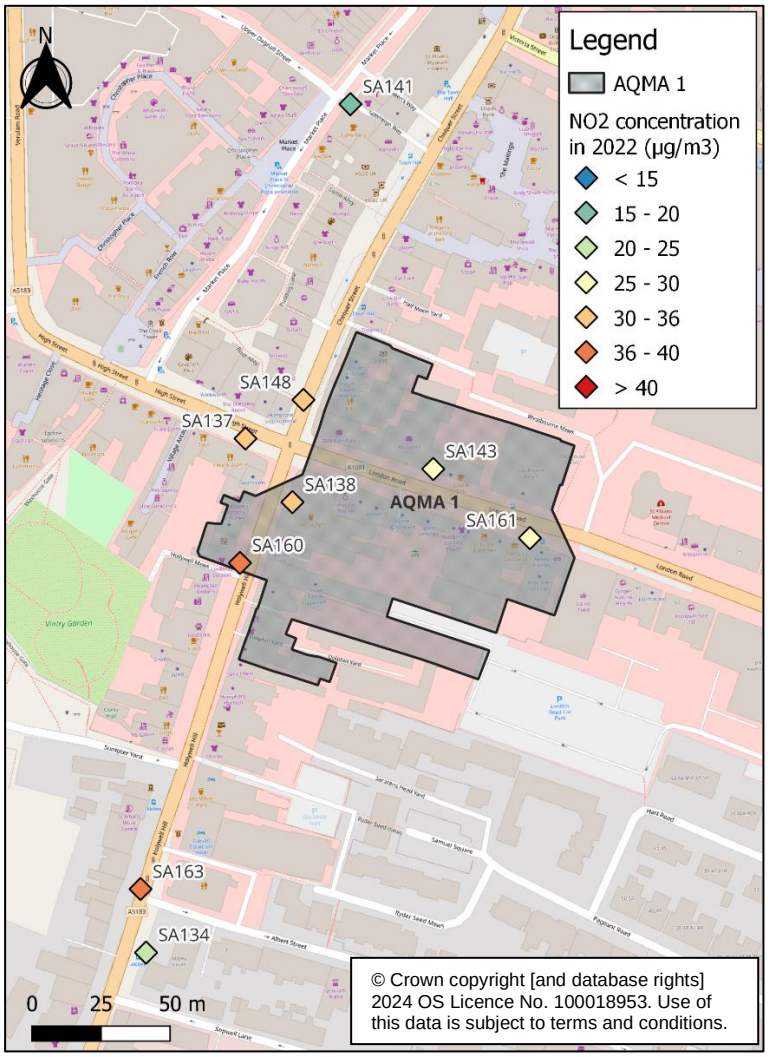
Figure 2-2: NO_2 concentrations in μgm^{-3} at diffusion tubes in St Albans City and District Council in 2022.



2.2.1 AQMA No. 1, St Albans City Centre

Figure 2-3 shows the NO_2 monitoring sites in and around the AQMA in St Albans city centre (AQMA No. 1). All sites were compliant with the national NO_2 objective of 40 $\mu g.m^{-3}$ in 2022. Two sites were reported to be within 10% of the national NO_2 objective (SA160, 39.4 $\mu g.m^{-3}$, and SA163, 36.1 $\mu g.m^{-3}$), but these sites are not located at sites of relevant exposure. As annual mean concentrations are all significantly below 60 $\mu g.m^{-3}$, it is unlikely that any exceedances of the 1-hour mean objective has occurred at any sites, in accordance with LAQM Technical Guidance[5].

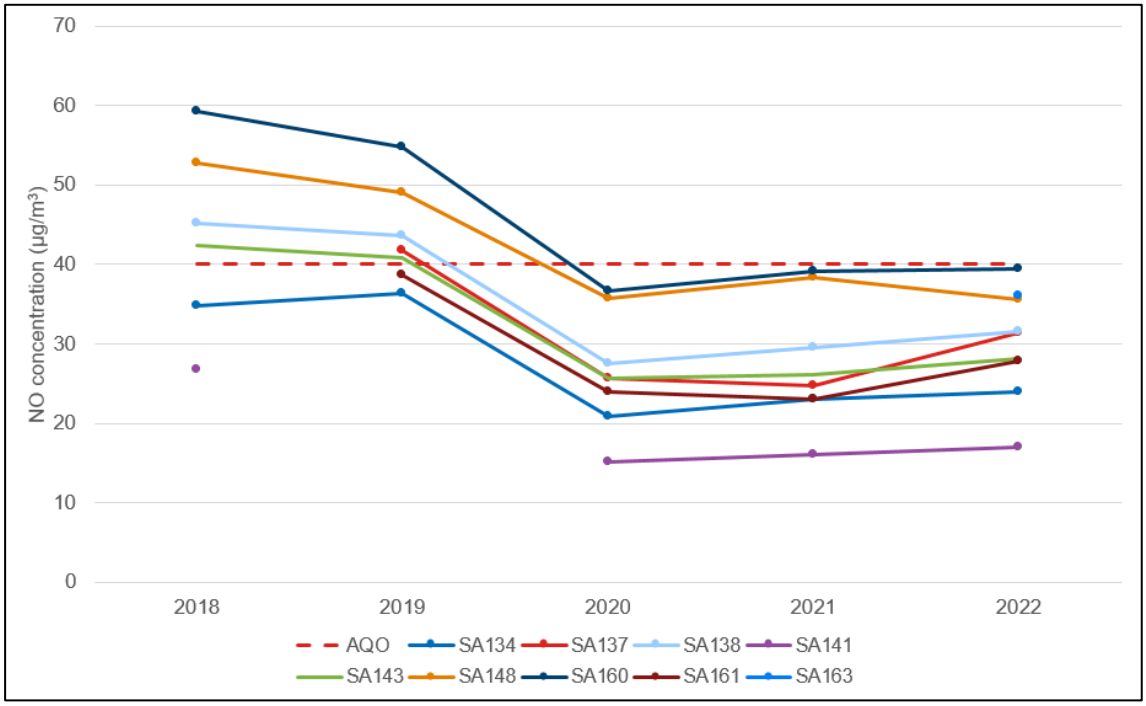
Figure 2-3: Annual mean NO_2 concentrations in 2022 surrounding AQMA No. 1.



[5] LAQM, 2022 LAQM-TG22-August-22-v1.0.pdf (defra.gov.uk)

Figure 2-4 shows the NO_2 concentrations in St Albans AQMA No. 1 over the last five years between 2018-2022. All monitoring sites in 2022 were compliant with the national objective of 40 $\mu g.m^{-3}$, but there have been historical exceedances at 5 monitoring sites over the last five years (SA137, SA143, SA138, SA148, SA160). In 2022, the highest recorded annual mean NO2 concentration recording across AQMA No.1 and the whole of the St Albans City and District Council monitoring network was SA160 on Holywell Hill, with a value of 39.4 $\mu g.m^{-3}$.

Figure 2-4: Annual mean NO_2 concentrations in μgm^{-3} between 2018-2022 at monitoring sites in and around AQMA No. 1.



The impact of COVID-19

There was an increase in NO_2 concentrations at all sites in 2022 compared to 2021, with only one monitoring site (SA148) reporting a decrease. This pattern is likely a result of the social restrictions placed on the UK due to the COVID-19 pandemic, which had an effect of reducing traffic volumes in 2020 and 2021, particularly during March to December in 2020, and in the first half of the year for 2021.

In 2020, decreased NO_2 levels correspond with the various national lockdowns and travel restrictions. In 2021, NO_2 concentrations increase compared to 2020 but remained lower than in 2019, reflecting the lockdown imposed in the beginning of the

year, followed by the lifting of pandemic restrictions throughout 2021. In 2022, all social restrictions were removed, reflected in the slightly higher NO_2 concentrations.

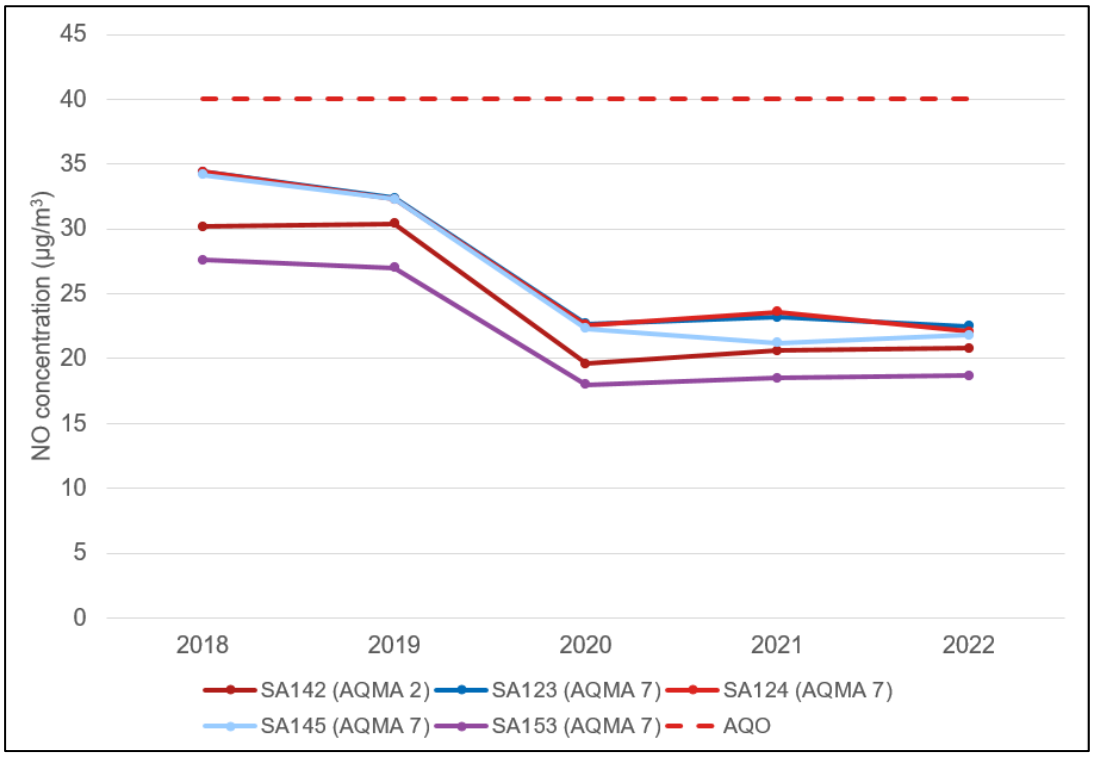
2.2.2 Revoked AQMAs: AQMA No. 2 and AQMA No. 7

AQMA No. 2 and AQMA No. 7 which were both revoked in 2022. Figure 2-5 shows the locations and concentrations of the monitoring sites within the AQMAs in 2022. AQMA No. 2 encompassed the residences adjacent to the junction of the M1 and the M10, and AQMA No. 7 extended across the residential properties in Frogmore and Colney Street in the vicinity of the M25.

Figure 2-5: Maps of NO_2 concentrations at monitoring sites in AQMA No. 2 (left) and AQMA No. 7 (right) in St Albans City and District Council in 2022.

Figure 2-6 shows the NO_2 concentrations in AQMA No. 2 and AQMA No. 7 over the last five years between 2018-2022. All monitoring sites have been compliant with the national objective, and below 10% of the national objective, 36 $\mu g.m^{-3}$, between 2018-2022. The data from 2022 support the revocation of the AQMAs and confirm the reducing trend in NO_2 concentrations, despite the impact from COVID-19-related social and travel restrictions in 2020 and 2021.

Figure 2-6: Annual mean NO_2 concentrations between 2018-2022 at monitoring sites in the revoked AQMA No. 2 and AQMA No. 7.



3 St Albans City and District Council's Air Quality Priorities

3.1 Public Health Context

Air pollution is the greatest environmental threat to human health in the UK[6]. It is well established that air pollution can have short term effects on health and can exacerbate any pre-existing conditions. Air pollution is associated with an estimated 29,000 to 43,000 deaths a year in the UK, mostly due to the impacts of longer-term exposure causing respiratory or cardiovascular diseases[7].

In St Albans, air quality is compliant with the national objectives set by the UK government. However, there are still potential improvements to be made to ensure that there are no future exceedances of the current national air quality objectives, and that there are continued improvements to air quality in the context of the air quality targets for 2040 under the Environment Act 2021[8] and the Environmental Improvement Plan 2023[9]. Given the health impacts of air pollution, improvements may be made regarding the shorter term lowering of air pollutant concentrations to adhere to the World Health Organisation's Global Air Quality Guidelines[10].

3.1.1 Nitrogen dioxide (NO_2)

The main pollutant of concern in St Albans is NO_2, primarily originating from vehicular emissions. A number of main roads and motorways pass through St Albans, and congestion is thought to play a key role in exacerbating NO_2 pollution in urban areas.

[6] Environment Agency, 2023 State of the environment: health, people and the environment - GOV.UK (www.gov.uk)).

[7] UK Health Security Agency, 2023 HECC 2023 report. Chapter 4: Impacts of climate change and policy on air pollution and human health (publishing.service.gov.uk)

[8] UK Public General Acts, 2021 Environment Act 2021 (legislation.gov.uk))

[9] Defra, 2023 Environmental Improvement Plan (publishing.service.gov.uk)

[10] World Health Organisation, 2021 9789240034228-eng.pdf (who.int)

3.1.2 Particulate matter (PM_{10} and $PM_{2.5}$)

St Albans is also expected to work toward the reduction for $PM_{2.5}$ concentrations as set out in the LAQM Policy Guidance[11].

Current Defra background maps (based on 2018 data) demonstrate that $PM_{2.5}$ concentrations in St Albans are significantly below the national objective of 20 μgm^{-3}, with the highest concentration at 10.9 μgm^{-3}.

The UK Government introduced new legally binding targets for $PM_{2.5}$ through the Environmental Targets (Fine Particulate Matter) (England) Regulations 2023[12] which require that in England:

- An annual average of 10 $\mu g/m^3$ for $PM_{2.5}$ is not exceeded at any monitoring station by the end of 2040, with an interim target of 12 $\mu g/m^3$ by January 2028.
- Population exposure to $PM_{2.5}$ is at least 35% less than in 2018 by the end of 2040, with an interim target of 22% less than in 2018 by January 2028.

Local authorities have a legally binding responsibility to reduce particulate matter concentrations to meet these new targets.

3.2 Planning and Policy Context

3.2.1 Regional level - Hertfordshire

Hertfordshire Local Transport Plan

The Local Transport Plan 4 for 2018-2031 was written to account for an estimated increase of 175,000 people living in Hertfordshire by 2031 [13]. Within the wider context of local plans, the local transport plan is also expected to have major input into wider policies such as economic growth, meeting housing needs, improving public health, and reducing environmental damage. This version of the Local Transport Plan for

[11] LAQM, 2022 LAQM-Policy-Guidance-2022.pdf (defra.gov.uk)

[12] The Environmental Targets (Fine Particulate Matter) (England) Regulations 2023 https://www.legislation.gov.uk/uksi/2023/96/contents/made

[13] Hertfordshire County Council, 2018 hertfordshire.gov.uk/media-library/documents/about-the-council/consultations/ltp4-local-transport-plan-4-complete.pdf

Hertfordshire is the first that recognises the need for a modal shift in transport away from majority privately owned vehicles and toward either collective passenger transport or walking/cycling. As such, the plan relates to this clear objective throughout. The Local Transport Plan sets out the objectives, policies, and key schemes that will achieve a switch from a previously car-based transport system toward more sustainable modes of transport where this is possible.

In summary, the objectives of the Local Transport Plan are:

- Improvement of access to London and between local towns and regional centres through the development of local passenger transport and rail
- Improvement of accessibility by passenger transport between employers and labour markets
- Enhance network resilience to climate change and population growth
- Enhance the quality and vitality of town centres and Hertfordshire natural environment relating to noise, air quality, historic and natural environment through reduced congestion
- Reduction of carbon emissions through increase in bus, walking and cycling use as well as increased uptake of electric vehicles, and reduction of LGVs
- Safer Journeys with healthier impacts through promotion of walking and cycling, betterment of Air Quality, noise pollution and road safety
- Improved access to enable participation in everyday life through transport without the need for a car

These objectives are supported by 23 policies laid out by Hertfordshire County Council.

Corporate Plan (Hertfordshire 2022-2025)

The Hertfordshire corporate plan for 2022 to 2025 lays out commitments on how Hertfordshire County Council will work with its partners to deliver their vision of "*A*

cleaner and greener environment, healthy and fulfilling lives for residents, sustainable and responsible growth in the county, and excellent county services for all"[14].

To achieve some of these goals, Hertfordshire County Council has pledged to.

- Make their operations carbon neutral by 2030 and resilient to climate change
- Improve and protect nature in the county with the help of partners
- Work with others to enable local action to deliver clean air, resilience to climate change, and achieve a net zero greenhouse gas Hertfordshire by 2050
- Support for residents in waste reduction and promotion of recycling and reuse, as well as developing more sustainable methods to deal with waste generated
- Meet the infrastructure needs of their communities through delivery of sustainable transport, highways, digital, and community infrastructure including seeking investment to develop a new Hertfordshire-Essex rapid transit system.

Air Quality Strategy and Implementation Plan for Hertfordshire

The Hertfordshire Air Quality Strategy feeds directly into the Local transport plan and aims to set out the council's strategic position on air quality[15]. The previous Air Quality Strategic Plan, written in 2015, focused primarily on $PM_{2.5}$, and thus had a much narrower focus. The aims and objectives of this revised strategy are laid out in Table 3-1.

[14] Hertfordshire County Council, 2022 Our County of Opportunity 2022-2025 (hertfordshire.gov.uk)

[15] Hertfordshire County Council, 2018 air-quality-strategy.pdf (hertfordshire.gov.uk)

Table 3-1: Summary Table of Hertfordshire County Council's Air Quality Strategy

Action		Related Objective(s)
	Quick Wins	• To create clear leadership on air quality • To ensure consideration of air quality in everything the council undertakes
1	Establish roles and responsibilities	• Create clear leadership • To ensure consideration of air quality in everything the council undertakes • Establish a coherent work stream, roles and responsibilities
2	Agree communication pathway with district/borough councils	• Develop a productive relationship with partners
3	Ensure responses to relevant consultations	• Create clear leadership • To ensure consideration of air quality in everything the council undertakes
4	Link to corporate plan	• To ensure consideration of air quality in everything the council undertakes
5a	Develop a robust evidence base	• Create clear leadership • Gain a better understanding of air quality in Hertfordshire
5b	Develop a policy position on AQMA data	• Develop a productive relationship with partners
5c	Support joint approaches with district and borough councils to tackle pollution hotspots	• Develop a productive relationship with partners • Gain a better understanding of air quality in Hertfordshire
6a	Develop spatial planning informative note	• Develop a productive relationship with partners
6b	Develop Air Quality guidance for minerals and waste application	• To ensure consideration of air quality in everything the council undertakes

7	Reduce emissions from county council fleet	• Develop a productive relationship with partners
8a	Develop public facing communications	• Develop a productive relationship with partners
8b	Develop information briefings	• Gain a better understanding of air quality in Hertfordshire
9	Build air quality considerations into county council property developments	• Develop a productive relationship with partners • To ensure consideration of air quality in everything the council undertakes
10	Explore opportunities to tackle poor air quality in the vicinity of schools	• Create clear leadership • To ensure consideration of air quality in everything the council undertakes
11	Keep in line with national policy	• Create clear leadership

The aims and actions detailed in this document meet a number of objectives within the Hertfordshire corporate plan. More detail on the implementation of these policies is included within the Hertfordshire Air Quality implementation plan[16].

Sustainable Hertfordshire Strategy

The Sustainable Hertfordshire Strategy was developed following the Climate Emergency declaration of July 2019[17]. This strategy lays out initial policies and strategies that are needed to embed sustainability across all council operations and services. It builds upon the pre-existing Energy strategy, Pollinator strategy, Air Quality strategy and Local transport plans for Hertfordshire and sits within the context of the

[16] Hertfordshire County Council, 2019 air-quality-implementation-plan.pdf (hertfordshire.gov.uk)

[17] Hertfordshire County Council, 2023 Sustainable Hertfordshire Strategy 2022 (March 2023 revision)

UK's 25-year Environment Action plan, which sets higher level commitments for the country.

In essence, this strategy reiterates the importance of the goals established in the existing documents cited, and their specific sustainability benefits as well as any progress made to date on these objectives.

Within the context of air quality this includes the promotion of a modal shift in transport, council level priorities in the reduction of fleet emissions, as well as the support of vehicle free zones in the vicinity of schools, and delivery and support of walking and cycling initiatives.

3.2.2 Local Planning and Policy

Annual Status Report (2023)

The annual Air Quality Status Report (ASR) 2023 provides an overview of Air Quality in the St Albans area during 2022 and fulfils the requirements of Local Air Quality Management (LAQM) as set out in Part IV of the Environment act (1995) and amended by the Environment Act (2021), and the relevant Policy and Technical Guidance documents. The LAQM process places an obligation on all local authorities to regularly review and assess air quality in their areas, against the Air Quality Objectives. The Annual status report is an annual requirement showing any strategies employed by St Albans and any progress that has been made [18].

Air Quality Management Areas (AQMAs) are declared when there is an exceedance or likely exceedance of an air quality objective. An Air Quality Action Plan (AQAP) should then be formulated to underline actions that the council will undertake to bring the AQMA into compliance with the National Air Quality Objectives. As such, St Albans currently has one active AQMA, which in 2022 remains within 10% of the National Air Quality Objective. In the previous reporting year, two AQMAs were revoked as they met the national objectives for five consecutive years and demonstrated continued decreasing trends in NO_2 and were unlikely to exceed the national PM_{10} compliance

[18] St Albans City and District Council, 2023 Air Quality Annual Status Report 2023.pdf (stalbans.gov.uk)

limit. Several measures have been proposed by St Albans City and District Council to improve air quality, which may be broadly classified into:

- Traffic management, Planning and Infrastructure
- Policy Guidance, Development Control and Environmental Permits
- Public information and Promotion of low emission transport and modal alternatives

Diffusion tubes used to monitor progress within the active AQMA toward the Air Quality Objectives indicated an increase in concentrations of NO_2 at all sites throughout 2022, with only one diffusion tube reporting a decrease in this time period. No exceedances were reported; however, 2 sites remain within 10% of the National Air Quality Objectives. These 2 sites were not located in areas of relevant exposure, and with adjustment factor applied to account for their position were found to be below the 10% threshold for the National Air Quality Objectives.

St Albans Council Local Plan

Preparation of a Local Plan is a statutory requirement for the Council and sets out the planning policies and proposals for future development of the City and District of St Albans. This local plan sets out long term spatial planning strategy for infrastructure and environmental protection to 2041[19]. The Local Plan uses aspects of the Hertfordshire Local Transport Plan, and Minerals and Waste plans. The key areas for 2041 are:

- Climate Change
- Sustainable Land use/Green belt
- Housing
- Community Infrastructure
- Transport
- Utilities Infrastructure

[19] St Albans City and District Council, 2023 Reg 18 Local Plan (2).pdf

- Economy and employment
- Town and Village centres and retail
- Natural Environment and biodiversity
- Heritage
- High Quality Design
- Public Health and Wellbeing

The Local Plan addresses these within the context of the St Albans Sustainability and Climate Change Strategy of 2020. Each of the objectives laid out is linked to a Strategic policy set forward in the Local Plan. Whilst none of the Strategic policies specifically targets air quality, it is considered a key aspect of the Transport strategic policy. Notably, within the transport strategic policy, a requirement is laid out whereby new developments will need to assess future air quality impacts from added transport to the site according to its expected purpose and where necessary, include funding contributions to wider schemes that will mitigate the potential added impact of transport due to the new development.

Additionally, air quality is also considered within the Public Health and Wellbeing strategic policy, within which new development proposals must consider their location, and primary groups which will make use of the new development (such as schools or nurseries where primary users are judged to be more vulnerable to adverse impacts of poor air quality) within the context of air pollution, and provide suitable mitigation which may include maintaining distances between roads and sources of pollution, using green infrastructure such as trees to create barriers, appropriate means of filtration or ventilation, controlling dust and emissions from construction, operation and destruction, and consider layout and orientation to reduce mitigation necessary and conduct assessments at the earliest stages of development. Developments which would generate new noise or air pollution must demonstrate and implement measures to avoid or mitigate any added impact.

Local Cycling and Walking infrastructure plan

The Local Cycling and Walking infrastructure plan was developed in line with the ambitions of Hertfordshire County Council and St Albans City and District Council to

encourage a modal shift of transport toward a higher uptake of cycling and walking [20]. The plan identifies and costs relevant improvements or construction required to make walking or cycling a more attractive mode of transport. This includes:

- Junction improvements to improve safety, coherence and connectivity for both cyclists and pedestrians
- Creation of quiet routes for cyclists by traffic filtering or calming
- New/improved pedestrian or cycle crossings
- Segregated cycle facilities on some of the busier roads
- Footway or Cycleway improvements, such as widening or improvements to lighting

This document is aimed as support to the St Albans Local Plan in helping the achievement of transport and health related goals through the reduction of emitting vehicles congestion and thus improvements to Air Quality and Noise.

Climate Crisis and Sustainability Plan

The Climate Crisis and sustainability plan lays out the actions that St Albans City and District Council has committed to taking in order to reduce overall greenhouse gas emissions, save water and energy, minimise waste and pollution and enhance local habitats and green spaces [21]. The following key areas of work are addressed:

- Governance and Leadership
- Energy Use
- Transport and Air Quality
- Waste
- Nature and Food
- Water and Climate Change Adaptation

[20] St Albans City and District Council, 2023 St Albans District LCWIP - Final Report - FINAL accessible.pdf

[21] St Albans City and District Council, 2019 FINAL SADC Sustainability and Climate Crisis Strategy.pdf (stalbans.gov.uk)

Within the context of Air Quality, key projects were identified such as the development of a comprehensive plan to reduce congestion, improve traffic flows, encourage walking and cycling and increase 20 mph zones significantly. Additionally, an electric pay-by-hour pool car club for Council staff, residents and visitors is to be introduced, alongside a study of electric charging infrastructure to identify where to install further charge points. The development of a local cycling and walking infrastructure plan was also identified as a key measure to improve the uptake of a modal shift of transport methods away from cars. Finally, Anti-Idling zones were identified as a key project to improve local air quality.

This plan was revised from the 2020 publication in 2023 in the form of a progress tracker for all actions laid out in the 2020 plan [22]. This progress tracker confirms that many of the commitments related to air quality are on track to be completed or have already been completed with the exception of the installation of cycle storage, Taxi emission reduction strategy and meetings with the St Albans Bus user's forum to discuss improvements to the transport network. In the case of cycle storage, demand was found to be relatively low following a public consultation, therefore the project is currently delayed. The lack of direct control over taxis has contributed to the delay of the transition toward an all-electric fleet, this coupled with the fact that the less polluting vehicles are often unable to provide wheelchair access, creating additional accessibility issues. Finally, in the case of the St Albans Bus Users forum, the forum was suspended during the COVID-19 pandemic, and did not resume at the time of publishing, members also appear to be less active and therefore there is little interest in resuming the forum.

[22] St Albans City and District Council, 2023 SUSTAINABILITY TRACKER .xlsx (stalbans.gov.uk)

3.3 Source Apportionment

The AQAP measures presented in this report are intended to be targeted towards the predominant sources of NOx and particulate matter emissions within St Albans City and District Council's area.

By using a combination of latest official emissions factors, Defra background concentration maps[23], DfT traffic count data[24], and DfT speed data[25], a dispersion modelling study and a source apportionment exercise was carried out by St Albans City and District Council in 2024 to better understand the pollution in St Albans active AQMA. The baseline modelling was carried out for the year 2022 as this is the most recent year with fully ratified monitoring data.

3.3.1 NOx and NO_2

Figure 3-1 shows the average percentage contributions of different sources to NOx concentrations at St Albans monitoring sites in and around the AQMA No. 1 in St Albans City Centre in 2022 (monitoring sites SA134, SA137, SA138, SA141, SA143, SA148, SA160, SA161, and SA163). The dominant source of NOx is attributed to road transport with a total of 76%. Split into the different vehicle types, the average contributions from road transport were diesel cars (38%), LGVs (21%), petrol cars (7%), buses (5%), HGVs (5%), and motorcycles (<1%).

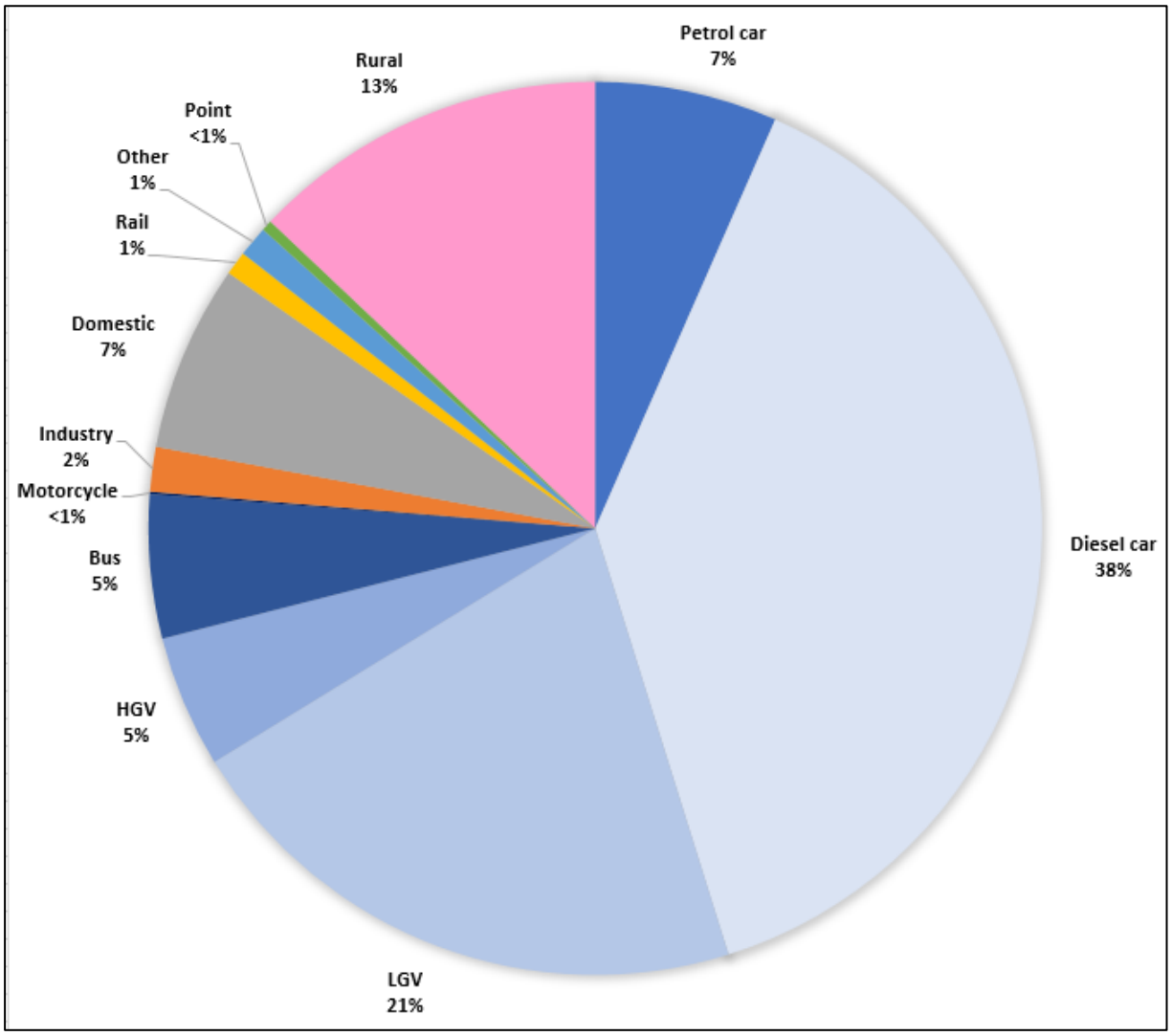
Outside of road transport, the largest contributors to NOx concentrations are rural sources (13%), which accounts for naturally occurring regional rural NOx concentrations, and domestic sources (7%) which refers to domestic, institutions, and commercial space heating.

[23] Background Mapping data for local authorities https://uk-air.defra.gov.uk/data/lagm-background-home

[24] Road traffic statistics, Local authority Hertfordshire https://roadtraffic.dft.gov.uk/local-authorities/78

[25] Average speed, delay and reliability of travel times https://www.gov.uk/government/statistical-data-sets/average-speed-delay-and-reliability-of-travel-times-cgn

Figure 3-1: Percentage contribution of different sources to NOx concentrations at the monitoring sites in St Albans City Centre AQMA No. 1 in 2022.



NOx source apportionment at monitoring sites in and around AQMA No. 1 by background and vehicle types in absolute modelled concentrations (µg/m^3) and percentage contribution (%) are displayed in further detail in Table 3-2 and Table 3-3, respectively.

Table 3-2: NOx source apportionment by background and vehicle type (road transport emissions from major roads) at monitoring locations surrounding St Albans City Centre AQMA No. 1 (µg/m^3) for the baseline fleet, 2022.

Site ID	Total NOx concentration (µg/m^3)	NOx concentration broken down by vehicle type and background sources (µg/m^3)												Total monitored NO_2 concentration (µg/m^3)
		Petrol car	Diesel car	LGV	HGV	Bus	Motorcycles	Industry	Domestic	Rail	Other	Point	Rural	
SA134	38.37	2.31	13.34	8.53	1.91	0.86	0.04	0.85	2.85	0.42	0.41	0.19	6.66	23.9
SA137	53.69	3.99	23.10	10.21	2.21	1.73	0.04	0.83	3.65	0.45	0.61	0.20	6.66	31.4
SA138	54.12	3.61	20.99	12.37	2.77	1.91	0.05	0.83	3.65	0.45	0.61	0.20	6.66	31.6
SA141	24.97	0.95	5.70	3.15	0.87	1.86	0.01	0.83	3.65	0.45	0.61	0.20	6.66	17.0
SA143	46.99	3.18	18.89	9.01	2.01	1.47	0.02	0.83	3.65	0.45	0.61	0.20	6.66	28.2
SA148	62.81	3.73	22.01	10.65	2.81	11.15	0.06	0.83	3.65	0.45	0.61	0.20	6.66	35.6
SA160	71.38	5.07	29.31	18.20	4.08	2.22	0.08	0.83	3.65	0.45	0.61	0.20	6.66	39.4
SA161	46.37	3.18	18.90	8.78	1.91	1.17	0.02	0.83	3.65	0.45	0.61	0.20	6.66	27.9
SA163	64.14	4.57	26.24	16.59	3.61	1.67	0.08	0.85	2.85	0.42	0.41	0.19	6.66	36.1

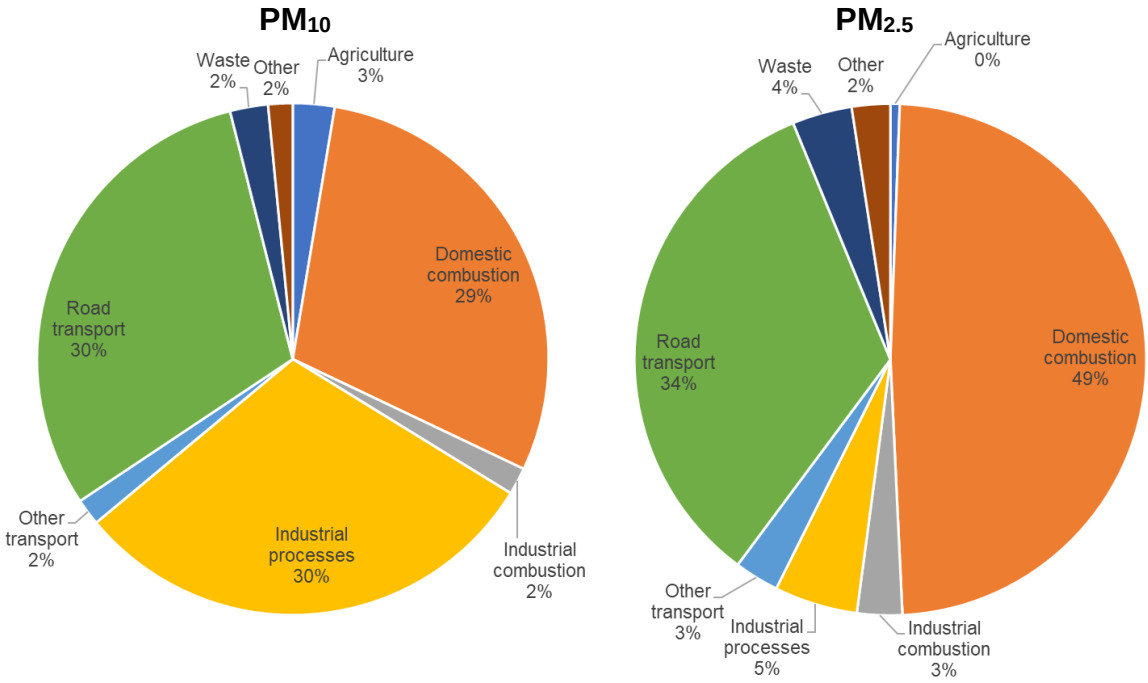
Table 3-3: NOx source apportionment by background and vehicle type (road transport emissions from major roads) at monitoring locations surrounding St Albans City Centre AQMA No. 1 (%) for the baseline fleet, 2022.

Site ID	Total NOx concentration (µg/m^3)	NOx concentration broken down by vehicle type and background sources (%)												Total monitored NO_2 concentration (µg/m^3)
		Petrol car	Diesel car	LGV	HGV	Bus	Motorcycles	Industry	Domestic	Rail	Other	Point	Rural	
SA134	38.37	6.0%	34.8%	22.2%	5.0%	2.3%	0.1%	2.2%	7.4%	1.1%	1.1%	0.5%	17.4%	23.9
SA137	53.69	7.4%	43.0%	19.0%	4.1%	3.2%	0.1%	1.5%	6.8%	0.8%	1.1%	0.4%	12.4%	31.4
SA138	54.12	6.7%	38.8%	22.9%	5.1%	3.5%	0.1%	1.5%	6.8%	0.8%	1.1%	0.4%	12.3%	31.6
SA141	24.97	3.8%	22.8%	12.6%	3.5%	7.5%	0.1%	3.3%	14.6%	1.8%	2.5%	0.8%	26.7%	17.0
SA143	46.99	6.8%	40.2%	19.2%	4.3%	3.1%	0.1%	1.8%	7.8%	1.0%	1.3%	0.4%	14.2%	28.2
SA148	62.81	5.9%	35.0%	17.0%	4.5%	17.7%	0.1%	1.3%	5.8%	0.7%	1.0%	0.3%	10.6%	35.6
SA160	71.38	7.1%	41.1%	25.5%	5.7%	3.1%	0.1%	1.2%	5.1%	0.6%	0.9%	0.3%	9.3%	39.4
SA161	46.37	6.9%	40.8%	18.9%	4.1%	2.5%	0.0%	1.8%	7.9%	1.0%	1.3%	0.4%	14.4%	27.9
SA163	64.14	7.1%	40.9%	25.9%	5.6%	2.6%	0.1%	1.3%	4.5%	0.7%	0.6%	0.3%	10.4%	36.1

3.3.2 Particulate matter (PM_{10} and $PM_{2.5}$)

Figure 3-2 presents the percentage contribution of different sources to particulate matter emissions in St Albans in 2021. Emissions data is taken from the National Atmospheric Emissions Inventory published by the Department for Environment, Food & Rural Affairs.[26]

Figure 3-2: Percentage contribution of different sources to PM_{10} (left) and $PM_{2.5}$ (right) emissions in St Albans in 2021.



Domestic combustion, industrial processes and road transport all contribute around 30% of total PM_{10} emissions in St Albans. Emissions from industrial processes are less important for $PM_{2.5}$ emissions, and as a result road transport and domestic combustion together give rise to 83% of all $PM_{2.5}$ emissions in St Albans.

This analysis shows that measures aimed at improving NO_2 concentrations through reducing private vehicle use will deliver co-benefits for particulate matter emissions.

[26] NAEI, Defra https://naei.beis.gov.uk/index

Measures to reduce emissions from domestic combustion also have the potential to significantly improve PM_{10} and $PM_{2.5}$ emissions across the borough.

3.4 Required Reduction in Emissions

3.4.1 NOx and NO_2 emissions reductions

In 2022, there were no monitoring sites which measured the annual mean NO_2 concentration to be above the national air quality objective of 40 µg/m^3 in the St Albans City and District Council monitoring network. Therefore, no reduction in NOx emissions is required to achieve compliance.

3.4.2 Scenario modelling

To understand the impact that different policy measures could have on air quality in the area in and around St Albans City Centre AQMA No. 1, three scenarios were modelled for 2022 to calculate the likely reduction in NOx emissions. The modelled scenarios are outlined below:

1. Reduction in the number of cars to represent a modal shift towards active travel and public transport.
2. Bus fleet electrification (ZEBRA).
3. Reduction in domestic combustion.

For each scenario, the total NO_2 concentrations were modelled at the monitoring sites in and around AQMA No. 1 and compared to the 2022 baseline model to understand the potential impact of the policy measure on local air quality in the St Albans City Centre where there is an active AQMA.

The NO_2 concentration changes for each scenario have been modelled in isolation. In practice, if a range of measures from the Air Quality Action Plan were applied their impact on NO_2 concentrations in the St Albans city centre would be combined. The three scenarios are detailed below.

Scenario 1: Reduction in the number of cars to represent a modal shift towards active travel and public transport

The source apportionment study showed that 76% of NOx in the St Albans city centre is attributed to road transport, with diesel cars being the greatest contributor at 38%. Therefore, modal shift towards active travel and public transport is a common theme in the shortlisted Air Quality Action Plan measures, as well as in the current policies within the Local Cycling and Walking Infrastructure Plan.

Increased modal shift away from personal vehicle use is linked to reduced vehicle flow and traffic congestion. To understand the impact that this would have on local air quality, Scenario 1 models the change in NO_2 concentrations at the monitoring sites in and around the St Albans AQMA No. 1, as shown in Figure 2-3.

The following three scenarios were modelled to provide a comparison of the impact of different magnitudes of shift towards public transport and active travel.

- **'Low' scenario (1a)** – 5% car volume decrease
- **'Medium' scenario (1b)** – 10% car volume decrease
- **'High' scenario (1c)** – 15% car volume decrease

Results

The Scenario 1 annual average NO_2 concentrations and the percentage changes compared to the 2022 baseline model at the AQMA No. 1 monitoring sites are shown in Table D-1.

The 'Low' scenario (1a), 5% car reduction, results in an average 1.1% NO_2 concentration reduction at the AQMA No. 1 monitoring sites. The 'Medium' scenario (1b), 10% car reduction, results in an average 2.3% NO_2 concentration reduction. The 'High' scenario (1c), 15% car volume reduction, results in an average 3.4% reduction in NO_2 concentrations.

The NO_2 concentrations at SA160 remain above 36 µg/m^3 in all three scenarios (Low scenario: 38.8 µg/m^3, medium scenario: 38.1 µg/m^3, High scenario: 37.4 µg/m^3). For all scenarios, the car volume reductions bring the NO_2 concentrations at SA163 to below 36 µg/m^3 (Low scenario: 35.5 µg/m^3, Medium scenario: 34.9 µg/m^3, High scenario: 34.3 µg/m^3).

Scenario 2: Bus fleet electrification

Under the Zero Emission Bus Regional Areas (ZEBRA) scheme, Hertfordshire County Council were successfully granted £5 million by the Department for Transport to help decarbonise its fleet[27]. The bus operator Uno Buses are phasing out diesel buses and replacing them with 27 new electric models that operate in Hatfield, St Albans, and Welwyn Garden City between 2024-2026. Approximately 10% of the buses that pass through the city centre AQMA are operated by Uno based on bus timetables.

Scenario 2 models the impact of electrifying part of the St Albans bus fleet on NO_2 concentrations at the AQMA No. 1 monitoring sites. The following three scenarios were modelled to compare the impact electrifying part of the bus fleet that passes through St Albans City Centre:

- **'Low' scenario (2a)** – 5% bus electrification
- **'Medium' scenario (2b)** – 10% bus electrification
- **'High' scenario (2c)** – 15% bus electrification

Results

The Scenario 2 annual average NO_2 concentrations and the percentage changes compared to the 2022 baseline model at the AQMA No. 1 monitoring sites are shown in Table D-2.

The 'Low' scenario (2a), 5% bus electrification, results in an average 0.2% NO_2 concentration reduction at the AQMA No. 1 monitoring sites. The 'Medium' scenario (2b), 10% bus electrification, results in an average 0.4% NO_2 concentration reduction. The 'High' scenario (2c), 15% bus electrification, results in an average 0.5% reduction in NO_2 concentrations.

The NO_2 concentrations at SA160 remain above 36 µg/m^3 for all scenarios (Low scenario: 39.36 µg/m^3, Medium scenario: 39.3 µg/m^3, High scenario: 39.3 µg/m^3). The

[27] BBC, New electric buses for Hatfield, St Albans and Welwyn Garden City https://www.bbc.co.uk/news/uk-england-beds-bucks-herts-67703541

NO_2 concentrations at SA163 remain above 36 µg/m^3 for all scenarios (Low scenario: 36.1 µg/m^3, Medium scenario: 36.0 µg/m^3, High scenario: 36.0 µg/m^3).

Scenario 3: Reduction in domestic combustion

Aside from road transport sources and rural sources[28], domestic sources contribute to 7% of NOx concentrations in St Albans AQMA No. 1 in the city centre. St Albans City and District Council are taking a number of measures to reduce the contributions of NOx from domestic combustion sources through both direct measures and raising awareness of the impact of solid fuel burning on public health. Measures in the Air Quality Action Plan include HEA5, HEA6, EM4, EM5, EM6 and EM7.

Clean Air Night[29], held on 24th January 2024, is an example of a recent national campaign that St Albans City and District Council supported to highlight the dangers of wood burning.

Scenario 3 investigates the impact on NO_2 concentrations at the AQMA No. 1 monitoring sites due to the reduction in domestic combustion sources. The following three scenarios were modelled to compare the impact of different magnitudes domestic combustion reductions:

- **'Low' scenario (3a)** – 5% reduction in domestic sources
- **'Medium' scenario (3b)** – 10% reduction in domestic sources
- **'High' scenario (3c)** – 15% reduction in domestic sources

Results

The Scenario 3 annual average NO_2 concentrations and the percentage changes compared to the 2022 baseline model at the AQMA No. 1 monitoring sites are shown in Table D-3.

The 'Low' scenario (3a), 5% domestic combustion reduction, results in an average 0.3% NO_2 concentration reduction at the AQMA No. 1 monitoring sites. The 'Medium'

[28] NOx concentrations attributed to rural sources refer to naturally occurring regional rural NOx concentrations

[29] Clean Air Night https://www.stalbans.gov.uk/news/support-clean-air-night

scenario (3b), 10% domestic combustion reduction, results in an average 0.6% NO_2 concentration reduction. The 'High' scenario (3c), 15% domestic combustion reduction, results in an average 1.0% reduction in NO_2 concentrations.

The NO_2 concentrations at SA160 remain above 36 µg/m^3 for all scenarios (Low scenario: 39.31 µg/m^3, Medium scenario: 39.2 µg/m^3, High scenario: 39.1 µg/m^3) and at SA163 for the 'Low' scenario (36.0 µg/m^3). For the 'Medium' and 'High' scenarios, the domestic combustion reductions bring the NO_2 concentrations at SA163 to below 36 µg/m^3 (Medium scenario: 36.0 µg/m^3, High scenario: 35.9 µg/m^3).

3.5 Key Priorities

The following priority themes, derived from the presented evidence, have been incorporated into practical measures. These measures are intended to promote adherence to Air Quality Objectives (AQO) within Air Quality Management Areas (AQMAs). This holistic approach aims to progressively enhance air quality throughout the district.

Based on the evidence provided above, the following issues need to be considered when deciding on which measures are likely to be effective:

- **Environmental measures:** focusing on building partnerships, development and robustness of implementing plans and policies, use of monitoring and data and infrastructure improvements.
- **Transport measures:** focusing on promotion and transition to low emission transport, active travel, modal shift, and traffic management.
- **Health, education, and awareness:** promotion of health, public information, access to education and behaviour change.

4 Development and Implementation of St Albans City and District Council AQAP

4.1 Consultation and Stakeholder Engagement

In developing/updating this AQAP, we have worked with other local authorities, agencies, businesses and the local community to improve local air quality. Schedule 11 of the Environment Act 1995 requires local authorities to consult the bodies listed in Table 4-1. <insert text here, e.g. In addition, we have undertaken the following stakeholder engagement:

- Website
- Articles in local newspaper
- Questionnaires distributed directly to households along major roads
- Etc.>

The response to our consultation stakeholder engagement is given in Appendix A: Response to Consultation.

Table 4-1 – Consultation Undertaken

Consultee	Consultation Undertaken
The Secretary of State	<Yes/No>
The Environment Agency	<Yes/No>
The highways authority	<Yes/No>
All neighbouring local authorities	<Yes/No>
Other public authorities as appropriate, such as Public Health officials	<Yes/No>
Bodies representing local business interests and other organisations as appropriate	<Yes/No>

4.2 Steering Group

Detailed minutes of the steering group meeting are shown in Appendix C: Steering Group Workshop minutes.

5 AQAP Measures

Table 5-1 shows the St Albans City and District Council AQAP measures. It contains:

- a list of the actions that form part of the plan
- the responsible individual and departments/organisations who will deliver this action
- estimated cost of implementing each action (overall cost and cost to the local authority)
- expected benefit in terms of pollutant emission and/or concentration reduction
- the timescale for implementation
- how progress will be monitored

NB: Please see future ASRs for regular annual updates on implementation of these measures.

Table 5-1 – Air Quality Action Plan Measures

Measure No.	Measure	Category	Classification	Year introduced	Year completed	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Target Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Potential Barriers to Implementation
EM1	Climate Change Carbon Emission Reduction - Hertfordshire Climate Change and Sustainability Partnership (HCCSP)	Policy Guidance and Development Control	Regional Groups Co-ordinating programmes to develop Area wide Strategies to reduce emissions and improve air quality	2024/2025	Ongoing	SADC & HCC departments	Staff costs	No	Funded	-	Active	It is not possible to specifically quantify the impact of small-scale projects that the Council are working on with partners. However individual & cumulative AQ measures which reduce emissions are beneficial to improving pollutant levels in the AQMA and the District generally.	Regular attendance of regular HCCSP meetings	Attending regular meetings	HCC suggest that St Albans City and District Council could promote the Sustainability Partnership work within the scope of this measure to achieve a consistent policy for development across the county and with wider regional partners
EM2	Links with Air quality and public health - Hertfordshire County Council	Policy Guidance and Development Control	Regional Groups Co-ordinating programmes to develop Area wide Strategies to reduce emissions and improve air quality	2024/2025	Ongoing	SADC & HCC departments	Staff costs	No	Funded	-	Active	It is not possible to specifically quantify the impact of small-scale projects that the Council are working on with partners. However individual & cumulative AQ measures which reduce emissions are beneficial to improving pollutant levels in the AQMA and the District generally.	Regular attendance of meetings between SADC and HCC	Attending regular meetings	Ensure SACDC utilises the HCC air quality programme manager. The employment of an air quality manager at the county level has allowed communication with multiple departments, links with highways, public health, schools. It permits a very broad range of facilities to promote and improve air quality awareness
EM3	Consider implementation of smoke control areas	Policy Guidance and Development Control	Other policy	2024/2025	2024/2025	SADC Air Quality Team	Staff costs	No	Funded	-	To be confirmed	Lower PM emissions. Domestic combustion including wood burning contributes 29% of total PM_{10} emissions and 44% of total $PM_{2.5}$ emissions in the district.	Implementation of smoke control area(s)	Planning stage	This process will be explored more widely with air quality officers in the county
EM4	Investigate development of a domestic solid fuel policy	Policy Guidance and Development Control	Other policy	2024/2025	2024/2025	SADC Air Quality Team	Staff costs	No	Funded	-	To be confirmed	Lower PM emissions. Domestic combustion including wood burning contributes 29% of total PM_{10} emissions and 44% of total $PM_{2.5}$ emissions in the district.	Publication of the policy & enforcement of the policy	-	Local plan policy, supplementary planning documents, and guidance may be considered here.
EM5	Control of Bonfires and use of other unauthorised Fuels	Policy Guidance and Development Control	Other policy	2024/2025	2024/2025	SADC Air Quality Team	Staff costs	No	Funded	-	To be confirmed	Lower PM emissions. Domestic combustion including wood burning contributes 29% of total PM_{10} emissions and 44% of total $PM_{2.5}$ emissions in the district.	Publication of the policy, enforcement of the policy & reduction in nuisance reports	-	

Measure No.	Measure	Category	Classification	Year introduced	Year completed	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Target Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Potential Barriers to Implementation
EM6	SADC will investigate complaints about nuisance (domestic and industrial emissions)	Public Information	Via other mechanisms	-	Ongoing	SADC Air Quality Team / Environmental Health Officers	Staff costs	No	Funded	£10k - 50k	Active	It is not possible to specifically quantify the impact of small-scale projects that the Council are working on with partners. However individual & cumulative AQ measures which reduce emissions are beneficial to improving pollutant levels in the AQMA and the District generally.	Time taken to resolve complaints	Complaints are investigated as and when received	
EM7	Air quality planning guidance for construction sites and operational developments	Policy Guidance and Development Control	Air Quality Planning and Policy Guidance	2024/2025	2024/2025	SADC & HCC Air Quality / Planning Team	Staff costs	No	Funded	-	To be confirmed	Lower NOx & PM emissions from construction sites and developments	Publication of the policy & enforcement of the policy	-	St Albans City and District Council planning buy in/funding for SPG document creation. This could also be promoted through channels such as the Hertfordshire County Council Sustainability Partnership to extend consistent policy for the County
EM8	Continue to monitor air quality within the district and as necessary review the suitability of monitoring locations	Policy Guidance and Development Control	Air Quality Planning and Policy Guidance	2018	Ongoing	SADC Air Quality Team	Staff costs	No	Funded	-	Active	It is not possible to specifically quantify the impact of small-scale projects that the Council are working on with partners. However individual & cumulative AQ measures which reduce emissions are beneficial to improving pollutant levels in the AQMA and the District generally.	Data capture	Details of diffusion tube monitoring is recorded on https://www.stalbans.gov.uk/environmental-services	
EM9	Continue the Trees Against Pollution project and explore green wall/hedging opportunities	Transport Planning and Infrastructure	Other	2018	Ongoing	SADC Trees & Woodlands / Planning Team	Staff costs	No	Not Funded	-	Active	It is not possible to specifically quantify the impact of small-scale projects that the Council are working on with partners. However individual & cumulative AQ measures which reduce emissions are beneficial to improving pollutant levels in the AQMA and the District generally.	Number of trees planted	Over 10,000 trees given away to residents as part of the HCC tree giveaway initiative in partnership with and part funded by SADC. 60 standard trees -UTCF funded 37 replacement trees, in addition to 23 planted and 150m (750 whips) of hedgerow. HCC green infrastructure team have planted 300+ standard street trees across the district's urban environment	
EM10	All new street infrastructure should take a Healthy Streets approach	Transport Planning and Infrastructure	Other	2024/2025	2024/2025	SADC/HCC	Staff costs	No	Funded	-	To be confirmed	-	All new streets perform well against the ten healthy street indicators	-	It is suggested that building in the need for all future development to promote a healthy streets approach through new infrastructure will be a requirement, with consideration of a standard minimum street score, and for the development to contribute to the existing environment and meet the needs for future site users by uplifting existing surrounding and connected streets where this is

Measure No.	Measure	Category	Classification	Year introduced	Year completed	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Target Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Potential Barriers to Implementation
															necessary. This should be done during the early design stages to provide direction and evidence for design decisions.
TM1	Electric fleet council vehicles	Alternative use from diesel and petrol vehicles	Emission reduction	2024/2025	2024/2025	SADC Sustainability	To be determined	No	-	£10k - 50k	To be confirmed	Reduce NOx and PM emissions	Number of electric vehicles in council fleet	Staff bike pool, Parking team: All Electric, 4 cars, 6 bikes, Veolia Refuse/Recycling contractor fleet upgrade conversations with Veolia and JOC. Upgrade of the ground's maintenance vehicles has been completed (38 new vehicles). Veolia are currently trialling electric street cleaning vehicles. Waste and recycling vehicles to be delivered in July of 2024. New electric charge points will be installed to support the transition. This involves the development of a low-carbon fleet replacement plan	All Council fleet will be replaced with ultra-low emission vehicles at end of life or by 2028, starting with Markets vehicles, this will include service vehicles such as parking enforcement (as per St Albans sustainability and climate crisis strategy)
TM2	Investigate introduction of additional electric charging at council car parks and on-street parking locations within the district	Promoting Low Emission Transport	Procuring alternative Refuelling infrastructure to promote Low Emission Vehicles, EV recharging, Gas fuel recharging	2020	Ongoing	SADC	SADC	No	Not Funded	£50k - 100k	Planning	It is not possible to specifically quantify the impact of small-scale projects that the Council are working on with partners. However individual & cumulative AQ measures which reduce emissions are beneficial to improving pollutant levels in the AQMA and the District generally.	Usage figures	Installation of EV Charge Points in Hart Road (4), Cotlandswick Leisure Centre (2) Keyfield terrace (4), London Road (8), Bowers Way (2), Charter Close (2) is complete. SACDC has also installed or is planning to install more charging sites at Jenny Lane, Noke Shot, Cottonmill Community and Cycle Centre, and CCOS South	Hertfordshire County Council will be supporting districts with resources and funding to increase EV charge points in both car parks and on-street parking.
TM3	Improve taxi fleet emissions	Promoting Low Emission Transport	Taxi Licensing conditions	2020	Ongoing	SADC	SADC	No	Not Funded	<£10k	Active	It is not possible to specifically quantify the impact of small-scale projects that the Council are working on with partners. However individual & cumulative AQ measures which reduce emissions are beneficial to improving pollutant levels in the AQMA and the District generally.	Certificate of compliance data	Emissions controlled through Certificate of Compliance at garage check. Vehicle Licence Conditions amended to include the following: Any taxi driver can licence a fully electric vehicle as long as it complies with the hackney carriage and private hire vehicle licence conditions. This type of vehicle attracts a discount of £60. A new taxi licensing policy was introduced in 2020 which includes an emission standard for engines in taxis and private hire vehicles. At first application, vehicles had to meet or exceed Euro 5 emissions standards.	

Measure No.	Measure	Category	Classification	Year introduced	Year completed	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Target Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Potential Barriers to Implementation
														This changed from 01/04/2022, at first application vehicles must now meet or exceed Euro 6 emissions standards. At renewal – From 01/04/2022 vehicle licences will not be renewed in respect of any licensed vehicle that does not meet or exceed Euro 5 emissions standards. From 01/04/2025 vehicle licences will not be renewed in respect of any licensed vehicle that does not meet or exceed Euro 6 emissions standards. Currently exploring introduction of an electric only taxi rank in the town centre. Hertfordshire County Council are creating a unified County wide taxi decarbonisation policy	
TM4	Bus fleet / lower pollutant emissions	Promoting Low Emission Transport	Other	2019	-	SADC, HCC & bus operators	HCC & bus operators	No	Not Funded	£100k - £500k	To be confirmed	It is not possible to specifically quantify the impact of small-scale projects that the Council are working on with partners. However individual & cumulative AQ measures which reduce emissions are beneficial to improving pollutant levels in the AQMA and the District generally.	Number of link improvements	HCC is still considering a cross-county Mass Rapid Transit service, but it will not be delivered within the lifetime of this action plan. Feasibility design and consideration is continuing with support from HCC's appointed consultants. The long-term proposal is to improve links by public transport from St Albans to Watford, Hemel and towards Welwyn, Hatfield and Hertford by providing alternatives to car use. HCC's bid for DfT's 'All Electric Bus Town Fund' for St Albans was unsuccessful. Through the Intalink Enhanced Partnership HCC have been working closely with all operators to make sure the bus network is as stable as it can be. Further government funding has helped to stabilise the network, but that funding is time limited. With the award of £29m of Bus Service Improvement Plan (BSIP funding) funding for the next 3 years means St Albans is one of the key towns that HCC will be focusing on in terms of bus services,	The Pandemic has delayed investment by bus operators, therefore a target of reducing emissions through the introduction of buses to meet Euro VI standard has slipped. In addition to enforcing minimum fleet standards were agreed by Enhanced Partnership Scheme Variation Agreement in response to investment in bus priority facilities, the Intalink Enhanced Partnership will also adopt aspirational targets to improve the emissions standards of the fleet used across Hertfordshire. It is not possible to impose simplistic blanket minimum standards given variation across the county in the nature of the network. Targets for services operated through Air Quality Management Areas will be +20% higher (up to a maximum of 98%). Air quality improvements will be driven by operator fleet replacement programmes, County Council investment in bus priority facilities and operations' reciprocal requirements, and contributions of external funding. District and Borough councils are encouraged to include these targets in their Air Quality Action Plans, and the County Council will

Measure No.	Measure	Category	Classification	Year introduced	Year completed	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Target Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Potential Barriers to Implementation
														infrastructure, ticketing and fares and bus priority.	procure its contract services in line with these targets.
TM5	Bus routes through AQMA are only electric	Promoting Low Emission Transport	Other	2024/2025	2024/2025	SADC, HCC & bus operators	HCC & bus operators	No	-	<£10k	To be confirmed	Reduce NOx and PM emissions	Number of bus routes through AQMA which are electric	Bus Routes through the AQMA are only Euro 6 or better (Electric/Hydrogen). Although this can be advocated this measure is dependent on operator acceptability. ZEBRA grant funding to promote 27 electric buses in the county has been secured. It is not currently known where these buses will run/which routes they will take or when they will all be delivered. It is expected they will be delivered from mid-2024 to 2026. Operators to be pushed to use the Euro 6 and better on routes that pass through the AQMA.	
TM6	Consider requiring developers to install electric charging points in new developments under S106 agreements	Promoting Low Emission Transport	Procuring alternative Refuelling infrastructure to promote Low Emission Vehicles, EV recharging, Gas fuel recharging	2019	2023	SADC	SADC	No	Not Funded	-	Planning	It is not possible to specifically quantify the impact of small-scale projects that the Council are working on with partners. However individual & cumulative AQ measures which reduce emissions are beneficial to improving pollutant levels both in the AQMA and the District generally.	Number of charging points installed	We provided a response to the SLP consultation. Further discussions with the Planning Department regarding formulation of St Albans AQ Planning Policy Guidance to provide consistency of advice to developers across Herts & Beds are continuing. 10 Electric Vehicle Charge Points have been installed in the new Harpenden Sports and Leisure Centre. Implementation of low emission development policies within the local plan to encourage new public transport solutions and electric charging points	To include in proposed SPD as measure where appropriate
TM7	Freight and Delivery hub - Investigate introduction of last mile, low emission delivery through use of active transport e.g., cargo bikes. An	Promoting Low Emission Transport	Procuring alternative Refuelling infrastructure to promote Low Emission Vehicles, EV	2024/2025	2024/2025	SADC & HCC Infrastructure/ Planning Team	To be determined	Potentially	-	£100k - £500k	To be confirmed	Reduce NOx and PM emissions	Number of goods vehicles & number of cargo bikes utilised	-	Consolidation centre to be identified for freight management & other potential bike depot sites throughout District. This measure will be supported by Hertfordshire County Council, should the consolidation centres identified be within their lands

Measure No.	Measure	Category	Classification	Year introduced	Year completed	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Target Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Potential Barriers to Implementation
	appropriate freight hub would be required		recharging, Gas fuel recharging												
TM8	Deliver the top priority schemes identified within the Local Cycling and Walking Infrastructure Plan, including the provision of improved walking routes and protective infrastructure for people cycling.	Promoting Travel Alternatives	Promotion of cycling	2024/2025	-	SADC & HCC	SADC & HCC	No	Not Funded	-	Active	It is not possible to specifically quantify the impact of small-scale projects that the Council are working on with partners. However individual & cumulative AQ measures which reduce emissions are beneficial to improving pollutant levels both in the AQMA and the District generally.	Usage figures	-	
TM9	Cargo bike hubs located throughout the city to decrease need for car for local trips	Promoting Travel Alternatives	Promotion of cycling	2024/2025	2024/2025	SADC	To be determined	Potentially	-	£10k - 50k	To be confirmed	Reduce NOx and PM emissions	Usage figures	Suitable sites to be identified. In particular, for this AQMA, this may mean looking at delivery of the London Road route.	
TM10	Consider an increase in car parking charges with the view to making bus travel a more attractive alternative	Promoting Travel Alternatives	Other	2019	-	SADC	SADC	No	Not Funded	-	Planning	It is not possible to specifically quantify the impact of small-scale projects that the Council are working on with partners. However individual & cumulative AQ measures which reduce emissions are beneficial to improving pollutant levels both in the AQMA and the District generally.	Car park volume figures	From April 2022 and again in 2023 Permit prices changed to include emissions-based charging to encourage cleaner car ownership. This was done in a phased approach over 2 years. In addition, all other vehicle type permits and other charges relating to on street parking, were increased or amended to encourage more sustainable transport where possible. Voucher parking schemes have been removed across some city centre zones and longer restrictions have been applied to those streets / zones to encourage vehicles to use car parks and not use residential streets. Ongoing reviews of permit parking schemes will consider environmental impacts and continue to	Emission based resident permits now in place. Higher prices charged for 2nd or 3rd vehicles to deter ownership. Annual review of fees and charges introduced. Additional work being carried out in 24/25 to potential remove cash as payment type reducing the need for cash collections, reducing the need for collection vehicles.

Measure No.	Measure	Category	Classification	Year introduced	Year completed	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Target Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Potential Barriers to Implementation
														reduce the number of vehicles who can use those areas for parking	
TM11	Pilot the Station Travel Plan	Promoting Travel Alternatives	Other	2010	-	SADC & HCC	HCC	No	Not Funded	-	Planning	It is not possible to specifically quantify the impact of small-scale projects that the Council are working on with partners. However individual & cumulative AQ measures which reduce emissions are beneficial to improving pollutant levels both AQMA's and the District generally.	Usage figures	The LCWIP has been adopted by both councils and three of the top priority routes are being progressed into early design stages.	
TM12	Community Rail Partnership (CRP) The Abbey Line	Promoting Travel Alternatives	Promote use of rail and inland waterways	2010	-	SADC & HCC	SADC & HCC	No	Not Funded	-	Planning	It is not possible to specifically quantify the impact of small-scale projects that the Council are working on with partners. However individual & cumulative AQ measures which reduce emissions are beneficial to improving pollutant levels both AQMA's and the District generally.	Usage figures	SADC and HCC need to continue to apply pressure on LNR to ensure they provide a reliable service at times not affected by industrial action. The service currently is subject to short term cancellations on a regular basis which is extremely frustrating for users and prevents the CRP from running effective promotions to attract new people to the line.	
TM13	To increase bus patronage and encourage modal shift from the car to public transport	Transport Planning and Infrastructure	Bus route improvements	2018	2023	SADC & HCC	SADC & HCC	No	Not Funded	<£10k	Active	It is not possible to specifically quantify the impact of small-scale projects that the Council are working on with partners. However individual & cumulative AQ measures which reduce emissions are beneficial to improving pollutant levels both AQMA's and the District generally.	Service numbers	Bus Services operated on a commercial basis. Over the last year the main issue with public transport has been driver shortages. Operators have struggled to retain drivers for a number of reasons, and this has had a knock-on effect on the services that have been running. Within St Albans there has been a number of service changes which operators have made commercially. The three main services that were withdrawn were Centrebus Service 34 between St Albans and Dunstable, Metroline Service 84 between St Albans and Barnet and Arriva Service 357 between Harpenden and Borehamwood. Hertfordshire County Council was able to retain the Service 34 and the 357 and partly retain the 84 but all services still serve St Albans.	

Measure No.	Measure	Category	Classification	Year introduced	Year completed	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Target Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Potential Barriers to Implementation
TM14	Car clubs for new developments	Alternatives to private vehicle use	Car & lift sharing schemes	2024/2025	2024/2025	SADC & HCC Air Quality / Planning Team	To be determined	Potentially	-	<£10k	To be confirmed	Reduce NOx and PM emissions	Reduction of car journeys resulting from car club	Car club launched to the public in January of 2022, promoted in Community News, Sustainability News and leaflets. Usage is currently low. Council and Enterprise working on more local promotion including exploring car parks, bus stop posters, banner sites, and leisure centres. Planning to extend the contract and improve promotion. Looking to increase the number of cars available.	
TM15	Signal optimisation	Traffic Management	UTC, Congestion management, traffic reduction	2024/2025	2024/2025	HCC	To be determined	No	Not Funded	£100k - £500k	To be confirmed	Reduce NOx and PM emissions by reducing stop-starting of vehicles	Number of vehicles coming to a stop reduced	-	HCC suggests that the junction be optimised for the current road layout
TM16	20mph zones - Review the effects of 20mph zones on air quality	Promoting Low Emission Transport	Emission reduction	2024/2025	2024/2025	SADC & HCC	To be determined	Potentially	Not Funded	<£10k	To be confirmed	Reduce NOx and PM emissions within specific areas where 20 mph zones are located	Number of vehicles speeding reduced	A programme of 20mph speed limit introductions is being worked through. It is suggested that this would promote mode shift on roads in question however may require large scale introduction across the city centre to create impact on air quality and mass mode shift. Many areas in St Albans have already been assessed and have started implementation. Much of the city centre is now part of a 20mph zone (building on the existing 20mph zone that was already in the centre), including the Peahen junction, Chequer St, Victoria St and High St. Most of London Road remains a 30mph zone.	
TM17	Consider closure of High Street	Promoting Low Emission Transport	Emission reduction	2024/2025	Ongoing	SADC & HCC	SADC & HCC	No	Not Funded	<£10k	To be confirmed	Reduce NOx and PM emissions within specific areas located within and around the AQMA	Air quality monitoring data	St Albans High Street Recovery Air Quality Report: There is no evidence that the High Street trials have had a negative impact on air quality, including on potential displacement routes along Folly Lane and Catherine Street. There is some evidence that the road closures may have improved	

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														air quality at the Peahen Junction and for the St Albans AQMA, as well as other key sites in the centre of St Albans.	
HEA1	Campaign to raise awareness of air quality and the impact on air quality, of idling engines (when parked)	Public Information	Via the Internet	2017	2023	SADC	Staff costs	No	Not Funded	-	Planning	It is not possible to specifically quantify the impact of small-scale projects that the Council are working on with partners. However individual & cumulative AQ measures which reduce emissions are beneficial to improving pollutant levels in the AQMA and the District generally.	Media coverage	HCC have resources to promote schools taking anti-idling action. Local support from St Albans City and District Council officers in engaging schools to take up these measures would be supported. HCC have an Anti-Idling Campaign that Modeshift registered schools can participate in. For half a term they can display the “Lets Clear the Air Banner “outside their school and they have a video clip that can be sent out to parents and carers to support the campaign.	
HEA2	Air Alert Scheme	Public Information	Via the Internet	2020	Ongoing	SADC/HCC	-	No	Funded	< £10k	Completed	It is not possible to specifically quantify the impact of small-scale projects that the Council are working on with partners. However individual & cumulative AQ measures which reduce emissions are beneficial to improving pollutant levels in the AQMA and the District generally.	% of population sign-up	The air alert scheme has been reviewed, in terms of membership sign up. There has been a significant advertising drive to promote the system across the county. This has been actively supported by the county council public health team. The promotion of the service has been via social media	
HEA3	Engage with schools to raise awareness of air pollution	Public Information	Other	2024/2025	-	SADC	Staff costs	No	Funded	< £10k	To be confirmed	It is not possible to specifically quantify the impact of small-scale projects that the Council are working on with partners. However individual & cumulative AQ measures which reduce emissions are beneficial to improving pollutant levels in the AQMA and the District generally.	Number of schools utilising air pollution teaching toolkit	HCC Safer and Active travel team promote the Modeshift STARS scheme with schools. There are 24 schools registered for a Modeshift STARS travel plan in St Albans 17 of these is actively engaging with the Sustainable Travel Officer that covers the area 10 of these is holding an accredited Modeshift STARS travel plan Current potential for schools to sign up to receive air quality monitors for schools through the SAMHE project	

Measure No.	Measure	Category	Classification	Year introduced	Year completed	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Target Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Potential Barriers to Implementation
														which could be promoted by local officers.	
HEA5	Promotion of Clean Air Day / Clean Air Night	Public Information, Promoting Travel Alternatives, Vehicle Fleet Efficiency, Traffic Management, Alternatives to private vehicle use	Via other mechanisms, Intensive active travel campaign & infrastructure, Promotion of cycling, Promotion of walking, School Travel Plans, Driver training and ECO driving aids, Fleet efficiency and recognition schemes, Anti-idling enforcement, Car & lift sharing schemes	Ongoing	Ongoing	SADC	Staff costs	No	Funded	-	Active	It is not possible to specifically quantify the impact of small-scale projects that the Council are working on with partners. However individual & cumulative AQ measures which reduce emissions are beneficial to improving pollutant levels in the AQMA and the District generally.	Uptake in community action and air quality awareness. Possibility of using surveys to measure awareness and knowledge base	Clean air campaign to cover themes including: • Local air quality data • Open burning – domestic, solid fuel & bonfires • Electric vehicles and other low emission vehicles • Active travel – cycling facilities, footpath network, cycle routes, green travel routes • Fleet management / recognition schemes – for businesses and especially freight businesses • Anti-idling – targeting areas including schools, health centres and hospitals • Mode shift – car sharing, public transport, active travel • School engagement – school streets, air quality projects and data	
HEA8	Support households by providing information and access to funding for the installation of energy efficiency, heat decarbonisation and renewable energy sources	Public Information	Via the internet or physical advertisements	2024/2025	-	SADC	Staff costs	No	Funded	<£10k	To be confirmed	It is not possible to specifically quantify the impact of small-scale projects that the Council are working on with partners. However individual & cumulative AQ measures which reduce emissions are beneficial to improving pollutant levels in the AQMA and the	Reduction in emissions from poor energy efficiency standards and high-impact heating		This highlights the efforts of local housing teams in providing retrofit. There is future potential to link this to work around healthier, more sustainable homes. There is a concerted effort at HCC to promote a model in this space with focus on both Carbon and wider benefits

Appendix A: Response to Consultation

Table A.1 – Summary of Responses to Consultation and Stakeholder Engagement on the AQAP

Consultee	Category	Response
<Insert consultee e.g., Chamber of Commerce>	<Insert category e.g., Business>	<Insert text e.g., Disagree with plan to remove parking on High Street in favour of buses and cycles; consider it will harm business of members>

Appendix B: Reasons for Not Pursuing Action Plan Measures

Table B.1 – Action Plan Measures Not Pursued and the Reasons for that Decision.

Action category	Action description	Reason action is not being pursued (including Stakeholder views)
<Select from the categories in the blue instruction box above>	<Insert description of measure>	<Insert text here>

Appendix C: Steering Group Workshop minutes

Date: 26/01/2024

Time: 10:00 - 11:30

Participants

Ricardo Team:

- Mark Attree – Principal Consultant
- Rohan Patel – Senior Consultant
- Ella Wingard – Consultant
- Anton Girard-Sequeira – Analyst Consultant

Other Participants

	Name	Organisation/Position
1	Tara Murphy	Specialist Officer; Air Quality, St Albans City and District Council
3	Anne Hardy	Road Safety and Sustainable Transport Manager, Hertfordshire County Council
4	Nick Truran	Leader for Strategic Cycling and development manager, Hertfordshire County Council
5	Val Male	Principal Rail officer, Hertfordshire County Council
6	Emma Turner	Strategy and Programme manager for transport, Hertfordshire County Council
7	Tina Gigg	Local Transport Plan team, Hertfordshire County Council
8	Samuel Milburn	Walking and Cycling and Air Quality Support Officer, Hertfordshire County Council

9	Raymond Lewis	Bus service development officer, Hertfordshire County Council
10	Steve Dibben	Infrastructure Manager, St Albans City and District Council
11	Daniel Tancock	Network Planning Leader, Hertfordshire County Council
12	James Gummery	Spatial Planning and Design Leader, St Albans City and District Council
13	Matthew Clark	Programme manager for Cleaner Air, Hertfordshire County Council

1. Agenda and speakers [Rohan Patel, *Ricardo*]

Agenda Point	Lead Speaker	Time
Welcome and Background to the project	**Rohan Patel**	**10:00-10:10**
Air quality and emissions in St Albans	**Ella Wingard**	**10:10-10:20**
Measures to reduce emissions	**Rohan Patel**	**10:20-11:20**
Next steps & closing remarks	**Rohan Patel**	**11:20-11:30**

2. Welcome and Background to the Project [Rohan Patel*, Ricardo*]

3.1 – Air quality in the UK

- Why is air quality important?
  - Poor air quality is the largest environmental risk to public health in the UK with an annual estimated mortality of 28,000 to 36,000 people
  - It will incur an estimated £1.6 billion cost to the NHS and social care between 2017 to 2025
- Who is affected?
  - Harmful to everyone, particularly more vulnerable groups
- In 2015 indirect and direct deaths registered higher than smoking deaths
  - Indirect deaths can be caused by respiratory, or heart disease exacerbated by poor air quality

- PM2.5
    - Domestic combustion of wood, coal or other solid fuels is the leading source of PM2.5 emissions
    - A portion of PM2.5 originates in other countries, which particularly affects the Southeast of the UK
    - Road traffic only accounts for 13% of PM2.5 emissions
    - Two new legally binding PM2.5 targets; 10µg/m^3 and reduce exposure by 35% by 2040 which local authorities will have to address

3.2 – Air quality in St Albans

- There is currently one active AQMA in St Albans, with 2 others revoked in 2022
- AQMAs 2 and 7 were declared in 2004 and revoked in 2022 due to continued compliance with the national Air Quality Objectives
- Currently all diffusion tubes sites are compliant with the national Air Quality Objectives, but 2 sites remain within 10% of the Objective (>36µg/m^3)
- There was an observable sharp decrease in monitored NO_2 due to the covid lockdown in 2020, and a slight increase in 2021 and 2022 attributed to the return of normality after the lockdown
- AQMA 1 is still required as there have not been three consecutive years below the 10% threshold of the national Air Quality Objectives
- All monitoring sites displayed a lower than 36µg/m^3 with all around 20µg/m^3 at the revoked AQMAs 2 and 7

Discussion:

Matthew Clark: How accurate are the monitoring sites?

Ella: *These sites are not automatic, monthly measurements are taken and bias adjusted to get accurate measurements*

Mark: *There is a large spread in diffusion tube results, this uncertainty arises from yearly variations and uncertainty in equipment measured values. This is addressed in revocation guidance; ensuring three consecutive years of compliance with objectives to ensure robust continued compliance in the event of revocation.*

3.3 – Project Background

- What is an Air Quality Action Plan (AQAP)?
    - Statutory document setting out actions or measures the council will take to improve air quality. It should demonstrate how the council intend to work with partners to ensure holistic solutions with timely delivery. And must ensure that actions taken are measurable to quantify their success.
    - Six main criteria in an Air Quality Action Plan:

        - Quantify source contributions
        - How the council will work with partners
        - Quantification of expected impacts
        - Evidence that all options have been considered (cost effective and feasible)
        - Clear timescales for implementations
        - How the Local Authority intends to monitor and evaluate effectiveness of the chosen measures
- Ricardo's approach to the AQAP
    - Source apportionment, to determine where the air pollution in St Albans Originates
    - Develop a baseline air quality model
    - Review existing and draft policies
    - Identify longlist of measures based on Steering group outcomes, steering group suggestions and best practice examples
    - Refine the longlist:
        i. New measures
        ii. Remove measures that are no longer relevant
        iii. Identify issues in the implementation of any of Ricardo's suggested measure
        iv. Identify additional measures required
    - Prepare roadmap for Air Quality actions
    - Consultation of draft AQAP
    - Finalisation of the Air Quality Action Plan
- Suggested priorities:
    - Bringing the two monitoring sites within 10% below that threshold
    - Reduction of NOx across the St Albans
    - Manage PM2.5 emissions and exposure
    - Reduction of emissions from key sectors (transport) and domestic heating

3. Air Quality and emissions in St Albans *[*Ella Wingard*, Ricardo]*

1.1 – Source Apportionment

- The largest contributor to NOx emissions in St Albans is Road Transport (73% of total)
- Built a model using 2023 Emission Factors, DfT traffic counts and DfT speed data to understand percentage contribution of different road vehicles to NOx concentrations
- These results are similar to other urban areas in the UK
- The highest contributors within this are diesel cars then LGVs
- Results indicate that Diesel cars disproportionally pollute compared to their presence on the road, higher share of pollution than their share of total road traffic counts

4. *Suggested Measures [*Rohan Patel*, Ricardo]*

- Three themes
  - Environmental
  - Transport
  - Health Education and Awareness

5.1 – Environmental Measures

Environmental Measures			
Theme	ID	Measure	Status
Partnerships	EM1	Climate Change Carbon Emission Reduction - Herts County Council Sustainability Partnership	New
	EM2	Links with Air quality and public health - Hertfordshire Councty Council	New
Plans & policies	EM3	SADC will assert comprehensive control over Part B/Part A2 processes for smaller scale industries	Existing
	EM4	Consider implementation of smoke control areas	New
	EM5	Investigate development of a domestic solid fuel policy	New
	EM6	Control of Bonfires and use of other Unauthorised Fuels	New
	EM7	SADC will investigate complaints about nuisance (domestic and industrial emissions)	Existing
	EM8	Air quality planning guidance for construction sites and operational developments	New
	EM9	Embed air quality in the Local Plan	New
	EM10	Investigate impacts associated with indoor air quality	New
Monitoring & data	EM11	Continue to monitor air quality within the district and as necessary review the suitability of monitoring locations	Existing
	EM12	Procure automatic monitoring stations and service contracts	New
Infrastructure	EM13	Road resurfacing - Consideration given to lower polluting road surfacing within AQMA	New
	EM14	Continue the Trees Against Pollution project and explore green wall/hedging opportunities	Existing

Discussion:

Matthew: Good to see measures similar to those promoted by St Albans City and District Council and Hertfordshire County Council under the 'Clean Air Night' campaign

Matthew: Might be good to investigate making St Albans a Smoke Control Area

Matthew: On EM13-14, there is a lot of planned infrastructure in the pipeline, Ricardo should ensure this is taken into account

Matthew: When considering all Ricardo's proposed measures, the AQAP should make reference to Hertfordshire County Council's 'healthy street' approach to interventions

5.2 – Transport Measures

Transport Measures			
Theme	ID	Measure	Status
Low emission transport	TM1	Electric fleet council vehicles	New
	TM2	Investigate introduction of additional electric charging at council car parks within the District	Existing
	TM3	Improvie taxi fleet emissions	Existing
	TM4	Bus fleet/ lower pollutant emissions	Existing
	TM5	Consider requiring developers to install electric charging points in new developments under S106 agreements	Existing
	TM6	To investigate the feasibility of a Clean Air Zone	Existing
	TM7	Freight and Delivery - Investigate introduction of last mile, low emission delivery	New
Active travel	TM8	Working at home/hybrid working/encourages ustainable travel of council staff	New
	TM9	Cycling and Walking Strategy	Existing
Mode shift	TM10	Consider an increase in car parking charges with the view to making bus travel a more attractive alternative	Existing
	TM11	Pilot the Station Travel Plan	Existing
	TM12	Community Rail Partnership (CRP) The Abbey Line	Existing
	TM13	To increase bus patronage and encourage modal shift from the car to public transport	Existing
	TM14	Car clubs for new developments	New
Traffic Management	TM15	Investigate possibility of road signs to discourage through traffic.	Existing
	TM16	Investigate the status of on street parking in the AQMA and determine if parking is contributing tojunction congestion	Existing
	TM17	Signal optimisation	New
	TM18	20mph zones - Review the effects of 20mph zones on air quality	New

Discussion:

Emma: *The Walking and Cycling plan has already been made, but the cost of implementation is higher than Ricardo's suggestion.*

Mark A: *Should the walking and cycling plan be considered within the AQAP as a package or as individual policies?*

Emma: *Best to consider it as a package*

Rohan: *What is the implementation timeframe for this plan?*

Emma: *Long term*

Daniel: *There are 27 new vehicles for the St Albans Bus fleet under the ZEBRA scheme, these are electric, there may be up to 6 buses an hour, Ricardo should also ensure that the additional public transport capacity is met in the costing of TM13 in the AQAP*

Anne: *We should talk to Susan O'Brien about school travel plans, and Irma Sadokovic about business and residential travel, she may have more information about policies such as no idling drop off zones*

Matthew: *Parking related measures (ex. Parking charges) will mostly affect commuters, but we should avoid incentivising parking for Ultra-low emission vehicles as this is likely to only favour those with higher wealth. We should focus on congestion prior to fleet renewal*

Emma: *We should look at Cycling and Walking measures specifically for London Road, as this will have the largest impact. We should also consider LGVs, maybe a cycle hire scheme with Cargo Bikes?*

Nick: *will we account for the impact of the reopening of Verulum road gates? Will the AQAP consider reclosing this?*

Tara: *Cannot offer any more perspective on this yet, pilot study is due to be reported on soon*

Emma: *This trial is ongoing, the high street is reopened, but the council is looking at closing roads further away, and they are curious as to how this could fit into the AQAP, and whether other traffic gates could be suggested. Currently looking at weekend closures of George Street*

Mark: *The deadline for the AQAP means that we will likely be looking at broader measures rather than doing an in-depth modelling study of a large number of scenarios*

James: *When will consultation on the AQAP take place?*

Rohan: *Draft AQAP will be submitted on the 29th, consultation will take place sometime after that*

James: *Ricardo should ensure policy HW1 relating to noise and air pollution is included in the AQAP*

Matthew: *Hertfordshire County Council has implemented a no idling policy across its own sites, and would be happy to share the implementation process with St Albans that they may implement this as well*

5.3 – Health, Education and Awareness Measures

Health, Education & Awareness Measures			
Theme	ID	Measure	Status
Engagement & public awareness	HEA1	Campaign to raise awareness of air quality and the impact on air quality, of idling engines (when parked)	Existing
	HEA2	Air Alert Scheme	Existing
	HEA3	Engage with schools to raise awareness of air pollution	New
	HEA4	Herts & Beds Air Quality Forum including Public Health, Transport Planners & Development Control representation	New
	HEA5	Promotion of Clean Air Day / Clean Air Night	Existing
	HEA6	Promotion of impacts of using log burners / cleaner fuels	New
	HEA7	Develop travel plan toolkit for businesses, schools, healthcare establishments and local communities, with option to support groups with bespoke travel information	New

Discussion:

Daniel: *The public is often confused as to why the Local Authority is spending resources on log burner awareness/ domestic combustion, think this should be the responsibility of a central government agency*

Rohan: *This can be helped with education; the public can understand their individual contribution to Air Quality and the local measures that are necessary*

Mark: *Ricardo gets a lot of feedback during consultation on wood burning and electric vehicles, which is not always positive.*

Anne: *Hertfordshire expects large scale development into the future, we should make sure the AQAP is future proof by accounting for this*

Raymond: *Will policy HEA4 include the addition of bus lanes or similar to optimise the public transport network? We should also consider signal optimisation to tackle congestion and idling*

5. Next steps and closing remarks [Rohan Patel, Ricardo)

- Further feedback by email
- Follow ups with relevant stakeholders
- Development of draft AQAP
- Refine measures based on this workshop and follow-ups

Appendix D: Scenario Modelling

Table D-1: Scenario 1 NO_2 concentrations at monitoring sites in and around the St Albans AQMA No. 1 in the city centre as a result of modal shift. NO_2 concentrations within 10% of the annual mean NO_2 national objective, 40 µg/m^3, are shown in *bold italics*.

Site ID	Monitored NO_2 2022 (µg/m^3)	Scenario 1a: 5% car reduction		Scenario 1b: 10% car reduction		Scenario 1c: 15% car reduction	
		µg/m^3	% change	µg/m^3	% change	µg/m^3	% change
SA134	23.90	23.60	-1.26%	23.31	-2.47%	23.01	-3.72%
SA137	31.40	30.88	-1.66%	30.36	-3.31%	29.83	-5.00%
SA138	31.60	31.13	-1.49%	30.65	-3.01%	30.18	-4.49%
SA141	17.00	16.93	-0.41%	16.86	-0.82%	16.79	-1.24%
SA143	28.20	27.78	-1.49%	27.37	-2.94%	26.95	-4.43%
SA148	35.60	35.11	-1.38%	34.61	-2.78%	34.11	-4.19%
SA160	***39.40***	***38.75***	-1.65%	***38.09***	-3.32%	***37.43***	-5.00%
SA161	27.90	27.48	-1.51%	27.07	-2.97%	26.65	-4.48%
SA163	***36.10***	35.49	-1.69%	34.89	-3.35%	34.28	-5.04%

Table D-2: Scenario 2 NO_2 concentrations at monitoring sites in and around the St Albans AQMA No. 1 in the city centre due to the electrification of buses. NO_2 concentrations within 10% of the annual mean NO_2 national objective, 40 µg/m^3, are shown in *bold italics*.

Site ID	Monitored NO_2 2022 (µg/m^3)	Scenario 2a: 5% bus reduction		Scenario 2b: 10% bus reduction		Scenario 2c: 15% bus reduction	
		µg/m^3	% change	µg/m^3	% change	µg/m^3	% change
SA134	23.90	23.88	-0.08%	23.87	-0.13%	23.85	-0.21%
SA137	31.40	31.36	-0.13%	31.33	-0.22%	31.3	-0.32%
SA138	31.60	31.56	-0.13%	31.53	-0.22%	31.49	-0.35%
SA141	17.00	16.98	-0.12%	16.96	-0.24%	16.94	-0.35%
SA143	28.20	28.17	-0.11%	28.15	-0.18%	28.12	-0.28%
SA148	35.60	35.39	-0.59%	35.17	-1.21%	34.96	-1.80%
SA160	***39.40***	***39.36***	-0.10%	***39.32***	-0.20%	***39.27***	-0.33%
SA161	27.90	27.88	-0.07%	27.86	-0.14%	27.84	-0.22%
SA163	***36.10***	***36.07***	-0.08%	***36.03***	-0.19%	***36.00***	-0.28%

Table D-3: Scenario 3 NO_2 concentrations at monitoring sites in and around the St Albans AQMA No. 1 in the city centre due to a reduction in domestic combustion sources. NO_2 concentrations within 10% of the annual mean NO_2 national objective, 40 µg/m^3, are shown in *bold italics*.

Site ID	Monitored NO_2 2022 (µg/m^3)	Scenario 3a: 5% domestic reduction		Scenario 3b: 10% domestic reduction		Scenario 3c: 15% domestic reduction	
		µg/m^3	% change	µg/m^3	% change	µg/m^3	% change
SA134	23.90	23.82	-0.33%	23.75	-0.63%	23.67	-0.96%
SA137	31.40	31.31	-0.29%	31.21	-0.61%	31.12	-0.89%
SA138	31.60	31.51	-0.28%	31.41	-0.60%	31.32	-0.89%
SA141	17.00	16.9	-0.59%	16.8	-1.18%	16.7	-1.76%
SA143	28.20	28.11	-0.32%	28.01	-0.67%	27.92	-0.99%
SA148	35.60	35.51	-0.25%	35.42	-0.51%	35.33	-0.76%
SA160	***39.40***	***39.31***	-0.23%	***39.22***	-0.46%	***39.13***	-0.69%
SA161	27.90	27.81	-0.32%	27.71	-0.68%	27.62	-1.00%
SA163	***36.10***	***36.03***	-0.19%	35.96	-0.39%	35.89	-0.58%

Glossary of Terms

Abbreviation	Description
AQAP	Air Quality Action Plan - A detailed description of measures, outcomes, achievement dates and implementation methods, showing how the local authority intends to achieve air quality limit values'
AQMA	Air Quality Management Area – An area where air pollutant concentrations exceed / are likely to exceed the relevant air quality objectives. AQMAs are declared for specific pollutants and objectives
AQS	Air Quality Strategy
ASR	Air quality Annual Status Report
Defra	Department for Environment, Food and Rural Affairs
EU	European Union
LAQM	Local Air Quality Management
NO_2	Nitrogen Dioxide
NO_x	Nitrogen Oxides
PM_{10}	Airborne particulate matter with an aerodynamic diameter of 10µm (micrometres or microns) or less
$PM_{2.5}$	Airborne particulate matter with an aerodynamic diameter of 2.5µm or less