Stafford
BOROUGH COUNCIL

2023 Air Quality Annual Status Report (ASR)

In fulfilment of Part IV of the Environment Act 1995
Local Air Quality Management

Date: June 2023

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Report Reference Number	2023 ASR
Date	June 2023

Executive Summary: Air Quality in Our Area

1.1 Air Quality in Stafford Borough.

Air pollution is associated with 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, the elderly, and those with existing heart and lung conditions. There is also often a strong correlation with equalities issues because areas with poor air quality are also often less affluent areas[1,2].

The mortality burden of air pollution within the UK is equivalent to 28,000 to 36,000 deaths at typical ages[3], with a total estimated healthcare cost to the NHS and social care of £157 million in 2017[4].

Data presented in this report was collected during 2022, a time when the COVID19 pandemic in early 2022 still affected traffic flows and commerce, particularly with increased 'home working' and so may not be fully representative of past and future trends.

The findings of the annual air quality reports produced by Stafford Borough Council since 2004, are that air quality standards are met in Stafford Borough, and that no Air Quality Management Areas (AQMA's) are required. The findings of this 2023 ASR again show that the air quality standards are complied with and that there is no need to declare an air quality management area in our Borough.

Traffic pollution generated by the M6 motorway around Junction 15 for Stafford and at Clayton continues to cause the greatest concern, however, NO_2 levels here continue to be below the annual objective limit.

The construction of the M6 'smart motorway's' scheme for this section of the M6 (Junctions 13 to 15) is nearing completion after 4 years of works.

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[1] Public Health England. Air Quality: A Briefing for Directors of Public Health, 2017

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

[3] Defra. Air quality appraisal: damage cost guidance, July 2021

[4] Public Health England. Estimation of costs to the NHS and social care due to the health impacts of air pollution: summary report, May 2018

The adaptation of the hard shoulder into a running lane and using variable speed limits to control the flow of traffic, has impacted traffic flows significantly during the reporting period. At times this has resulted in free flowing but speed restricted traffic and at others congestion.

In the future HS2a construction will also significantly affect traffic flows across the Borough (delayed for 2 years commencing 2023), this may push traffic towards alternative routes closer to receptors, monitoring of air pollution will need to be designed to identify emerging air quality issues once construction begins.

1.2 Actions to Improve Air Quality

Whilst air quality has improved significantly in recent decades and will continue to improve due to national policy decisions, there are some areas where local action is needed to improve air quality further.

The 2019 National Clean Air Strategy[5] sets out the case for action, with goals to reduce exposure to harmful pollutants. The Road to Zero[6] sets out the approach to reduce exhaust emissions from road transport; this is extremely important given that the majority of Air Quality Management Areas (AQMAs) are designated due to elevated concentrations heavily influenced by transport emissions.

Stafford Borough Council does not have any Air Quality Management Areas however it remains important that improvements to air quality are pursued wherever possible to maintain this position. Stafford Borough Council has important regional motorway and trunk routes and as a result is keen to identify systems that will improve transboundary pollution levels, for this reason the Council has produced an Air Quality Strategy Document and is a full member of the Staffordshire ECO stars initiative.

The Council has published its Air Quality Strategy Document developed in consultation with key partners including actions and linking to the Climate Change Emergency Strategy, intended to provide a framework around which air quality issues can be dealt with throughout Council Services in the future.

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[5] Defra. Clean Air Strategy, 2019

[6] DfT. The Road to Zero: Next steps towards cleaner road transport and delivering our Industrial Strategy, July 2018

In March 2019 the Council applied for and was awarded a £1million grant from the Office of Low Emission Vehicles in partnership with Stoke on Trent City Council and Newcastle-under-Lyme Borough Council to provide 30 shared of the fastest rapid electric vehicle chargers primarily for the hackney carriage / private hire trade. Low emission public transport, such as electric taxis, are important both to reduce traffic emissions but also to offer and promote new cleaner technologies for all to use. This project has now delivered 10 chargers in the Borough (Figure 1) and there is a growing interest in low emission vehicles from the Taxi trade.

The Borough Council is currently working in partnership with Staffordshire County Council, to identify a swathe of new electric vehicle charging sites as part of a strategy to install more public charge points across the Borough.

Figure 1: Photograph of one of the Electric charging points installed in Stafford Borough Council

1.3 Conclusions and Priorities

- The air quality in Stafford Borough does not exceed the air quality standards, there are however significant pressures which may result in future challenges. Stafford Borough Council is undergoing a time of considerable housing growth (c 7,000 homes by 2025) and commercial investment with the added prospect of a HS2a hub station and associated business growth. The local traffic that this growth will generate needs to be managed so that the burden of extra vehicles does not result in a significant deterioration of our local air quality.

- The new Western Distributer Road in Stafford opened in 2021 and is relieving traffic congestion at busy times.

- All planning applications for new housing are assessed for the air quality impacts and it remains a Council priority to consider air quality impacts for all new commercial developments.

- Motorway emissions remain a significant concern for Stafford Borough, the construction of the M6 smart motorway scheme is nearing completion, it will deliver extra capacity and it is anticipated that traffic emissions will reduce as the Managed Motorways Scheme is fully implemented.

- It is likely that the large urban area of Stoke on Trent and Newcastle under Lyme will soon enforce a low emission vehicle zone, this may have the effect of diverting traffic onto neighbouring roads in Stafford Borough. Stafford Borough Council air quality. Monitoring stations have been positioned to monitor this potential risk.

- Air Quality and air emissions are included in the Council's Climate Change Strategy

Annual Status Report (ASR) 2023 - Air Quality

Endorsement from the Director of Health & Care, Staffordshire County Council.

Staffordshire County Council (SCC) is committed to working with partners to ensure that Staffordshire will be a place where improved health and wellbeing is experienced by all. Poor air quality has a negative impact on public health, with potentially serious consequences for individuals, families, and communities. Identifying problem areas and ensuring that actions are taken to improve air quality forms an important element in protecting the health and wellbeing of Staffordshire residents. Improving air quality is often a complex issue, presenting a multi-agency challenge – so it is essential that all agencies work together effectively to deliver improvements where they are needed.

As Director of Health and Care across Staffordshire I endorse this Annual Status Report which sets out the position in all the Local Authorities across Staffordshire and Stoke-on-Trent focusing on human made pollution with particulate matter.

The Air Aware project "phase 2" ran until March 2023 with Defra Funding. The Air Aware project continues with joint funding from Staffordshire Public Health and Connectivity Teams to March 2025. The project delivers behaviour change to increase active travel, decrease car use, and raise awareness of air quality issues through five elements.   These are business and school engagement, communications and campaigns, electric vehicles, and air quality monitoring in three targeted locations, Burton, Leek, and Cannock.   Campaigns include Anti-Idling, walking and cycle activities and Clean Air Day. These have been countywide engaging a large number of businesses and schools. The programme focuses on reducing levels of NO and PM, which are monitored at key locations.

Several the Staffordshire Authorities are currently involved in implementing measures to reduce levels of N02 within their areas, which are detailed elsewhere in their ASR. Since the update of the Environment Act 2021 there is now a statutory duty imposed on Local Authorities in England to reduce PM2.5, a number of the measures are complementary with those being undertaken to reduce NOx. A mapping exercise completed by the Staffordshire Air Quality Forum members details the measures currently in place which are considered to have an impact in reducing PM2.5 within the County. These can be viewed in Table 2.4

In addition, Levelling Up Fund 2 Schemes will improve a number of major roads around the county, reduce journey times, put greener, cleaner buses on main roads, improve walking and cycling routes and reduce the impact of housing and commercial developments. They will benefit East Staffordshire, Cannock Chase, and Stafford Borough. Total package cost circa £20m.

Finally, Officers from Newcastle Borough Council, Stoke City Council and Staffordshire County Council are jointly working under Ministerial Direction to improve transport related air pollution in North Staffordshire.

Dr Richard Harling

Director of Health and Care

Staffordshire County Council

[6th June 2023]

1.4 Local Engagement and How to get Involved

Public participation in the national and local air quality issues is vital to maintaining the current standards. Road journeys, transport mode choices, commuting methods and alternative travel methods can have significant local effects. Travel to and from and around schools is a priority and surveys have been undertaken in partnership with Staffordshire County Council and the University of the third age (U3A) group aimed at engaging children and parents in reducing school drop off emissions. The following bodies can all help to improve the general understanding of local air quality issues and how to effect positive changes.

Stafford Borough Council   Operational Services
                                    Sustainability Matters
                                    Planning and Development Control
                                    Climate Change Group
Staffordshire County Council
Stoke on Trent City Council
UK Air Defra.
North Staffordshire and Stafford Friends of the Earth
Public Health England
U3A University of the Third Age. West Midlands. Stafford Branch.

1.5 Local Responsibilities and Commitment

This ASR was prepared by the Environmental Health Team of Stafford Borough Council.

It is expected that this ASR will be assessed and considered for approval by Cabinet once appraised and commented upon by DEFRA and the University of Western England.

This ASR has been endorsed by a Director of Public Health.

If you have any comments on this ASR please send them to the report author in the first instance.

Table of Contents

2 Local Air Quality Management

This report provides an overview of air quality in Stafford Borough Council during 2022. It fulfils the requirements of Local Air Quality Management (LAQM) as set out in Part IV of the Environment Act (1995) 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, and to determine whether or not the air quality objectives are likely to be achieved. Where an exceedance is considered likely the local authority must declare an Air Quality Management Area (AQMA) and prepare an Air Quality Action Plan (AQAP) setting out the measures it intends to put in place in pursuit of the objectives. This Annual Status Report (ASR) is an annual requirement showing the strategies employed by Stafford Borough Council to improve air quality and any progress that has been made.

The statutory air quality objectives applicable to LAQM in England are presented in Table E.1. below.

Table E.1 – Air Quality Objectives in England[7]

Pollutant	Air Quality Objective: Concentration	Air Quality Objective: Measured as
Nitrogen Dioxide (NO_2)	200µg/m^3 not to be exceeded more than 18 times a year	1-hour mean
Nitrogen Dioxide (NO_2)	40µg/m^3	Annual mean
Particulate Matter (PM_{10})	50µg/m^3, not to be exceeded more than 35 times a year	24-hour mean
Particulate Matter (PM_{10})	40µg/m^3	Annual mean
Sulphur Dioxide (SO_2)	350µg/m^3, not to be exceeded more than 24 times a year	1-hour mean
Sulphur Dioxide (SO_2)	125µg/m^3, not to be exceeded more than 3 times a year	24-hour mean
Sulphur Dioxide (SO_2)	266µg/m^3, not to be exceeded more than 35 times a year	15-minute mean

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[7] The units are in microgrammes of pollutant per cubic metre of air (µg/m^3).

3 Actions to Improve Air Quality

3.1 Air Quality Management Areas

Air Quality Management Areas (AQMAs) are declared when there is an exceedance or likely exceedance of an air quality objective. After declaration, the authority should prepare an Air Quality Action Plan (AQAP) within 12 months setting out measures it intends to put in place in pursuit of compliance with the objectives.

Stafford Borough Council currently does not have any declared AQMAs.

3.2 Progress and Impact of Measures to address Air Quality in Stafford Borough Council.

Defra's appraisal of last year's ASR

The following comments are designed to help inform future reports.

1. It is encouraging to see the Council considered the comments made during the previous appraisal and actively made an effort to address all of these actions for this year's ASR.

2. The council is commended for their approach to further improving Air Quality in the absence of a formal AQAP. Continued engagement with local residents is highly encouraged. The council are encouraged to continue to identify additional means to address further air quality concerns in future reporting years.

3. The council is recommended to continue to review their current monitoring regime, specifically the addition of several new non-automatic monitoring sites (diffusion tubes) across the region. This is important as additional sites will help to identify whether there are other key areas of relevant exposure where there may be exceedances and the appropriate measures can be adopted accordingly.

4. The council is commended for their measures to reduce PM2.5 emissions provided in Table 2.4 in the Addendum. The council have developed these measures to address PM2.5 emissions in future reporting years even though there is no statutory requirement for SBC to develop an additional action plan to address PM2.5 emissions at present. The Council is highly encouraged to continue to update this action plan in future reporting years.

5. There are several formatting issues within the report. There are several tables with different fonts and formatting styles, which can make things slightly confusing for the reader. Red bolded text appears in some headings in the report, which is contrast to the green bolded text used for most headings in the report. Several figures and tables in the report are not labelled appropriately. The figure provided in section "4.2.1 Nitrogen Dioxide" should have been included in the Appendix section instead and referenced in the section "4.2.1 Nitrogen Dioxide". For future ASR reports, the council is highly encouraged to download the latest version of the Annual Status Report Template on Defra's Website (https://laqm.defra.gov.uk/air-quality/annual-reporting/annual-status-report-templates-england-exc-london/). This will ensure that any minor formatting issues are removed from future reports.

6. There is one inconsistency in the data tables submitted alongside the report. Diffusion tube Site 19 is included in the tables provided in the Appendix but is not included in the Excel Files uploaded to the LAQM portal. This should be corrected in future reports.

7. The Council are highly encouraged to provide trend graphs for monitoring data, which would clearly illustrate how concentrations in SBC have changed over the past 5 years.

8. The NO2 concentrations in SBC have continued are below the annual mean objective for NO2 in 2021 at all monitoring sites, which is very encouraging.

3.3 SBC Response to the 2022 commentary for the 2023 ASR.

Thank you for your considered comments.

1. Noted.
2. Noted.
3. Two new sites have been established (shown as NEW in the data table).
4. Noted.
5. The latest ASR template has been used for this report. Minor formatting issues have been addressed.
6. Site 19 was disabled during 2021/22 and was relocated close-by appearing renamed temporarily as 16.
7. The long-term trend graph is shown in section 4.2.1 with an additional chart to reflect five year averages.
8. Noted.

Stafford Borough Council has taken forward several direct measures during the current reporting year of 2022 in pursuit of improving local air quality.

The local authority works in partnership with Staffordshire County Council, Public Health England, and Highways England through the Staffordshire Air Quality Forum. The Stafford Borough Council Air Quality Strategy has driven the award of a £1million grant towards a taxi electrification in partnership with Stoke on Trent City Council and Newcastle-under- Lyme Council now (2022) in full operation. Commencing 2021, the Council contributes to the Staffordshire County Council 'EV charging Across Staffordshire' Project. We are also working towards improving air quality through continued membership of the ECO Stars vehicle fleet recognition scheme. The M6 Smart motorway scheme (Junctions 13 to 15) are expected to deliver ongoing air quality improvements (subject to delay 21/22 for additional emergency pull-ins)

Details of all measures completed, in progress or planned are set out in Table 2.2. three measures are included within Table 2.2, with the type of measure and the progress Stafford Borough Council have made during the reporting year of 2022 presented. Where there have been, or continue to be, barriers restricting the implementation of the measure, these are also presented within Table 2.2.

Table 2.1 – Progress on Measures to Improve Air Quality

Measure No.	Measure	Category	Classification	Year Measure Introduced	Estimated / Actual Completion Year	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Barriers to Implementation
1	Air Quality incorporated into Climate Change Strategy	Policy Guidance and Development Control	Air Quality Planning and Policy Guidance	2019	2022	Local Authority Environmental Health, Local Authority Transport Dept.	Local Authority	NO	Not Funded	< £10k	Implementation	NIL	NIL	Air Quality incorporated into Climate Change Priority	Achieved
2	TAXI Electrification	Promoting Low Emission Transport	Taxi emission incentives	2019	2023	Local Authority Environmental Health, Local Authority Transport Dept.	OLEV	YES	Funded	£500k - £1 million	Completed	reduced vehicle emissions	target to promote EV TAXI take-up	Finding suitable sites with TAXI trade	Funding
3	ECO STARS	Vehicle Fleet Efficiency	Driver training and ECO driving aids	2015	2023	Local Authority Environmental Health, Local Authority Transport Dept.	DEFRA	NO	Partially Funded	£10k - 50k	Implementation	Reduced vehicle emissions	NIL	Future funding	First phase successful, second phase on-going

3.4 PM$_{2.5}$ – Local Authority Approach to Reducing Emissions and/or Concentrations

As detailed in Policy Guidance LAQM.PG16 (Chapter 7), local authorities are expected to work towards reducing emissions and/or concentrations of PM$_{2.5}$ (particulate matter with an aerodynamic diameter of 2.5µm or less). There is clear evidence that PM$_{2.5}$ has a significant impact on human health, including premature mortality, allergic reactions, and cardiovascular diseases.

Stafford Borough Council is taking measures to address PM$_{2.5}$ that are common to the measures in Table 2.2 above. The Borough has a large rural footprint with naturally occurring particulate matter in the form of pollen, volatile plant oils and agricultural dust all of which contribute to the total burden of airborne particles. Attributing measures to control man made and natural are problematical.

The Department for Environment Food and Rural Affairs provides an online mapping resource to estimate current background concentrations of PM2.5.

The highest Stafford Borough Council background has a level of 4µg/m3 located in the urban areas of Stafford and Stone, the lowest is in our rural areas of 0.3µg/m3. The EU limit (including background) is 25µg/m3.

Due to the estimated low background levels of particulate matter, Stafford Borough Council does not monitor either PM$_{2.5}$ nor PM10.

2.3.1 Particulate Matter (PM$_{2.5}$) Levels in Staffordshire and Stoke-on-Trent

Several Staffordshire Authorities currently monitor locally for PM$_{10}$. Defra's Automatic Urban and Rural Network (AURN) site, Stoke-on-Trent Centre has a dedicated PM$_{2.5}$ monitor. Table 2.3 presents data on the local level of PM$_{2.5}$ annual mean concentrations for the Staffordshire Authorities. Where the data is derived from PM$_{10}$ monitoring this has been adjusted by applying a correction factor of 0.7 to derive the PM$_{2.5}$ component. The correction factor has been derived from the average of all ratios of PM$_{2.5}$/PM$_{10}$ for the years from 2010 to 2014 for forty sites within the Automatic Urban and Rural Network (AURN) where these substances are measured on an hourly basis and follows the guidance published in LAQM (TG16). Data for 2022 is not available at the time of this report.

Table 2.2 – Annual Mean PM10 and PM2.5 results of monitoring by Staffordshire Authorities 2017 to 2021

Authority	Site Type	Monitor Location	OS Grid Ref	(µg/m3)	Year 2017	Year 2018	Year 2019	Year 2020	Year 2021
Newcastle under Lyme	Roadside	Queen`s Gardens	E385057	PM$_{10}$	(5)	(5)	(5)	(5)	(5)
Newcastle under Lyme	Roadside	Queen's Gardens	N346137	PM$_{2.5}$	(5)	(5)	(5)	(5)	(5)
Cannock Chase	Roadside	Cannock A5190	E401392 N309954	PM$_{10}$	14	18	16	(6)	(6)
Cannock Chase	Roadside	Cannock A5190	E401392 N309954	PM$_{2.5}$	9.8	12.6	11.2	(6)	(6)
Stoke on Trent	Roadside	Basford	E386288	PM$_{10}$	23	23	24	*	19
Stoke on Trent	Roadside	Basford	N346802	PM$_{2.5}$	16[1]	16[1]	17	*	13
Stoke on Trent	Roadside	A50 Roadside Meir	E392548	PM$_{10}$	18	19	20	17	18
Stoke on Trent	Roadside	A50 Roadside Meir	N342572	PM$_{2.5}$	13[1]	13[1]	14[1]	12[1]	14[1]
Stoke on Trent	Urban Background	Stoke on Trent Central	E388351	PM$_{10}$			12	13	14
Stoke on Trent	Urban Background	Stoke on Trent Central	N347895	PM$_{2.5}$	9	9	9	7	8
East Staffordshire	Roadside	DerbyTum	E424671 N324019	PM$_{10}$	(4)	(4)	(4)	(4)	(4)
East Staffordshire	Roadside	DerbyTum	E424671 N324019	PM$_{2.5}$	(4)	(4)	(4)	(4)	(4)

Notes: [1]PM2.5 results are derived from PM10 monitored results corrected with a 0.7 correction factor in accordance with TG16 - Annex B: Derivation of PM2.5 to PM10 Ratio. All other results are directly monitored.

(4) East Staffordshire`s monitors were decommissioned 2016

(5) Newcastle under Lyme monitors were decommissioned 2016

(6) Cannock Chase no longer monitor PM10 nor PM2.5*

* No data available for 2020.

2.3.2 PM$_{2.5}$ and Mortality in Staffordshire & Stoke-on-Trent

Although the levels of PM$_{2.5}$ within the County and City of Stoke on Trent are below the 2020 EU Limit value, the impact on adult mortality directly attributable to PM$_{2.5}$ is nonetheless still an important public health issue within Staffordshire and Stoke-on-Trent. This is revealed in data obtained from Public Health England used to inform Public Health Outcomes Framework indicator D01[7], as shown in *Figure 2*. Values for 2022 are not yet available for this report.

District/County	Percentage
Tamworth	6.4%
England	6.3%
East Staffordshire	6.0%
Cannock Chase	6.0%
Lichfield	6.0%
Stoke on Trent	5.9%
South Staffordshire	5.8%
Staffordshire County	5.8%
Newcastle-under-Lyme	5.5%
Stafford	5.5%
Staffordshire Moorlands	5.3%

Figure 2: Estimated average number of deaths by local authority area attributable to PM2.5 within Staffordshire for adults over 30, 2018 to 2021

4 Air Quality Monitoring Data and Comparison with Air Quality Objectives and National Compliance

This section sets out the monitoring undertaken within 2022 by Stafford Borough Council and how it compares with the relevant air quality objectives. In addition, monitoring results are presented for a five-year period between 2018 and 2022 to allow monitoring trends to be identified and discussed.

4.1 Summary of Monitoring Undertaken

4.1.1 Automatic Monitoring Sites

Stafford Borough Council does not use automatic (continuous) monitoring.

4.1.2 Non-Automatic Monitoring Sites

Stafford Borough Council undertook non- automatic (i.e. passive) monitoring of NO_2 at 28 sites during 2022. Table A.2 in Appendix A presents the details of the non-automatic sites.

Maps showing the location of the monitoring sites are provided in Appendix D. Further details on Quality Assurance/Quality Control (QA/QC) for the diffusion tubes, including bias adjustments and any other adjustments applied (e.g., annualisation and/or distance correction), are included in Appendix C.

4.2 Individual Pollutants

The air quality monitoring results presented in this section are, where relevant, adjusted for bias, annualisation (where the annual mean data capture is below 75% and greater than 25%), and distance correction. Further details on adjustments are provided in Appendix C.

4.2.1 Nitrogen Dioxide (NO_2)

For diffusion tubes, the full 2022 dataset of monthly mean values is provided in **Appendix B: Full Monthly Diffusion Tube Results for 2022**.

There are no exceedences of the air quality objectives and no exceedences of the annual means.

The summary datagraph *Figure 3* below compares annual compound data for motorway monitoring sites and trunk roads. The results for each major road type over the years have normally mirrored each other, and there is no overall deterioration year on year, however this year has shown an increase in pollution levels as the COVID impacts relaxed. Notably results remain better than the long term average, perhaps reflecting the M6 smart motorway flow improvements and the rise of homeworking with less road commuting.
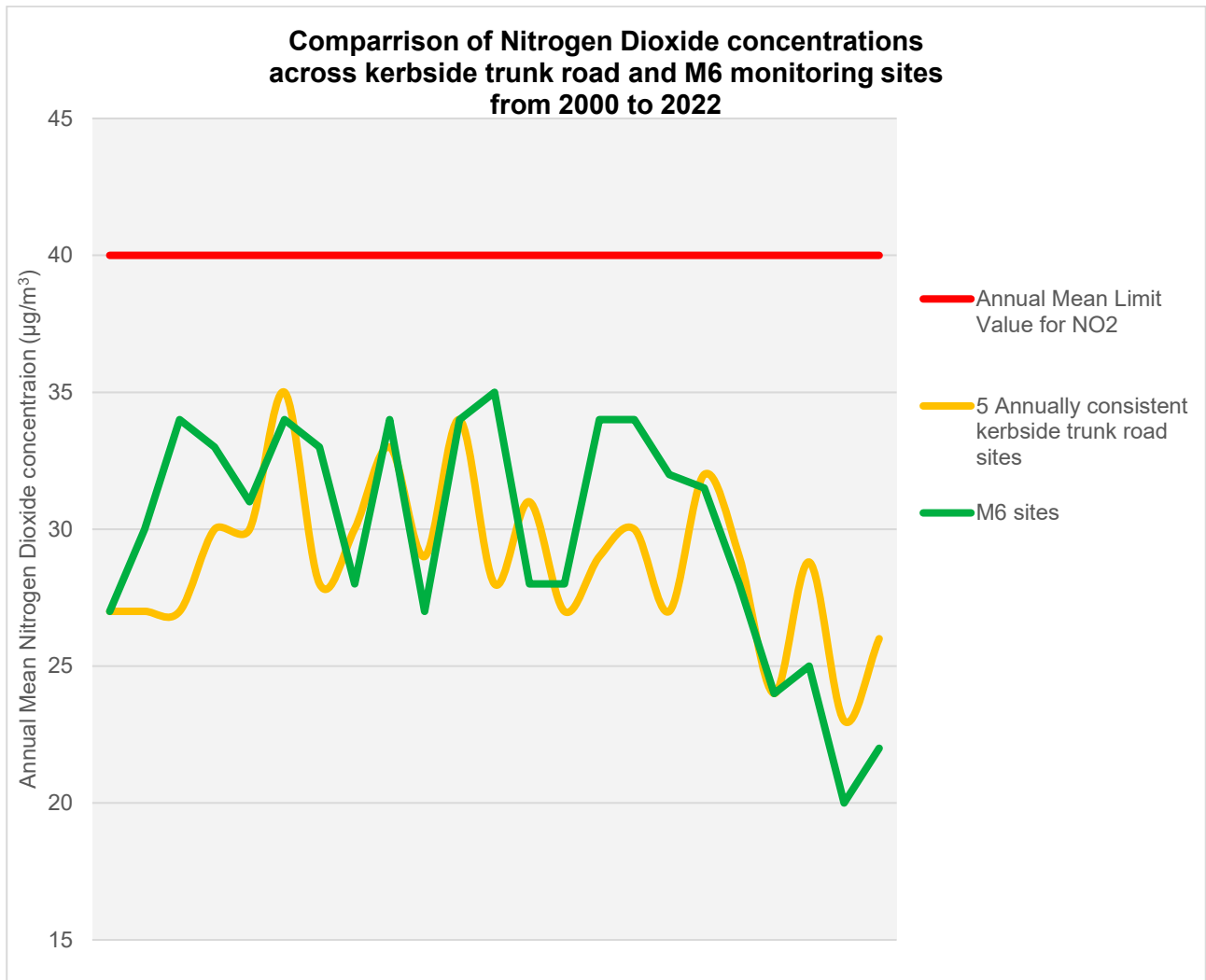
Figure 3: Summary datagraph below compares annual compound data for motorway monitoring sites and trunk roads

The summary chart, **Figure 4** below, shows the five year average across all diffusion tube monitoring sites.
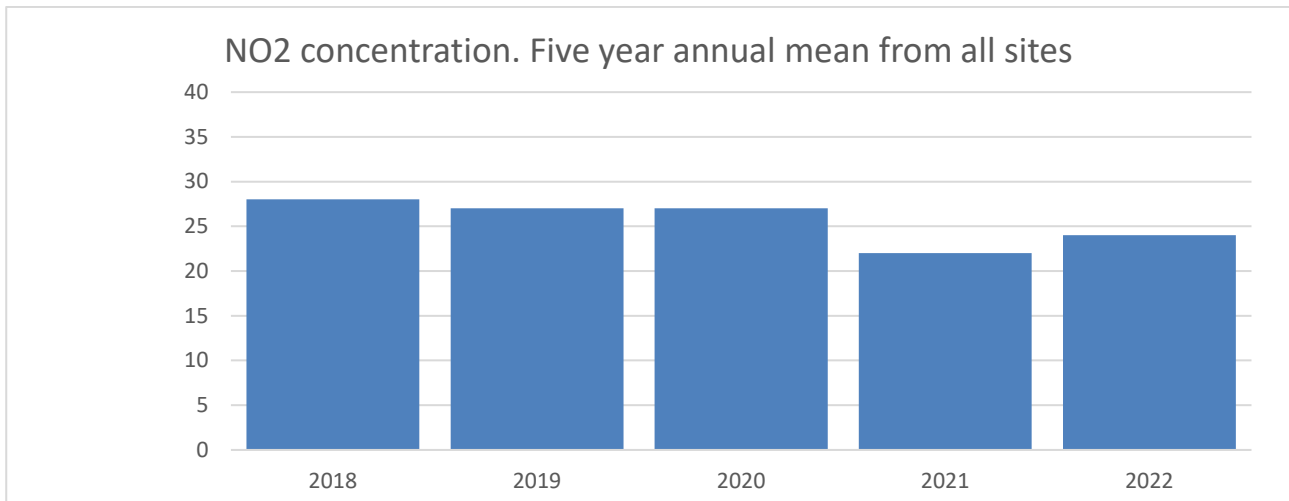
Figure 4: Five year summary for diffusion tube monitoring sites

4.2.2 Particulate Matter (PM$_{10}$)

Stafford Borough Council does not monitor PM10.

4.2.3 Particulate Matter (PM$_{2.5}$)

Stafford Borough Council does not monitor PM2.5

4.2.4 Sulphur Dioxide (SO$_2$)

Stafford Borough Council does not monitor SO2

Table A.1 – Details of Non-Automatic Monitoring Sites

Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m)	Distance to Kerb of Nearest Road (m)	Tube Co-located with a Continuous Analyser	Height (m)
1	Kerbside	390220	325530	NO2	N/A	30.0	5.0	No	2.0
2	Kerbside	390350	325410	NO2	N/A	20.0	15.0	No	2.0
3	Other	390130	321700	NO2	N/A	20.0	0.0	No	2.0
4	Kerbside	392914	340076	NO2	N/A	50.0	0.0	No	2.0
5	Other	390231	334298	NO2	N/A	0.0	0.0	No	2.0
6	Kerbside	394471	321462	NO2	N/A	10.0	0.0	No	2.0
8	Kerbside	385680	342220	NO2	N/A	15.0	0.0	No	2.0
13	Other	390310	332960	NO2	N/A	50.0	1.0	No	2.0
14	Other	390090	333150	NO2	N/A	0.0	1.0	No	2.0

16	Kerbside	388666	335429	NO2	N/A	15.0	0.0	No	2.0
21	Kerbside	391105	328693	NO2	N/A	60.0	0.0	No	2.0
22	Kerbside	393518	321916	NO2	N/A	100.0	0.0	No	2.0
32	Kerbside	391581	320743	NO2	N/A	15.0	0.1	No	2.0
33	Kerbside	392154	319970	NO2	N/A	15.0	5.0	No	2.0
36	Kerbside	394848	341145	NO2	N/A	40.0	0.0	No	2.0
40	Other	384920	341520	NO2	N/A	10.0	10.0	No	2.0
ST	Kerbside	390050	333270	NO2	N/A	15.0	0.5	No	2.0
BB1	Kerbside	394830	341060	NO2	N/A	35.0	0.0	No	2.0
BB2	Kerbside	394290	341750	NO2	N/A	30.0	0.0	No	2.0
BM	Kerbside	391561	390692	NO2	N/A	30.0	0.0	No	1.5
TR	Kerbside	386450	341230	NO2	N/A	25.0	0.0	No	2.0
TITT	Kerbside	387350	338490	NO2	N/A	10.0	0.0	No	2.0
M6	Kerbside	385080	342022	NO2	N/A	20.0	0.0	No	2.0

M6.2	Other	385096	342012	NO2	N/A	0.0	25.0	No	2.0
E1	Kerbside	383166	329202	NO2	N/A	10.0	0.0	No	2.0
M6 3	Other	385076	342092	NO2	N/A	20.0	25.0	No	2.0
Weston	Roadside	394408	323726	NO2	N/A	20.0	5.0	No	2.0
M6.4	Kerbside	385054	341841	NO2	N/A	20.0	0.0	No	2.0

Table A.2 – Annual Mean NO₂ Monitoring Results: Non-Automatic Monitoring (µg/m³)

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%)	Valid Data Capture 2022 (%)	NO₂ Annual Mean Concentration (µg/m³)				
						2018	2019	2020	2021	2022
1	390220	325530	Kerbside		82.7	27.0	30.0	27.8	20.0	29.1
2	390350	325410	Kerbside		82.7	24.0	32.0	23.4	22.0	21.3
3	390130	321700	Other		73.1	31.0	30.0	33.9	17.0	18.6
4	392914	340076	Kerbside		75.0	25.0	25.0	24.6	23.0	20.3
5	390231	334298	Other		82.7	34.0	36.0	27.1	34.0	36.4
6	394471	321462	Kerbside		75.0	34.0	28.0	27.2	23.0	28.3
8	385680	342220	Kerbside		82.7	38.0	30.0	31.3	28.0	35.9
13	390310	332960	Other		92.3	20.0	20.0	27.6	17.0	19.9
14	390090	333150	Other		92.3	20.0	21.0	18.1	15.0	18.4
16	388666	335429	Kerbside		75.0	30.0	36.0	33.9	17.0	19.4
21	391105	328693	Kerbside		92.3	24.0	19.0	23.1	**NIL**	20.2

22	393518	321916	Kerbside		92.3	30.0	26.0	23.4	24.0	26.9
31, 32	391581	320743	Kerbside		92.3	29.0	29.0	31.6	22.0	19.5
33	392154	319970	Kerbside		92.3	**41.0**	34.0	25.2	26.0	24.6
36	394848	341145	Kerbside		75.0	23.0	28.0	20.9	18.0	25.4
40	384920	341520	Other		92.3	23.0	20.0	15.1	17.0	17.4
ST	390050	333270	Kerbside		92.3	24.0	32.0	**40.6**	30.0	27.4
BB1	394830	341060	Kerbside		92.3	31.0	24.0	22.7	22.0	27.9
BB2	394290	341750	Kerbside		92.3	33.0	33.0	32.2	19.0	27.0
BM	391561	390692	Kerbside		92.3	23.0	21.0	23.4	20.0	20.5
TR	386450	341230	Kerbside		92.3	25.0	22.0	21.2	17.0	20.0
TITT	387350	338490	Kerbside		92.3	21.0	22.0	30.6	19.0	24.7
M6	385080	342022	Kerbside		92.3	38.0	31.0	26.8	26.0	26.7
M6.2	385096	342012	Other		92.3	26.0	22.0	28.1	23.0	22.5

E1	383166	329202	Kerbside		84.6		<u>new</u>	26.0	20.0	23.5
M6 3	385076	342092	Other		76.9		<u>new</u>	24.0	28.0	17.3
West on	394408	323726	Roadside		92.3				<u>new</u>	24.6
M6.4	385054	341841	Kerbside		92.3				<u>new</u>	35.2

☒ **Annualisation has been conducted where data capture is <75% and >25% in line with LAQM.TG16**

☒ **Diffusion tube data has been bias adjusted.**

☒ **Reported concentrations are those at the location of the monitoring site (bias adjusted and annualised, as required), i.e. prior to any fall-off with distance correction.**

Notes:

2022 values are presented rounded up.

The annual mean concentrations are presented as µg/m^3.

Exceedances of the NO$_2$ annual mean objective of 40µg/m^3 are shown in **bold**.

NO$_2$ annual means exceeding 60µg/m^3, indicating a potential exceedance of the NO$_2$ 1-hour mean objective are shown in **<u>bold and underlined</u>**.

Means for diffusion tubes have been corrected for bias. All means have been "annualised" as per LAQM.TG16 if valid data capture for the full calendar year is less than 75%. See Appendix C for details.

Appendix B: Full Monthly Diffusion Tube Results for 2022

Table B.1 – NO₂ 2021 Diffusion Tube Results (µg/m³)

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	NO₂ Mean Concentrations (µg/m³)												Simple Annual Mean (µg/m3)			Comment
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Raw Data	Bias Adjusted (0.87)	Distance Corrected to Nearest Exposure	
1	390220	325530	48.9	33.8	29.3		37.7	42.2	25.7		21.1	27.5	42.2	25.8	33.4	29.1	-	
2	390350	325410	32.0	20.4	33.9		26.1	20.1	20.4		15.3	20.8	27.7	27.8	24.5	21.3	-	
3	390130	321700	42.4	15.6	16.3			16.7	18.2		16.7	24.2	17.0	25.2	21.4	18.6	-	
4	392914	340076	20.6	27.8	45.8		28.0	13.3			22.4	14.3	21.6	16.5	23.4	20.3	-	
5	390231	334298	60.0	54.8	26.3		40.2	25.5	39.8		40.0	21.9	21.6	88.3	41.8	36.4	-	
6	394471	321462	60.0	31.3	35.7		44.5	20.7			21.1	29.2	13.0	36.9	32.5	28.3	-	
8	385680	342220	62.8	27.0	39.1		60.9	19.9	35.6		35.0	37.3	51.1	44.1	41.3	35.9	-	
13	390310	332960	19.7	28.3	17.8	10.1	18.1	17.8			24.3	15.7	14.2	62.4	22.8	19.9	-	
14	390090	333150	34.7	18.4	17.1	37.5	24.1	15.2	22.3		11.2	14.4	26.8	11.0	21.2	18.4	-	
16	388666	335429	45.5	22.9	9.0	32.5		13.3	24.2			12.2	19.5	21.5	22.3	19.4	-	
21	391105	328693	20.4	24.5	46.1	11.5	19.9	27.4	27.3		15.5	16.7	13.2	33.2	23.2	20.2	-	
22	393518	321916	58.8	14.5	22.7	33.6	18.2	24.0	25.3		29.7	39.9	37.7	35.1	30.9	26.9	-	
31	391581	320743	40.8	15.8	16.8	27.1	25.8	15.3	18.9		14.4	24.8	29.0	25.6	-	-	-	Duplicate Site with 31 and 32 - Annual data provided for 32 only

32	391581	320743	41.7	14.7	25.6	16.3	14.6	15.6	16.9		24.3	25.3	14.6	28.2	22.4	19.5		-	Duplicate Site with 31 and 32 - Annual data provided for 32 only
33	392154	319970	61.7	27.3	15.7	42.0	30.5	12.7	27.3		14.6	28.9	26.9	24.0	28.3	24.6		-	
36	394848	341145	38.2		50.7		18.8	12.8	41.4		18.1	36.5	15.9	30.1	29.2	25.4		-	
40	384920	341520	10.0	25.6	20.2	75.0	21.5	10.9	12.4		10.0	8.9	14.8	10.9	20.0	17.4		-	
ST	390050	333270	59.6	17.5	39.3	51.0	25.4	14.7	34.9		19.7	29.3	27.2	27.8	31.5	27.4		-	
BB1	394830	341060	22.0	22.8	23.9	58.5	68.5	14.1	63.2		16.0	15.4	26.1	22.6	32.1	27.9		-	
BB2	394290	341750	28.7		22.8	73.6	31.7	22.8	47.3		20.1	14.5	16.8	32.4	31.1	27.0		-	
BM	391561	390692	35.1	21.6	11.9	61.0	12.9	14.6	16.0		14.8	20.9	27.6	22.8	23.6	20.5		-	
TR	386450	341230	39.6	19.3	19.5	28.7	28.9	21.7	17.7		9.5	28.9	20.3	19.3	23.0	20.0		-	
TITT	387350	338490	35.5	28.5	35.1	16.6	17.6	25.2	23.5		52.4	20.6	39.0	18.7	28.4	24.7		-	
M6	385080	342022	24.4	36.1	30.8	28.9	49.6	20.3	23.4		21.8	49.3	20.7	32.2	30.7	26.7		-	
M6.2	385096	342012	15.7	19.4	28.7	32.8	23.3	34.2	21.5		11.9	40.3	28.9	28.4	25.9	22.5		-	
E1	383166	329202		15.7	32.7	28.0	25.9	16.3	23.6		42.8	14.9	45.4	24.5	27.0	23.5		-	
M6 3	385076	342092		31.8	15.0	14.2	27.7	13.6	22.9		10.4	17.3		25.7	19.8	17.3		-	
Weston	394408	323726	30.9	16.9	44.1	45.6	17.3	25.6	32.2		20.4	22.3	27.0	28.4	28.2	24.6		-	
M6.4	385054	341841	42.5	29.5	23.7	35.3	74.6	41.8	44.1		33.5	35.7	42.7	41.5	40.4	35.2		-	

☒ All erroneous data has been removed from the NO$_2$ diffusion tube dataset presented in Table B.1

☐ Annualisation has been conducted where data capture is <75% and >25% in line with LAQM.TG16

☐ Local bias adjustment factor used

☒ National bias adjustment factor used

☒ Where applicable, data has been distance corrected for relevant exposure in the final column

☒ Stafford Borough Council confirm that all 2022 diffusion tube data has been uploaded to the Diffusion Tube Data Entry System

Notes:

Exceedances of the NO$_2$ annual mean objective of 40µg/m^3 are shown in **bold (Bias adjusted annual average)**. Bias corrected data is rounded up.

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Appendix C: Supporting Technical Information / Air Quality Monitoring Data QA/QC

4.3 New or Changed Sources Identified Within Stafford Borough Council During 2022

Smart motorways M6 construction has resulted in reduced flows at reduced speed limits.

The Stafford Western Distributer road has been completed with anticipated traffic flow relief.

4.4 Additional Air Quality Works Undertaken by Stafford Borough Council (SBC) During 2022

SBC has not completed any additional works within the reporting year of 2022.

4.4 QA/QC of Diffusion Tube Monitoring

The laboratory has not changed during 2022. Monitoring sites were serviced in accordance with the National calendar.

Staffordshire County Council
Staffordshire Highways Laboratory

NO$_2$ diffusion tube analysis QC results – April 2023 Summary

AIR PT Scheme (LGC)

Results for each round are classified on z-scores for each tube as SATISFACTORY (≤2), QUESTIONABLE (between 2 and <3) and UNSATISFACTORY (>3).

PT Rounds during 2022
- Round 49 – Feb 2022. 100% satisfactory results.
- Round 50 – July 2022. 100% satisfactory results.
- Round 52 – Sept 2022. 0% satisfactory, 100% unsatisfactory results. Investigation into the results for this round showed issues with the full extraction of the analyte from the tube and issues with training of new member of staff. This did not affect results for other samples. Additional samples of the following round were ordered, and analysis completed with 100% satisfactory results.
- Round 53 – Nov 2022. 100% satisfactory results.

A summary of our z-score results for 2022 can be found in the table below.

PT Round	z-scores	Performance
49 – Feb 2022	-0.11, -0.03, -0.22, 0.00	100% SATISFACTORY
50 – July 2022	-1.00, -0.78, -1.20, -1.48	100% SATISFACTORY
52 – Sept 2022	-4.75, -4.26, -4.04, -4.09	0% SATISFACTORY, 100% UNSATISFACTORY
53 – Nov 2022	-0.16, -1.79, -1.33, -0.61	100% SATISFACTORY

Field Intercomparison (NPL)

Laboratory performance for all results of 2022 was classified as 'GOOD' (CoV <20). The chart below (Figure 5) shows Laboratory results (blue squares), compared to the reference value (orange dots) for each month.
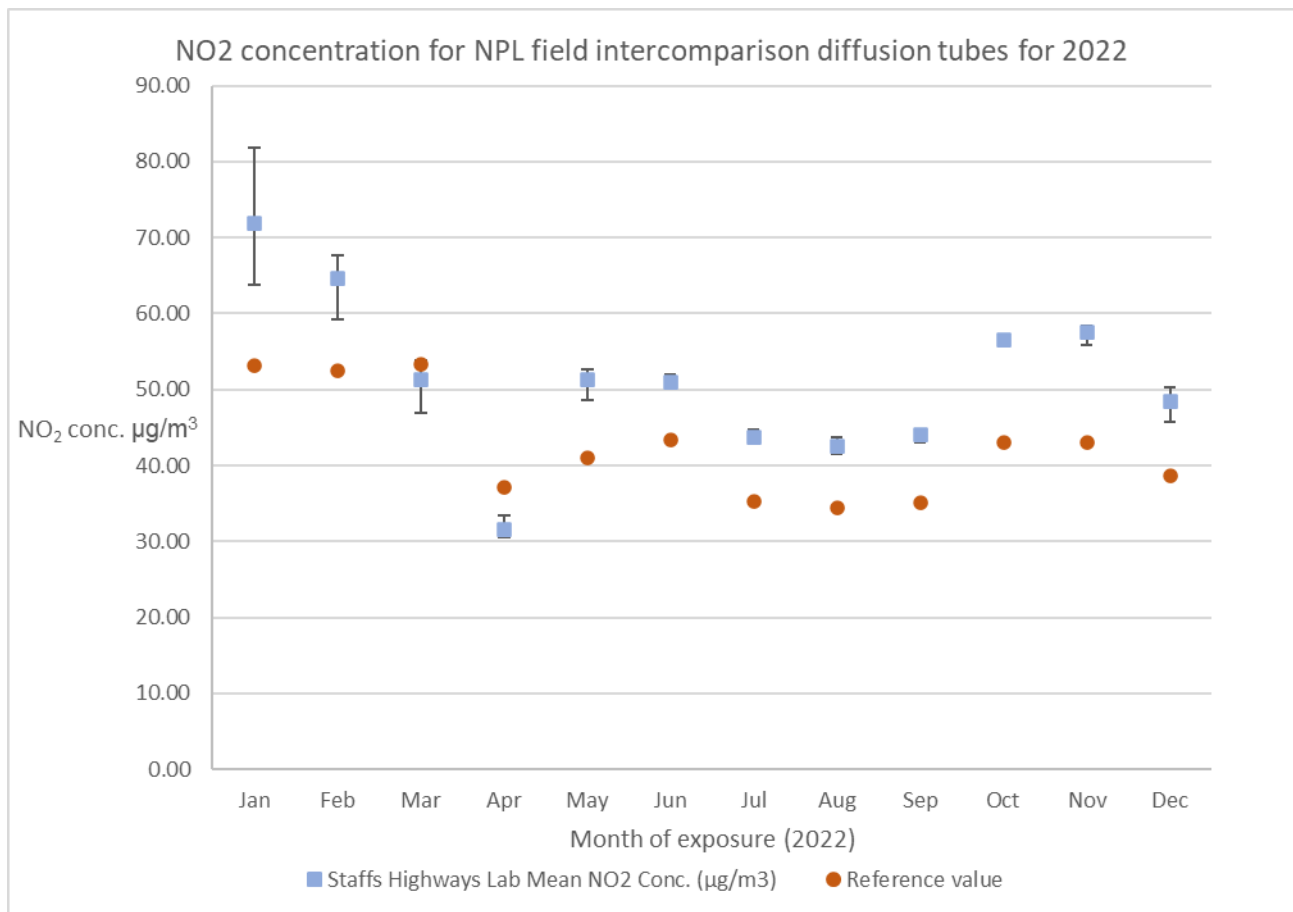

Figure 5: Laboratory Standards Graph comparing the readings reported by the laboratory against the known actual concentrations. This reveals the laboratory 'bias'.

Bias factor

The bias adjustment factor spreadsheet on the Defra website was updated in March 2023. The overall bias factor for Staffordshire Highways Laboratory for 2022 (including the Field Intercomparison result and all the co-location results from participating local authorities, total of 12 studies) was 0.87.

Staffordshire Scientific Services	20% TEA in water	2022		Overall Factor[3] (12 studies)		Use	0.87

Diffusion Tube Annualisation

All diffusion tube monitoring locations within SBC recorded data capture of 75% therefore it was not required to annualise any monitoring data. In addition, any sites with a data capture below 25% do not require annualisation.

Diffusion Tube Bias Adjustment Factors

The diffusion tube data presented within the 2022 ASR have been corrected for bias using an adjustment factor. Bias represents the overall tendency of the diffusion tubes to under or over-read relative to the reference chemiluminescence analyser. LAQM.TG16 provides guidance with regard to the application of a bias adjustment factor to correct diffusion tube monitoring. Triplicate co-location studies can be used to determine a local bias factor based on the comparison of diffusion tube results with data taken from NO_x/NO_2 continuous analysers. Alternatively, the national database of diffusion tube co-location surveys provides bias factors for the relevant laboratory and preparation method.

SBC have applied a national bias adjustment factor of 0.87 to the 2022 monitoring data. A summary of bias adjustment factors used by SBC over the past five years is presented in Table C.1.

Table C.1 – Bias Adjustment Factor

| Monitoring Year	Local or National	If National, Version of National Spreadsheet	Adjustment Factor
2022	N		0.87
2021	N	03/22	0.86
2020	N		0.85
2019	N		0.93
2018	N		0.87

NO$_2$ Fall-off with Distance from the Road

No diffusion tube NO$_2$ monitoring locations within SBC required distance correction during 2022.
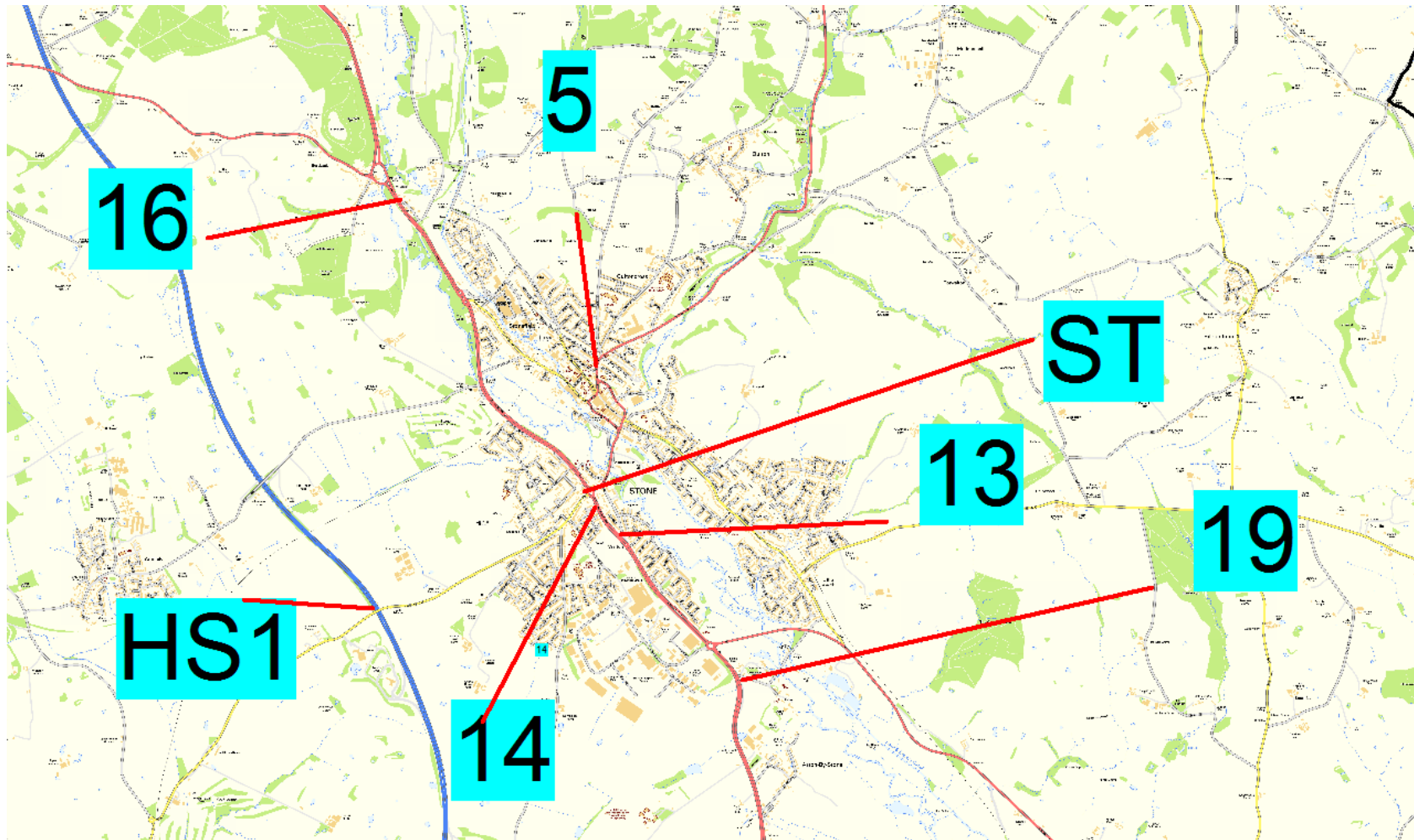
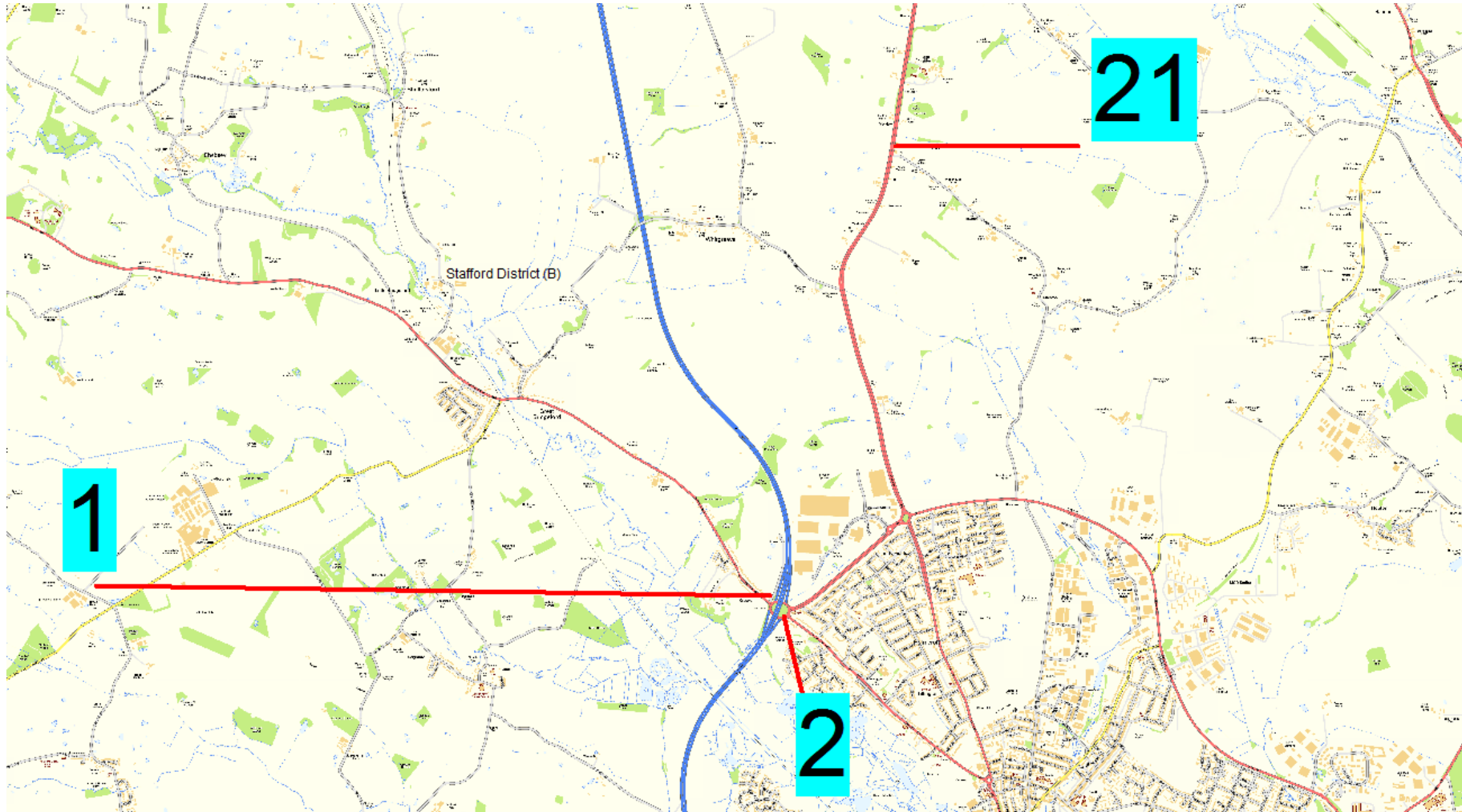## Appendix D: Map(s) of Non Automatic Monitoring Locations.
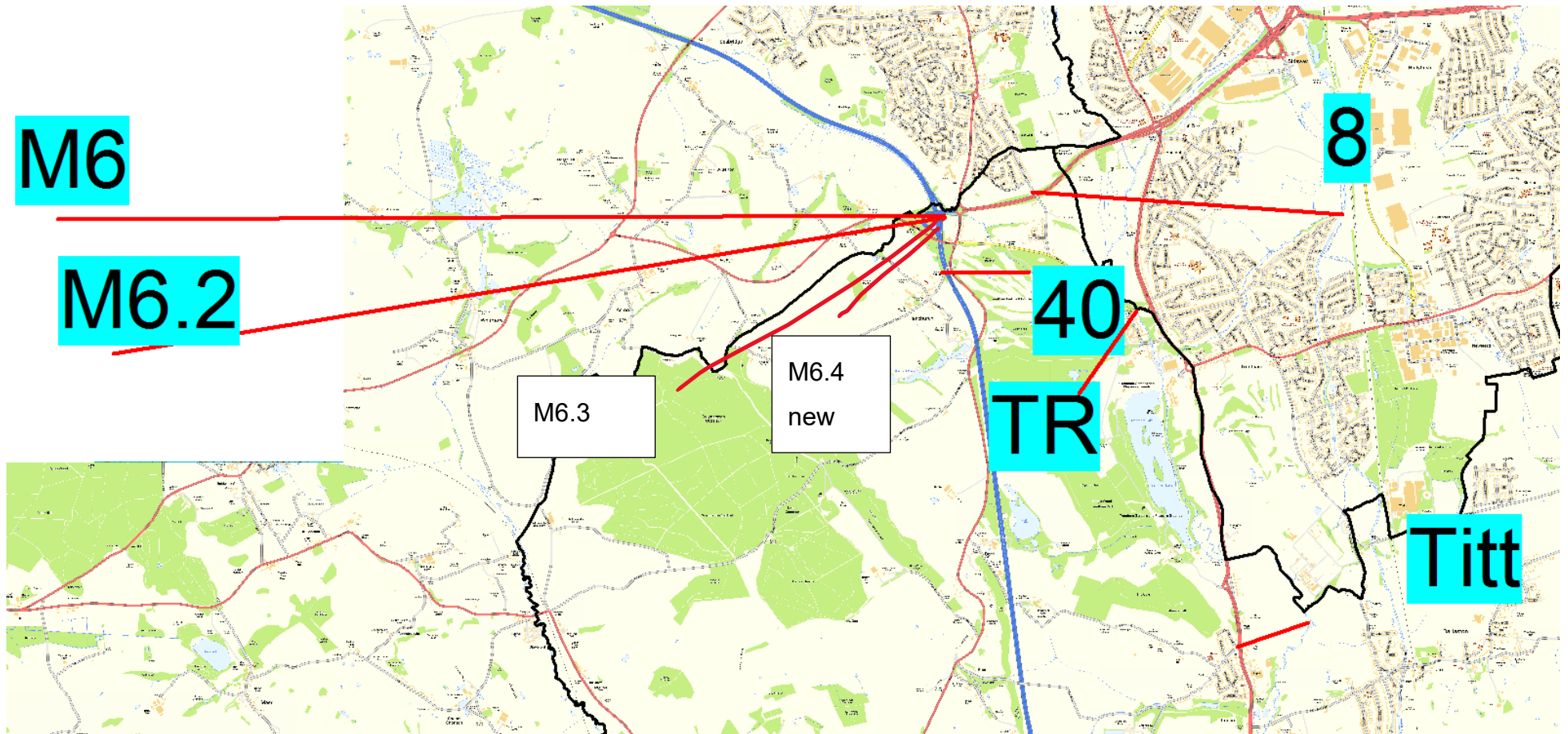
Stafford Borough North West
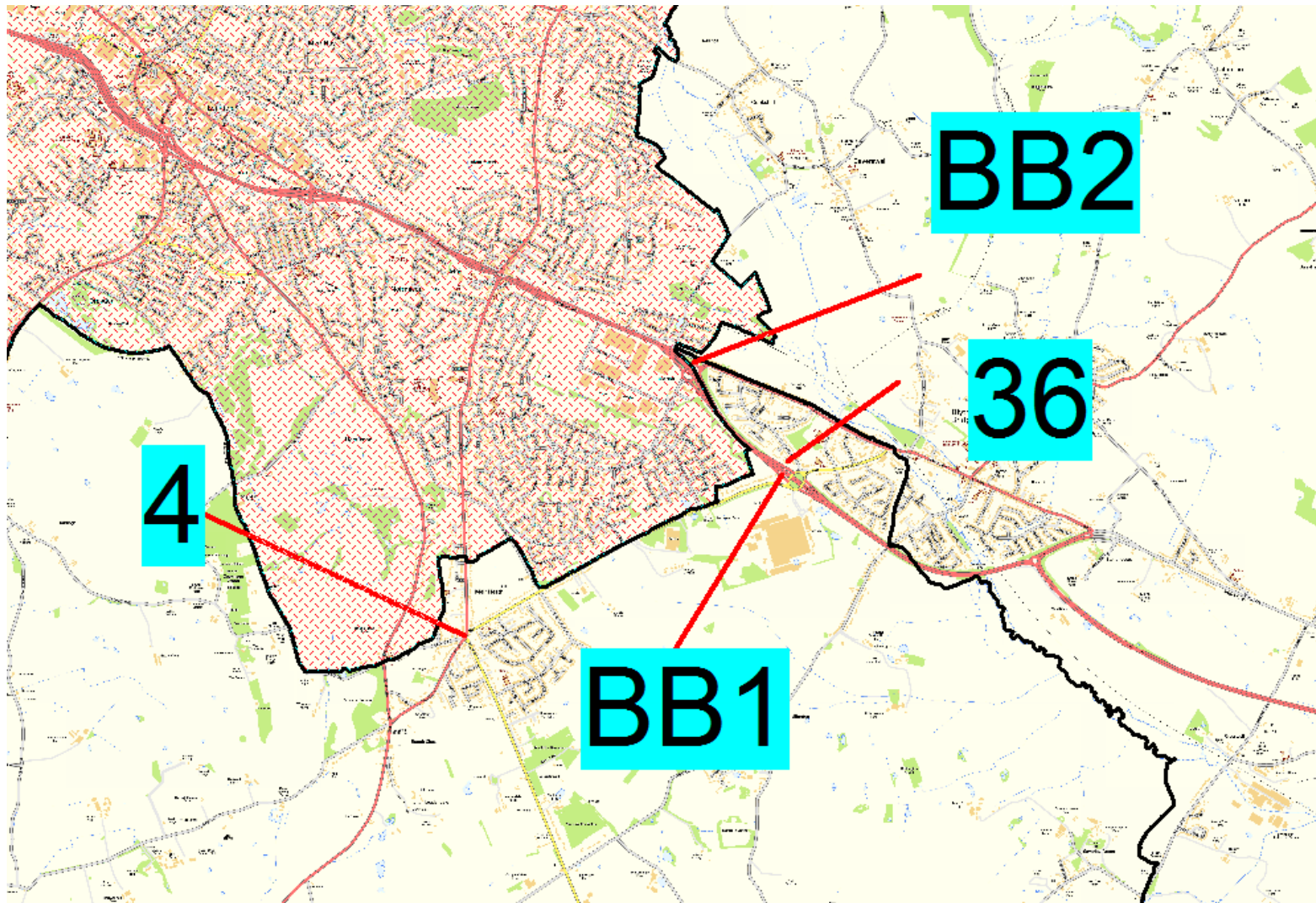
Stafford Borough North East

Stafford Borough Stone (site 19 disabled 2021)

Stafford Borough Stafford North
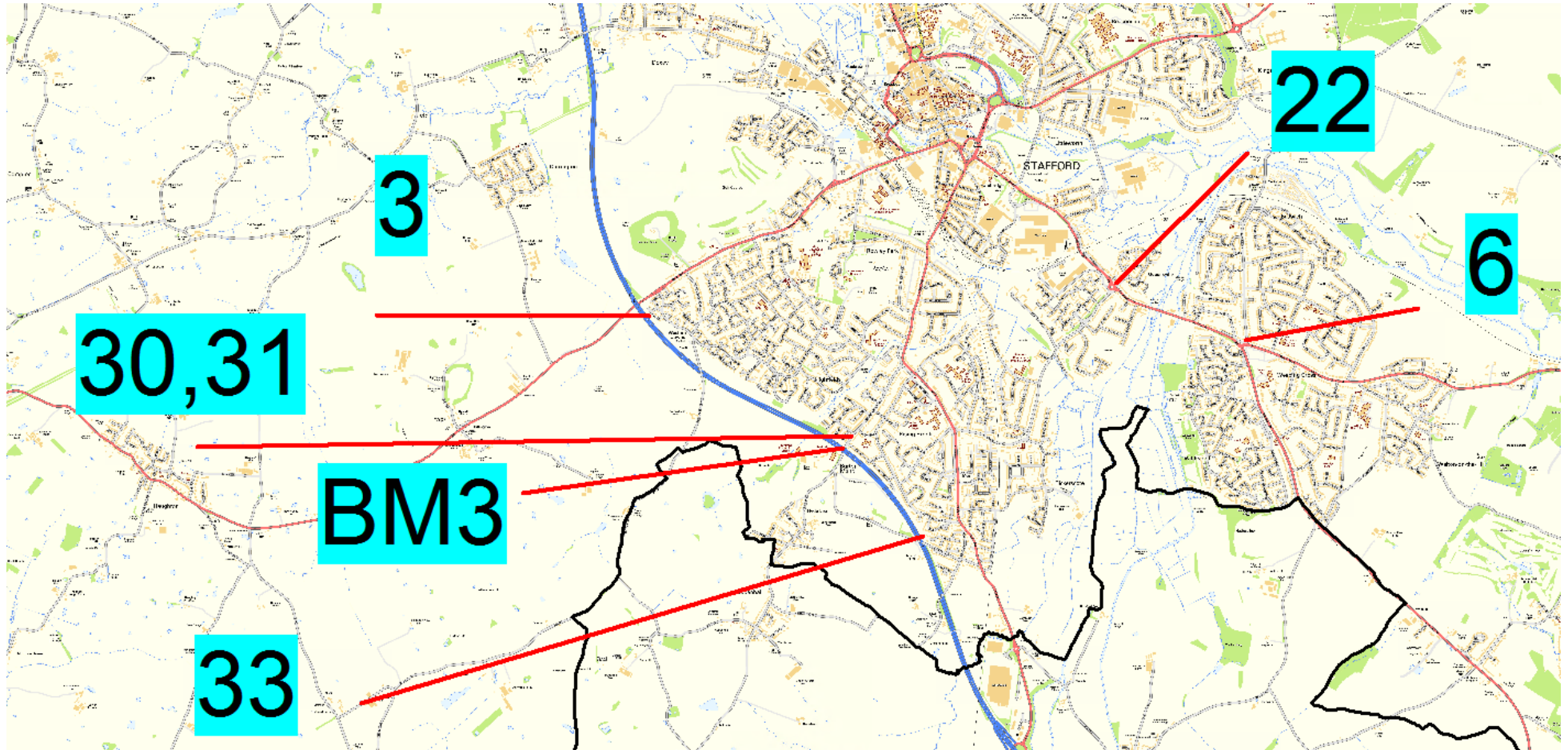
Stafford Borough Stafford South

Appendix E: Summary of Air Quality Objectives in England

Table E.2 – Air Quality Objectives in England[8]

Pollutant	Air Quality Objective: Concentration	Air Quality Objective: Measured as
Nitrogen Dioxide (NO_2)	200µg/m^3 not to be exceeded more than 18 times a year	1-hour mean
Nitrogen Dioxide (NO_2)	40µg/m^3	Annual mean
Particulate Matter (PM_{10})	50µg/m^3, not to be exceeded more than 35 times a year	24-hour mean
Particulate Matter (PM_{10})	40µg/m^3	Annual mean
Sulphur Dioxide (SO_2)	350µg/m^3, not to be exceeded more than 24 times a year	1-hour mean
Sulphur Dioxide (SO_2)	125µg/m^3, not to be exceeded more than 3 times a year	24-hour mean
Sulphur Dioxide (SO_2)	266µg/m^3, not to be exceeded more than 35 times a year	15-minute mean

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[8] The units are in microgrammes of pollutant per cubic metre of air (µg/m^3).

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
ASR	Annual Status Report
Defra	Department for Environment, Food and Rural Affairs
DMRB	Design Manual for Roads and Bridges – Air quality screening tool produced by National Highways
EU	European Union
FDMS	Filter Dynamics Measurement System
LAQM	Local Air Quality Management
NO_2	Nitrogen Dioxide
NO_x	Nitrogen Oxides
PM_{10}	Airborne particulate matter with an aerodynamic diameter of 10µm or less
$PM_{2.5}$	Airborne particulate matter with an aerodynamic diameter of 2.5µm or less
QA/QC	Quality Assurance and Quality Control
SO_2	Sulphur Dioxide

References

- Local Air Quality Management Technical Guidance LAQM.TG16. April 2021. Published by Defra in partnership with the Scottish Government, Welsh Assembly Government and Department of the Environment Northern Ireland.

- Local Air Quality Management Policy Guidance LAQM.PG16. May 2016. Published by Defra in partnership with the Scottish Government, Welsh Assembly Government and Department of the Environment Northern Ireland.

Addendum

Actions being taken within Staffordshire to reduce $PM_{2.5}$

A number of the Staffordshire Authorities are currently involved in implementing measures to reduce levels of NO_2 within their areas, which are detailed elsewhere in this report. Whilst there is currently no statutory duty imposed on Local Authorities in England to reduce $PM_{2.5}$, a number of the measures are complementary. A mapping exercise completed by the Staffordshire Air Quality Forum members details the measures currently in place which are considered to have an impact in reducing $PM_{2.5}$ within the County. These are produced in Table 2.4 below:

Stafford Borough Council is taking the following measures as outlined in Table 2.4 and section in conjunction with our partners at the county council and other partners identified in the table to address $PM_{2.5}$

Table 2.1 – Actions being taken within Staffordshire to reduce PM2.5

Measures category	Measure Classification	Effect on reducing NOx and PM10 emissions (low, medium, high)	Reduces PM2.5 emissions	Local Authority						
				Staffordshire Moorlands DC	Newcastle under - Lyme BC	Stafford BC	East Staffs BC	Lichfield DC	South Staffs DC	Tamworth BC
Traffic Management	**Urban Traffic Control systems, Congestion management, traffic reduction**	low	✓	UTC in Leek Town Centre	UTC in areas of Newcastle Town Centre AQMA and Kidsgrove AQMA. Live labs monitoring work linked to congestion in Newcastle.	UTC in Stafford Town Centre	Town Centre Regeneration Programme & a number of schemes are currently being progressed which will aid traffic management. Many of these will help improve traffic flow within the AQMA. Live labs monitoring work linked to congestion in Burton.	Still liaising with Midlands Connect to increase usage of M6 Toll to reduce congestion on A5 & lobbying for upgrade of A38 & A5. The A5 corridor identified as priority for congestion control, but the central section outside of the LDC has been prioritised for transport intervention measures. Junction improvements at Muckley Corner are being considered.		UTC in Tamworth Town Centre at Ventura Park
	Reduction of speed limits, 20mph zones	low	✓	Advisory 20mph zones near some schools in residential areas		20mph zones near some schools in residential areas	20 mph zones near some schools in residential areas	.	20mph zones in Trysull, Bradley, Kinver and Bilbrook	
	Road User Charging (RUC)/ Congestion charging	low	✓	No				M6 Toll	M6 Toll	Campaign only Air Aware Project
	Anti-idling enforcement	low	✓	Campaign only Air Aware project	Campaign only Air Aware project		Campaign only Air Aware project	Campaign only Air Aware project	Campaign only Air Aware project	
	Other		✓							
	Workplace Travel Planning	low	✓	No workplace travel planning currently						
	Encourage / Facilitate home-working	low	✓	Agile working policy adopted	Homeworking Policy adopted	Homeworking Policy adopted	Homeworking Policy adopted	Homeworking policy adopted	Agile working policy adopted	Homeworking policy adopted

Measures category	Measure Classification	Effect on reducing NOx and PM10 emissions (low, medium, high)	Reduces PM2.5 emissions	Local Authority						
				Staffordshire Moorlands DC	Newcastle under - Lyme BC	Stafford BC	East Staffs BC	Lichfield DC	South Staffs DC	Tamworth BC
Promoting Travel Alternatives	**School Travel Plans**	low	✓	https://www.staffordshire.gov.uk/activeschooltravel						
	Promotion of cycling	low	✓	https://www.staffordshire.gov.uk/Transport/transportplanning/Walking-and-cycling.aspx Review of LCWIP will include additional areas such as Biddulph and Rugeley INTO Walking and Cycling Social Prescribing Specific to Newcastle-under-Lyme www.staffordshire.gov.uk/walkingandcycling					S Staffordshire Cycling Scheme	Same as other Staffs Authorities
	Promotion of walking	low	✓	https://www.staffordshire.gov.uk/Transport/transportplanning/Walking-and-cycling.aspx Review of LCWIP will include additional areas such as Biddulph and Rugeley INTO Walking and Cycling Social Prescribing Specific to Newcastle-under-Lyme www.staffordshire.gov.uk/walkingandcycling					Good Life Health & Wellbeing in the community	Same as other Staffs authorities
	Staffordshire Share a Lift Scheme		✓	No Car Share Scheme currently						
	Promote use of rail and inland waterways	medium	✓	North Staffordshire Community Rail Partnership operating along the North Staffordshire Line includes Blythe Bridge station.	North Staffordshire Community Rail Partnership operating along the North Staffordshire Line includes Kidsgrove station. Kidsgrove station to be fully accessible and regenerated through Town Deal.	Redevelopment of Stafford Station into a gateway associated with HS2 works.	Burton Forecourt improvements completed	Lichfield Trent Valley access for all works recently completed including lifts.	Brinsford Park and Ride - Parkway Station business case ongoing	

Measures category	Measure Classification	Effect on reducing NOx and PM10 emissions(low, medium, high)	Reduces PM2.5 emissions	Local Authority						
				Staffordshire Moorlands DC	Newcastle under - Lyme BC	Stafford BC	East Staffs BC	Lichfield DC	South Staffs DC	Tamworth BC
Transport Planning & Infrastructure	**Local Transport Plans and District Strategies**	high	✓	District integrated transport strategies - Staffordshire County Council						
	Public transport improvements- interchanges stations and services	low	✓	Proposed reinstatement of Leek rail connection. Planning application approved during 2022. Funding being sought from central government	Kidsgrove Railway station will be multi-modal through Town Deal funding	New services with S106 funding provided in Stone to new estates in Walton and Yarnfield. Stafford Gateway will be multi- modal		Lichfield Bus Station resurfaced, repainted and new coach parking bays provided. Alternative location for bus station currently under consideration	Parkway station will be multi-modal	Planned improvements at Tamworth station
	Public cycle hire scheme	low	✓							
	Cycle network	low	✓	Local cycling and walking infrastructure plan 2021 - Staffordshire County Council Staffordshire cycle maps currently awaiting audit and review						
	Bus route improvements	high	✓	Review of Integrated Transport Strategy will include consideration of improvements for public transport	RTPI on key routes in Newcastle Town Centre. Improved future bus services to Chatterley Valley	Improved bus priority and interchange on key routes in Stafford- post SWAR	Improvements in Burton town centre	RTPI introduced at key stops in Lichfield City.	Consideration of future bus stop upgrades on key routes & improvements to rural services.	Corporation Street interchange improvements planned for future delivery discussions ongoing with TBC
	Active Travel Fund	low	✓		ATF 2 measures to encourage walking and cycling	ATF 2 measures to encourage walking and cycling	ATF 2 and 4 measures to encourage walking and cycling			ATF 3 and 4 measures to encourage walking and cycling

Measures category	Measure Classification	Effect on reducing NOx and PM10 emissions(low, medium, high)	Reduces PM2.5 emissions	Local Authority						
				Staffordshire Moorlands DC	Newcastle under - Lyme BC	Stafford BC	East Staffs BC	Lichfield DC	South Staffs DC	Tamworth BC
	Levelling Up Fund 2	medium	✓	Schemes will improve a number of major roads around the county, reduce journey times, put greener, cleaner buses on main roads, improve walking and cycling routes and reduce the impact of housing and commercial developments. They will benefit East Staffordshire, Cannock Chase and Stafford Borough. Total package cost circa £20m. ▪ Circa £6 million at the A38/A5121 Branston Interchange, near Burton, to complete the work at junction and open up for large scale housing and business development. Staffordshire County Council is adding additional money to walking and cycling schemes in the area for non-motorists to cross the A38 safely. ▪ More than £9 million for work at either end of the A34 between Cannock and Stafford. In Cannock there will be walking and cycling routes to complement the planned town centre regeneration and link to the train station. In Stafford there will be the creation and maintenance of walking and cycling routes along from Radford Bank to the town centre. ▪ Approximately £4.2 million to introduce either the latest generation Euro VI diesels, or electric-powered buses on certain busy routes, as well as improving bus stops and changing priority at junctions. Bus routes benefiting from the new investment include the #8 and #9 services in Burton, run by Midland Classic; the #74 between Stafford and Cannock, run by Chaserider; and the #875 from Stafford to Cannock, via Penkridge, run by Select Buses.						

Measures category	Measure Classification	Effect on reducing NOx and PM10 emissions(low, medium, high)	Reduces PM2.5 emissions	Local Authority						
				Staffordshire Moorlands DC	Newcastle under -Lyme BC	Stafford BC	East Staffs BC	Lichfield DC	South Staffs DC	Tamworth BC
Alternatives to private vehicle use	**Bus based Park & Ride**	medium	✓					New bus central station as part of Friarsgate development scheme		
	Car Clubs	low	✓	✓						
Policy Guidance and Development Control	**Planning applications to require assessment of exposure / emissions for development requiring air quality impact assessment**	high	✓	https://www.staffsmoorlands.gov.uk/media/6155/Adopted-Local-Plan/pdf/Adopted_Local_Plan.pdf?m=1601645140880	Included as part of Local Validation List https://www.newcastle-staffs.gov.uk/planning-applications/information-requirements-validation-planning-applications					Local & National Validation requirements 2017:
	Air Quality Strategy				Revised Air Quality Action Plan due in 2024 will include requirements for PM$_{2.5}$	2019-2023 Air Quality Strategy			In development	
	Planning Guidance for developers		✓	"Air Quality and Emissions Mitigation" Guidance for Developers available, & currently being updated with view to be adopted as a official SPD	To be developed alongside New Local Plan HERE		Informal guidance in place			
	Developer Contributions based on damage cost calculation		✓	Damage cost assessment has been used for applicable applications.	To be considered as above	Damage cost assessment now required for applicable application	Damage cost assessment now required for applicable applications.			

Measures category	Measure Classification	Effect on reducing NOx and PM10 emissions(low , medium , high)	Reduces PM2.5 emissions	Local Authority							
				Staffordshire Moorlands DC	Newcastle under - Lyme BC	Stafford BC	East Staffs BC	Lichfield DC	South Staffs DC	Tamworth BC
						s.				
	Planning Policies		✓		Various policies support alternatives to use of car and increased use of public transport <u>HERE</u>		Supplementary planning document in development			
	STOR Sites (_{Short Term Operating Reserve)} **Energy Generation . Regulation via planning / permitting regime**	high	✓	✓						

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				Staffordshire Moorlands DC	Newcastle under -Lyme BC	Stafford BC	East Staffs BC	Lichfield DC	South Staffs DC	Tamworth BC
	Low Emissions Strategy	high	✓	Forms part of Climate change action plan & Climate change action plan part 2	In development	In development as part of Climate Change Policy				
Freight and Delivery Management	**Freight Consolidation Centre**	medium	✓	X						
	Route Management Plans/ Strategic routing strategy for HGV's	high	✓	https://ww.staffordshire.gov.uk/Transport/transportplanning/localtransportplan/home.aspx This should be considered as part of planning applications where new proposals come forward.						
	Quiet & out of hours delivery	low	✓			✓				
	Delivery and Service plans	medium	✓			x				
	Freight Partnerships for city centre deliveries	high	✓			x				
	Driver training and ECO driving aids	medium	✓	✓		✓				
	Promoting low emission public transport	high	✓	X		x				

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Vehicle Fleet Efficiency	**Vehicle retrofitting programmes**	medium	✓	On going / in development Energy Saving Trust (EST) have reviewed current fleet and issued recommendations including training	Bus retrofit for vehicles using A53 service 4	x		Retrofitting of old Council owned HGVs and Buses with pollution abatement equipment will be considered by the Council where technically and financially feasible		
	Fleet efficiency and recognition schemes	medium	✓	Staffordshire County Council's Climate Change Action Plan https://www.staffordshire.gov.uk/environment/Documents/Climate-Change-Action-Plan.pdf - Where possible consider and implement a transition plan to full EV vehicles within the SCC fleet						

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	Low emission zone (LEZ) Clean Air Zone (CAZ)	high	✓	X						
	Public Vehicle Procurement - Prioritising uptake of low emission vehicles	high	✓	Procurement Strategy in development; Climate change action plan		Waste fleet vehicles comply with Euro VI.			Council new vehicles all comply with Euro 6	
	Company Vehicle Procurement - Prioritising uptake of low emission vehicles	high	✓	Energy Saving Trust (EST) have reviewed current fleet and issued draft. The majority comply with are highest EURO emission standard with the rest completed between 2022/ 2023		Investigating replacing old vehicles within th fleet with more modern cleaner vehicles, which comply with the prevailing EURO standard. This will be extended to all Council owned Vehicles.		Vehicles replaced (in addition to normal fleet turnover)	Most council vehicles were replaced last year with new cleaner vehicles	
	Procuring alternative refuelling infrastructure to promote Low Emission Vehicles, EV recharging, Gas fuel recharging	high	✓	EV strategy on council car parks. hydrated vegetable oil are currently being used by waste fleet		Procurement of EV on staff carparks			EV Parking on staff car parks	
	Priority parking for LEV's	high	✓	✓		✓		Reviewing its car park strategy for the District in pursuit of increasing the provision of EV charging infrastructure		EV charging spaces being investigated
	Taxi Licensing conditions	medium	✓	In development		✓				

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	EV Strategy	high	✓	https://democracy.staffsmoorlands.gov.uk/documents/s32 243/SM-Public-EV-Charging-Strategy- V1_Final_15.09.22.pdf	Staffordshire EV Charging Infrastructure Strategy https://www.staffordshire.gov.uk/Transport/Sust ainable-travel/Electric-vehicles/02-SCC-Public- EV-Charging-Strategy-V3-3.pdf						
	Taxi emission incentives	medium	✓			✓					
Environme ntal permits	**Introduction/incr ea se of environment charges through permit systems and economic instruments (Permit fees set centrally)**	medium	✓	✓		✓		On going Environmental Permits inspection of installation adhering to permits and enforcement/penalt ies for breaches			
	Measures to reduce pollution through IPPC Permits going beyond BAT	medium	✓	https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/211863/env-permitting-general-guidance-a.pdf (Chapter 15)							

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Other measures	**Large Combustion Plant Permits and National Plans going beyond BAT**	high	✓			Nil				
	Other		✓			Nil				
	Smoky Diesel Hotline			https://www.gov.uk/report-smoky-vehicle						
	A5 & M6 Partnership					X		Strategy for the A5 2011-2026	Strategy for the A5 2011-2026	
	Domestic Smoke Control advice and Enforcement		✓							
	Garden Bonfires - Advice and nuisance enforcement		✓							
	Commercial burning advice and enforcement		✓							
	Multi agency working with Fire Service and Environment Agency for trade burning		✓	✓	-	✓	Information shared as appropriate	Information shared as appropriate	✓	Information shared as appropriate

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	Multi agency working with Staffordshire Fire Service and Local Authority Building Control regarding chimney fires and complaints about DIY domestic heating systems		✓	✓	-	✓	Information shared as appropriate	Information shared as appropriate	✓	
	Stoke-on-Trent Low Carbon District Heat Network		✓	-	-	Nil				

END