2022 Air Quality Annual Status Report (ASR)

In fulfilment of Part IV of the Environment Act 1995

Local Air Quality Management

June 2022

ASHFORD BOROUGH COUNCIL

www.ashford.gov.uk

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Executive Summary: Air Quality in Our Area

Air Quality in Ashford Borough Council

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, 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].

Ashford is the largest borough in Kent, with a fast-growing population. In 2003, Ashford was identified as one of the Growth Areas in the government's Sustainable Communities Plan with a £2.5 billion investment programme underway to provide 31,000 new homes and 28,000 new jobs by 2031. Although the urban area of Ashford is expanding, much of the borough is rural in character, including protected areas such as the North Downs and the High Weald.

The main source of air pollution in the borough is road traffic emissions from major roads, notably the M20, A20, A28 and A292. Other pollution sources, including commercial, industrial and domestic sources, also make a contribution to background pollutant concentrations. Except for one monitoring site which reports NO_2 annual mean concentration within 10% of the AQS objective, other pollutant concentrations within the borough are all comfortably below the AQS objective. The latest monitoring data show levels are increasing slightly in 2021 compared to 2020. This is likely due to the increased

[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

road traffic emissions as traffic activities recovered from the impact of COVID-19 pandemics.

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 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 through a number of mechanisms; 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.

Air quality in the borough is considered to be good, with concentrations below the national air quality objectives at relevant locations. Ashford Borough Council protects air quality within its borough using Core Strategy Policy CS1 to encourage sustainable development and high quality designs and Policy ENV12 which concerns major development proposals and their potential impact on air quality. The Local Transport Plan for Kent sets out policies to improve transport, and encourage sustainable transport within the borough. Ashford Borough Council has been working closely with Kent County Council to improve air quality. Recently, Ashford Borough Council has progressed the following actions:

- 24,633.47 kWh total energy consumption were recorded within the Ashford EV charging points network in 2021.
- Communications campaign about air quality and links to shared cross county webpage https://kentair.org.uk and Care for Air education resource https://care-for-air.kentair.org.uk/
- Planning conditions require electric vehicle charging points where appropriate.
- Kent Air and Care for Air website have provided communications campaign and education resource about air quality.

[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

- The major developments to be built or in operation are all in line with guidance from the Institute of Air Quality Management.
- KM Charity Walk to School scheme continue to be supported.
- A 3 year scheme to encourage electric and hybrid taxis is now completed and has been extended to March 2025.
- The cross service health and wellbeing group has been established
- The 'Rolvenden Rocket' community bus service pilot has concluded.

Conclusions and Priorities

This Annual Status Report confirms that air quality within Ashford continues to meet the relevant air quality objectives, and that air quality is generally good. The main source of pollution within the borough is road traffic. The Local Transport Plan for Kent is crucial, setting out policies to improve transport, and encourage sustainable transport within the borough. A number of actions to maintain and improve current air quality are included in the ASR. The planning system is also key to ensuring that air quality does not deteriorate, especially given the large amount of development planned in this area. The Ashford Local Plan was adopted in February 2019, and Policy ENV12 aims to protect and improve air quality. The council incorporated the actions from the Air Quality Strategy into the Carbon Neutral Action Plan in January 2022. Priorities for this year will include:

- Raise awareness of climate change and air quality to increase understanding and knowledge;
- Ensure the council's decision making processes, strategic documents and procedures contribute to reducing carbon emissions, improving air quality and increasing local resilience to climate change;
- Encourage and enable a shift towards cleaner modes of transport and reduce car dependency;
- Protect, enhance and increase green space for the benefit of people and wildlife.

Local Engagement and How to get Involved

Members of the public can help improve air quality in the borough by travelling using sustainable transport options, such as walking, running, cycling and using public transport. Ashford Borough Council, in conjunction with Kent and Medway Air Quality Partnership encourages the promotion of air quality, and educational materials can be provided.

Further information on local air quality can be obtained via the UBreathe app for iPhone and Android, which provides air pollution health advice where you need it.

Local Responsibilities and Commitment

This ASR was prepared by the Environmental Protection Officer at Ashford Borough Council with the support and agreement of the following officers and departments:

- Bureau Veritas UK Ltd
- Ashford Borough Council - Parking, Economic Development, Planning, Strategy and Policy Development and Environmental Protection

This ASR has been approved by:

Sheila Davison, Assistant Director Safety and Wellbeing

This ASR has not been signed off by a Director of Public Health.

If you have any comments on this ASR please send them to Linda Spicer at:

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1 Local Air Quality Management

This report provides an overview of air quality in Ashford Borough Council during 2021. 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 Ashford 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.

2 Actions to Improve Air Quality

2.1 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.

Ashford Borough Council currently does not have any declared AQMAs. For reference, a map of Ashford Borough Council's monitoring locations, as well as those undertaken by National Highways within Ashford, is provided in Appendix D.

2.2 Progress and Impact of Measures to address Air Quality in Ashford Borough Council

Defra's appraisal of last year's ASR concluded that "*the report is well structured, detailed, and provides the information specified in the Guidance*". Additional comments made are as follows:

1. *"Robust and accurate QA/QC procedures were applied. Calculations for bias adjustment and annualisation factors were outlined in detail. No distance-correction was required as all sites were below required threshold for distance correction to relevant exposure.*
2. *The borough enjoys good air quality with monitoring currently showing concentrations of NO_2 are well below the objectives.*
3. *Comments from last year's ASR were not mentioned. We encourage the council to include these in future ASRs.*
4. *The Public Health Outcomes Frameworks was mentioned. The council have referred specifically to indicator D01, which is the fraction of mortality attributable to particulate air pollution, and this is encouraged.*
5. *COVID-19 impacts have been discussed in Appendix F and we welcome the detailed information provided by the council surrounding impacts of the pandemic on air quality in the borough.*
6. *Council have provided a clear map of the diffusion tube monitoring network this is welcomed.*
7. *Trends are not provided or discussed in the report. We encourage the council to include this in future reports.*
8. *Overall the report is detailed, concise and satisfies the criteria of relevant standards. The council should continue their good and thorough work."*

Comments from Defra's appraisal of last year's ASR and discussion of trends are included in this year's report as the comment recommended.

Ashford Borough Council has taken forward a number of direct measures during the current reporting year of 2021 in pursuit of improving local air quality. Details of all measures completed, in progress or planned are provided below.

Local Plan 2030

The Ashford Local Plan was adopted in February 2019.

Policy ENV12 on 'Air Quality' states that *"All major development proposals should promote a shift to the use of sustainable low emission transport to minimise the impact of vehicle emissions on air quality.*

Development should be located where it is accessible to support the use of public transport, walking and cycling.

Development proposals that might lead to a significant deterioration in air quality or national air quality objectives being exceeded, either by itself, or in combination with other committed development, will require the submission of an Air Quality Assessment to be carried out in accordance with the relevant guidance…"

Electric Vehicle Charging

Kent County Council are leading a project with seven of the Kent local authorities to implement more charging points around Kent. 153 car parks have been put forward as potential locations and over 600 public chargers will be installed around the county between 2022 and 2024. Although there are only a relatively small number of electric vehicle owners at present, the current network of charging points in Ashford resulted in 24,633 kWh energy consumption from 1 January 2021 to 31 December 2021. The council currently has 14 council managed charging points. Table 2.1 shows the total energy consumption from the electric charging points in 2019, 2020 and 2021. Although the use of Elwick Place and Julie Rose Stadium Car Park increased significantly in 2021 (17% and 288% increase), all of the other sites decreased or had no data mostly due to charging points being out of service.

Table 2.1 – Electric Vehicle Energy Consumptions

Location	Sum of Total Energy Comsupmtion /kWh			
	2019	2020	2021	%change
Civic/ Stour Centre, Ashford x2	2634	4693	3420	-27
Julie Rose Stadium Car Park, Ashford x2	3167	1436	7009	388
Leisure Centre, Tenterden x2	2365	890	30	-97
Station Road (West) Car Park, Tenterden x2	3545	1147	-	-
Vicarage Lane Car Park, Ashford x2	3720	1126	-	-
Elwick Place, Ashford x4	1879	12152	14174	17
Grand Total	**17310**	**21444**	**24633**	**15**

The network of Electric Vehicle Charging Points (EVCP) is planned to be expanded in the following years. Ashford Borough Council has been successful in a funding bid to the Office for Low Emission Vehicles (OLEV) to help forge ahead with plans to increase the number of EVCPs in council-managed car parks. The council has been awarded a grant with a maximum value of £174,300 to install on-street charge points for those wishing to charge their plug-in electric vehicles while parked in the borough council's car parks. Cabinet has already approved the release of funds from its Climate Change Reserve Fund to install even more EVCPs in locations that are ineligible for funding through the OLEV scheme. By utilising this grant as well as directly funding additional charging points, the council can support the global move towards electric vehicles and work towards achieving its green objectives.

To take into account the cumulative impacts of development on air quality, and to encourage electric vehicle ownership, Ashford Borough Council requires future new builds to incorporate electric vehicle charging points. Each new dwelling with a designated parking space (driveway, carport, or garage), is required to provide at least one electric vehicle charging point. The charging point may be a dedicated electric vehicle charging socket, or a suitably rated three-pin socket capable of safely providing a slow charge to an electric vehicle via a domestic charging cable.

Green Travel

The council continues to contribute towards the KM Charity Walk to School scheme during 2021. The KM Charity Team runs green travel initiatives for schools including parent-led walking buses, and other initiatives including Green Footsteps. A number of schools have achieved the Green Travel Mark Awards (at different levels), encouraging children to walk, cycle or travel to school in some active way. The scheme has attempted to improve road awareness, encourage physical activity and reduce the use of vehicles, which should improve air quality.

The council launched a scheme to encourage electric and hybrid vehicle uptake amongst taxi and private hire fleets in the borough. The initial stage was completed in March 2022 and has now been extended to March 2025. Furthermore, the council intends to explore options to provide fuel efficient driver training for taxi and private hire drivers to reduce vehicle emissions.

Public Awareness

The Kent and Medway Local Authorities contributed towards a joint bid to seek DEFRA funding for a digital educational resource. The bid was successful and the Pollution Patrol packs and information were made available to all schools in the Kent and Medway through direct mailings and social media. The council has promoted Kent Realising Electric Vans (REVS) Scheme via social media and the economic development business newsletter in 2022. REVS Scheme is an electric van (EV) trial scheme run by Kent County Council, providing businesses with the opportunity to try an electric van. The aim is that organisations would see the benefits and ease of owning and running an EV. Ashford currently has the second highest number of Electric Van loans in the county. As the scheme runs until January 2023, Ashford Borough Council plans to launch future promotion in the following year to boost the number of Electric Van loans.

2.3 $PM_{2.5}$ – 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.

Ashford Borough Council is taking the following measures to address $PM_{2.5}$: Ashford Borough Council is part of the Kent Health and Wellbeing Board, which brings together County and District Councillors, senior officers from the NHS Area Team, Clinical Commissioning Groups, Social Care and Public Health and members of the Local Healthwatch. The Board produced the Kent Joint Health and Wellbeing Strategy (Kent County Council, 2014), which sets out how the multidisciplinary teams can align their plans to improve public health and tackle key health issues over the coming years.

Ashford Borough Council is working with Public Health colleagues to prioritise action on air quality to help reduce the health burden from air pollution. The Public Health Outcomes Framework (PHOF) is a Department of Health data tool for England, intended to focus public health action on increasing life expectancy and reducing differences in life expectancy between communities. The PHOF includes an indicator[7], based on the effect of particulate matter ($PM_{2.5}$) on mortality. For Ashford, this indicator (D01) for 2020 is 5.7% of deaths attributable to $PM_{2.5}$, which is slightly lower than the regional average (6.0%) and slightly higher than the average for England (5.6%). The approach used, in partnership with Public Health colleagues, includes the encouragement of active travel, which will also have wider public health benefits captured in other indicators such as increased physical activity (indicator C17a) and reducing excess weight at various ages (indicators C09a and b and C16).

The Local Transport Plan for Kent (Kent County Council, 2017) sets out a 15-year transport delivery plan for the county. Ashford has been identified as an area for significant growth in housing and employment and contains one of the UK's four Growth Areas. $PM_{2.5}$

[7] https://fingertips.phe.org.uk/profile/public-health-outcomes-framework/data#page/0/gid/1000043/pat/6/par/E12000008/ati/401/are/E07000105/yrr/1/cid/4/tbm/1

is one of the main pollutants associated with road traffic emissions; reducing transport emissions within the borough is therefore of key importance. The Local Transport Plan proposes a number of strategies to improve transport within Ashford, including improvements to local bus and rail services and district and borough cycling strategies.

Ashford Borough Council works closely with local bus operators and is part of the Quality Bus Partnership (QBP) comprising of council officers, bus companies, local councillors and other key partners. Through this partnership there have been positive moves towards improving air quality across the borough.

As part of the commitment to improving air quality, updates are provided to the QBP through the quarterly meetings.

Planning is also important for reducing future concentrations of $PM_{2.5}$ and Ashford Borough Council is focussed through its planning policy on preventing concentrations being inadvertently increased. Policy ENV12 within the Local Plan states that:

"All major development proposals should promote a shift to the use of sustainable low emission transport to minimise the impact of vehicle emissions on air quality.

Development should be located where it is accessible to support the use of public transport, walking and cycling.

Development proposals that might lead to a significant deterioration in air quality or national air quality objectives being exceeded, either by itself, or in combination with other committed development, will require the submission of an Air Quality Assessment to be carried out in accordance with the relevant guidance"

Developments should respect the environmental limits and protect air quality standards.

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

This section sets out the monitoring undertaken within 2021 by Ashford Borough Council and how it compares with the relevant air quality objectives. In addition, monitoring results are presented for a five-year period between 2017 and 2021 to allow monitoring trends to be identified and discussed.

3.1 Summary of Monitoring Undertaken

3.1.1 Automatic Monitoring Sites

There is no automatic monitoring undertaken within the borough.

3.1.2 Non-Automatic Monitoring Sites

Ashford Borough Council undertook non-automatic (i.e., passive) monitoring of NO_2 at 33 sites during 2021. Since July 2018, Ashford Borough Council, in conjunction with National Highways, has undertaken monitoring at five sites along the A20/M20, which are included in the above. Table A.1 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. Monitoring was completed in line with the Defra Calendar.

3.2 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.

3.2.1 Nitrogen Dioxide (NO_2)

Table A.2 in Appendix A compare the ratified and adjusted monitored NO_2 annual mean concentrations for the past five years with the air quality objective of 40µg/m^3. Note that the concentration data presented represents the concentration at the location of the monitoring site, following the application of bias adjustment and annualisation, as required (i.e., the values are exclusive of any consideration to fall-off with distance adjustment).

For diffusion tubes, the full 2021 dataset of monthly mean values is provided in Appendix B. Note that the concentration data presented in Table B.1 includes distance corrected values, only where relevant.

During 2021, no monitoring location reported an annual mean NO_2 concentration exceeding the AQS objective of 40µg/m^3. Monitoring location AS51 is located on the Wellesley Road, and reported an annual mean concentration of 37.7µg/m^3 in 2021 which is within 10% of the AQS objective of 40µg/m^3. This monitoring location is not located at a site of relevant exposure. Following fall-off with distance correction calculations, there is a predicted annual mean NO_2 concentration of 36.7µg/m^3 at the nearest relevant receptor.

Across all the monitoring locations in Ashford, there is a general decrease trend in the annual mean NO_2 concentration reported from 2017 to 2020, with all sites below the AQS objective. However, there is an average increase of 1.4 µg/m^3 observed from 2020 to 2021, with only a few sites decresing slightly. This is likely to be a sign of traffic levels gradually recovering from the impacts of COVID-19 through 2020.

Appendix A: Monitoring Results

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

Diffusion Tube ID	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) (1)	Distance to kerb of nearest road (m) (2)	Tube Co-located with a Continuous Analyser?	Tube Height (m)
AS15, AS16, AS17	Bracken Hill, Lees Road	Other	603390	142075	NO_2	No	0.0	33.0	No	3.0
AS18, AS19, AS20	Heathfield Nursing Home	Kerbside	601311	143568	NO_2	No	0.0	17.3	No	3.0
AS31	42, Newtown Green,	Roadside	601840	141457	NO_2	No	0.0	3.8	No	2.0
AS33	East Lodge, Chart Road	Urban Background	599826	143084	NO_2	No	0.0	12.7	No	1.8
AS35	102 Brookfield Road	Urban Background	599521	142106	NO_2	No	0.0	14.3	No	1.8
AS37	30 Kingsnorth Road	Urban Background	600488	141277	NO_2	No	0.0	7.0	No	1.8
AS40	4 Blackwall Road North	Urban Background	603229	142795	NO_2	No	0.0	14.0	No	1.8
AS44	Dovecote House, 73 The Street	Urban Background	603800	141792	NO_2	No	0.0	22.2	No	1.8
AS45	1 Highfield Court, Hythe Rd	Urban Background	604207	141400	NO_2	No	0.0	18.0	No	1.8
AS46	8 Winslade Way	Other	603311	142192	NO_2	No	0.0	21.0	No	2.1
AS47	Kenistone, Kingsford Street	Other	604583	140961	NO_2	No	0.0	21.3	No	2.1
AS48	Ransley House, Kingsford Street	Other	604733	140878	NO_2	No	0.0	10.9	No	2.1
AS49	Hythe Road	Roadside	604005	141612	NO_2	No	4.3	2.0	No	2.0
AS50	49 Hythe Road	Urban Background	601707	142748	NO_2	No	0.0	5.7	No	2.0

Diffusion Tube ID	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) (1)	Distance to kerb of nearest road (m) (2)	Tube Co-located with a Continuous Analyser?	Tube Height (m)
AS51	Wellesley Road	Roadside	601247	142850	NO_2	No	0.6	3.9	No	2.0
AS52	49 Somerset Road	Urban Centre	601211	142990	NO_2	No	0.0	5.4	No	2.0
AS53	Northgate House, 1-9 North Street	Urban Centre	601055	142972	NO_2	No	0.0	2.4	No	2.0
AS54	North Street	Roadside	601068	143048	NO_2	No	2.7	2.0	No	2.0
AS55	5 Maidstone Road	Urban Background	600367	143225	NO_2	No	0.0	12.7	No	2.0
AS56	68 New Street	Urban Centre	600667	143016	NO_2	No	0.0	5.0	No	2.0
AS57	24 Bank Street	Urban Centre	600883	142694	NO_2	No	0.0	4.5	No	2.0
AS58	Trafalgar House, Elwick Road	Urban Background	600865	142588	NO_2	No	0.0	18.7	No	2.0
AS59	Romney Marsh Road (opposite railway station)	Roadside	601096	142114	NO_2	No	3.0	3.2	No	2.0
AS60	Victoria Road (opposite Curious Brewery)	Roadside	600992	142182	NO_2	No	0.6	1.8	No	2.0
AS61	117 Station Road	Urban Background	601150	142342	NO_2	No	0.0	10.8	No	2.0
AS63	Brookfield Road (by Matalan)	Roadside	599263	142471	NO_2	No	5.8	5.9	No	2.0
AS64	282 Beaver Road	Urban Background	600597	141385	NO_2	No	0.0	58.0	No	2.0
AS65	Simone Weil Way	Roadside	600188	143619	NO_2	No	15.9	2.4	No	2.0
HE1a, HE1b, HE1c	Westwell Lane	Roadside	599298	145188	NO_2	No	0.0	0.3	No	1.8
HE2a, HE2b, HE2c	Maidstone Road (opposite Swan Hotel-National Highways)	Roadside	594818	149759	NO_2	No	N/A	0.3	No	1.8
HE3a, HE3b, HE3c	Ashford Road (near Methodist Church- National Highways)	Roadside	595216	149249	NO_2	No	2.3	0.0	No	1.8

Diffusion Tube ID	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) (1)	Distance to kerb of nearest road (m) (2)	Tube Co-located with a Continuous Analyser?	Tube Height (m)
HE4a, HE4b, HE4c	Maidstone Road (junction Chapel Rd- National Highways)	Roadside	597003	146561	NO_2	No	4.4	0.0	No	1.8
HE5a, HE5b, HE5c	Maidstone Road (near Sandyhurst Lane junction- National Highways)	Roadside	599183	144730	NO_2	No	3.5	0.0	No	1.8

Notes:

(1) 0m if the monitoring site is at a location of exposure (e.g. installed on the façade of a residential property).

(2) N/A if not applicable.

Table A.2 – Annual Mean NO_2 Monitoring Results: Non-Automatic Monitoring (µg/m^3)

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) [1]	Valid Data Capture 2021 (%) [2]	2017	2018	2019	2020	2021
AS15, AS16, AS17	603390	142075	Other	100.0	100.0	36.4	30.5	27.7	22.2	20.7
AS18, AS19, AS20	601311	143568	Kerbside	100.0	100.0	27.9	26.3	23.8	18.1	20.8
AS31	601840	141457	Roadside	92.3	92.3	24.3	18.4	19.6	16.1	16.8
AS33	599826	143084	Urban Background	100.0	100.0	21.7	19.6	18.4	16.0	15.5
AS35	599521	142106	Urban Background	100.0	100.0	22.2	19.4	18.1	15.8	16.2
AS37	600488	141277	Urban Background	100.0	100.0	26.5	25.1	25.1	19.2	20.7
AS40	603229	142795	Urban Background	92.3	92.3	19.1	16.3	15.5	12.9	13.3
AS44	603800	141792	Urban Background	100.0	100.0	24.1	19.7	18.9	14.3	15.0
AS45	604207	141400	Urban Background	100.0	100.0	25.6	20.3	19.4	13.7	15.3
AS46	603311	142192	Other	100.0	100.0	32.0	25.6	23.8	19.5	19.1
AS47	604583	140961	Other	92.3	92.3	-	14.4	14.0	12.0	13.2
AS48	604733	140878	Other	100.0	100.0	-	13.8	13.2	10.8	13.1
AS49	604005	141612	Roadside	100.0	100.0	-	-	37.1	26.9	26.7

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) [1]	Valid Data Capture 2021 (%) [2]	2017	2018	2019	2020	2021
AS50	601707	142748	Urban Background	100.0	100.0	-	-	23.4	19.8	21.4
AS51	601247	142850	Roadside	75.0	75.0	-	-	-	31.0	37.7
AS52	601211	142990	Urban Centre	100.0	100.0	-	-	34.7	22.8	26.3
AS53	601055	142972	Urban Centre	100.0	100.0	-	-	33.3	23.7	24.3
AS54	601068	143048	Roadside	92.3	92.3	-	-	30.1	21.0	21.6
AS55	600367	143225	Urban Background	100.0	100.0	-	-	23.7	16.4	17.0
AS56	600667	143016	Urban Centre	100.0	100.0	-	-	22.4	17.0	18.7
AS57	600883	142694	Urban Centre	100.0	100.0	-	-	28.8	21.5	24.3
AS58	600865	142588	Urban Background	92.3	92.3	-	-	26.8	22.1	23.8
AS59	601096	142114	Roadside	100.0	100.0	-	-	25.1	25.3	33.3
AS60	600992	142182	Roadside	100.0	100.0	-	-	29.4	23.7	26.0
AS61	601150	142342	Urban Background	90.4	90.4	-	-	31.1	22.7	24.1
AS63	599263	142471	Roadside	92.3	92.3	-	-	29.1	22.5	23.6
AS64	600597	141385	Urban Background	100.0	100.0	-	-	21.2	17.2	19.1

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2021 (%) (2)	2017	2018	2019	2020	2021
AS65	600188	143619	Roadside	80.8	80.8	-	-	-	-	24.2
HE1a, HE1b, HE1c	599298	145188	Roadside	100	73.1	-	17.0	18.0	13.2*	13.6
HE2a, HE2b, HE2c	594818	149759	Roadside	100	65.4	-	18.7	19.4	-	15.4
HE3a, HE3b, HE3c	595216	149249	Roadside	100	73.1	-	24.9	22.8	19.1*	17.7
HE4a, HE4b, HE4c	597003	146561	Roadside	100	73.1	-	19.2	19.2	14.6*	15.0
HE5a, HE5b, HE5c	599183	144730	Roadside	100	73.1	-	29.7	26.7	23.4*	21.3

☒ **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:

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 **bold and underlined**.

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.

Concentrations are those at the location of monitoring and not those following any fall-off with distance adjustment.

(1) Data capture for the monitoring period, in cases where monitoring was only carried out for part of the year.

(2) Data capture for the full calendar year (e.g. if monitoring was carried out for 6 months, the maximum data capture for the full calendar year is 50%).

* Please note that, due to the duplication of site name, the annual means NO_2 of five sites with triplicate tubes - HE1, HE3, HE4 and HE5 were shown as the annual means of one tube among triplicate tubes in 2020. The annual means are correct to average of triplicate diffusion tubes in this year's report.

Figure A.1 – Trends in Annual Mean NO_2 Concentrations (part 1)

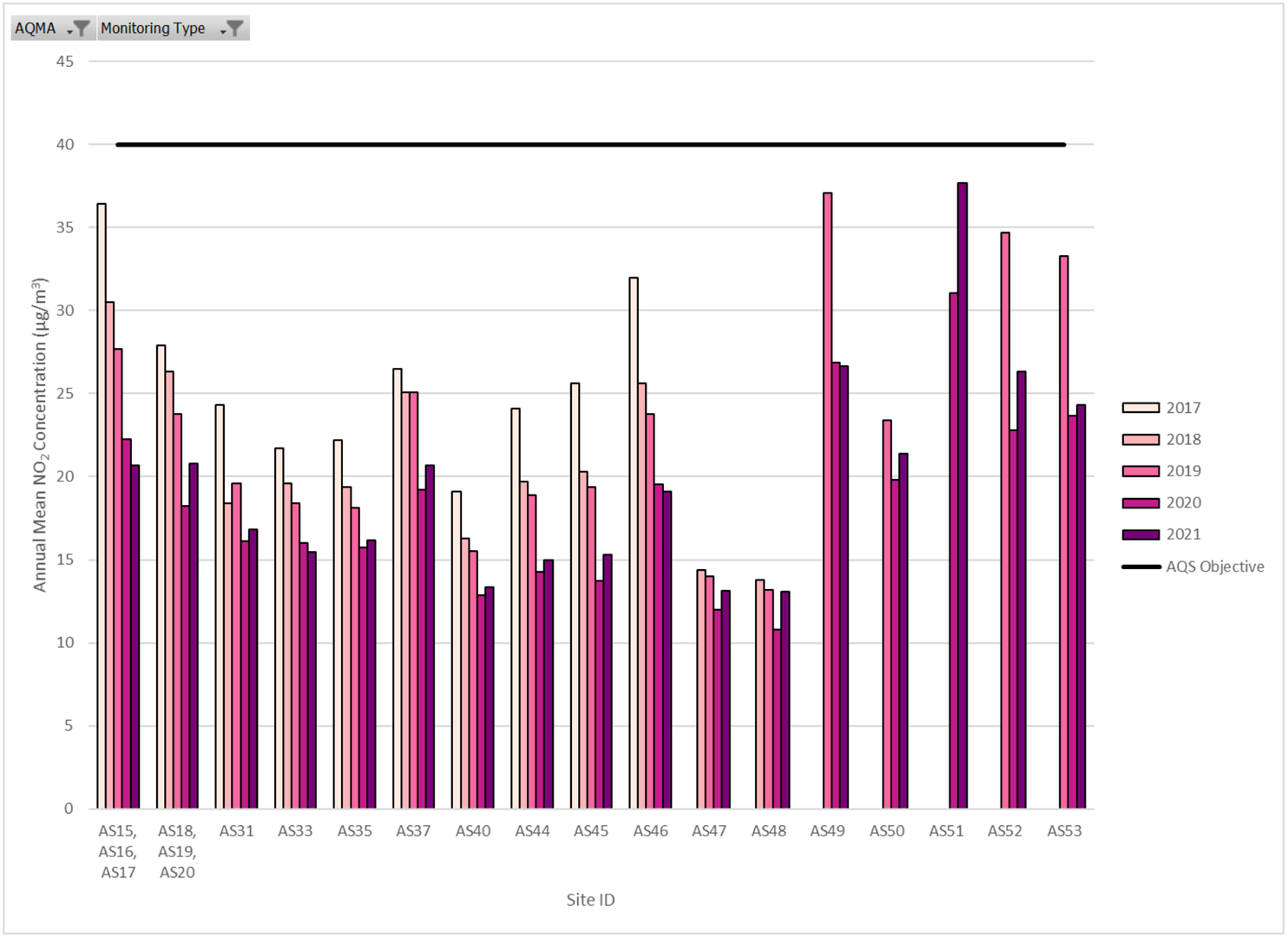
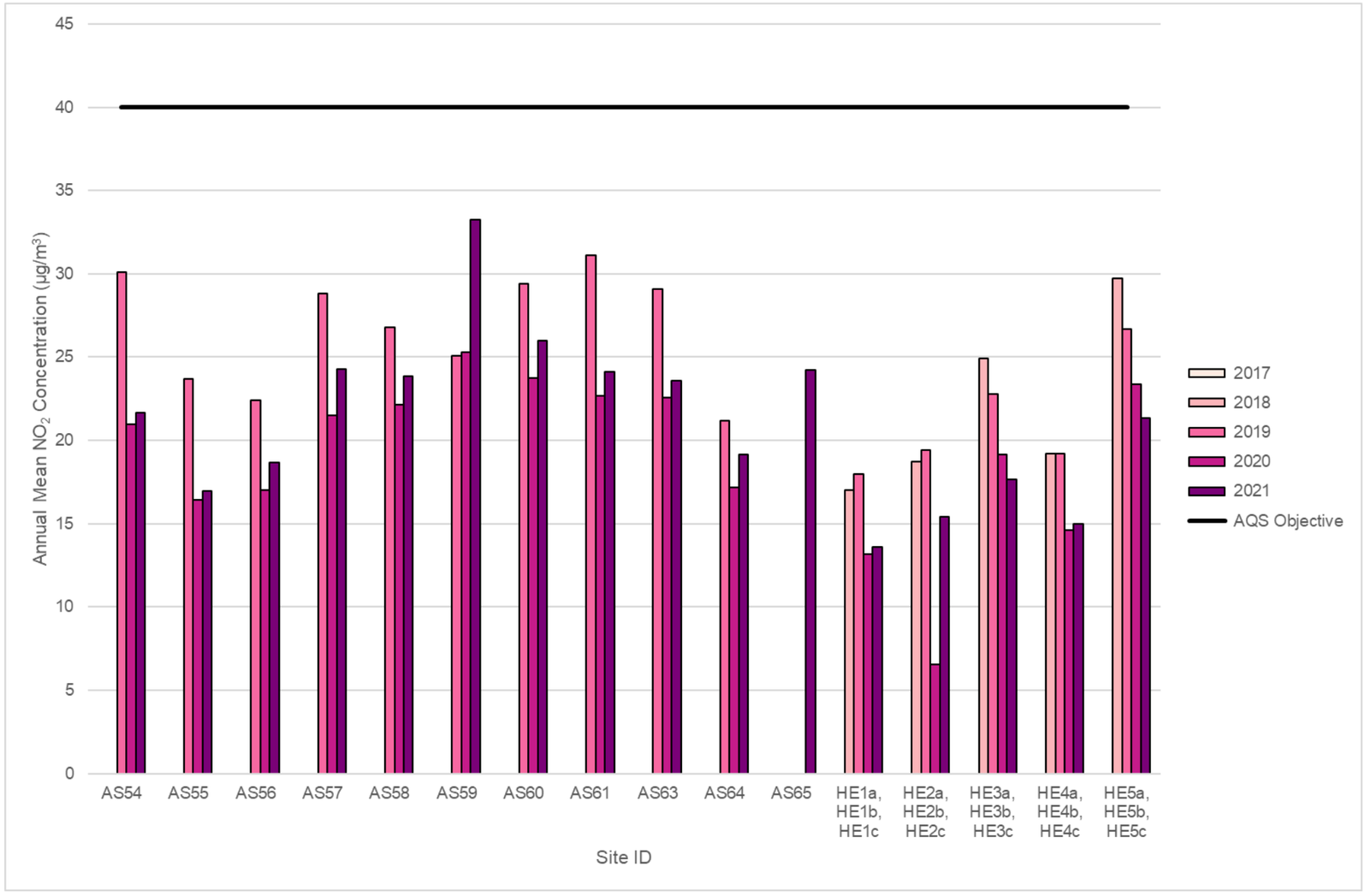


Figure A.2 – Trends in Annual Mean NO_2 Concentrations (part 2)



Appendix B: Full Monthly Diffusion Tube Results for 2021

Table B.1 – NO_2 2021 Diffusion Tube Results (µg/m^3)

DT ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Easting)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean: Raw Data	Annual Mean: Annualised and Bias Adjusted (0.78)	Annual Mean: Distance Corrected to Nearest Exposure	Comment
AS15	603390	142075	33.6	27.7	28.1	18.6	20.0	24.2	19.6	20.4	32.1	29.9	33.2	29.5	-	-	-	Triplicate Site with AS15, AS16 and AS17 - Annual data provided for AS17 only
AS16	603390	142075	34.8	27.6	27.6	20.5	24.4	26.1	23.7	11.7	31.4	35.0	37.3	24.7	-	-	-	Triplicate Site with AS15, AS16 and AS17 - Annual data provided for AS17 only
AS17	603390	142075	29.5	31.6	26.0	13.5	18.5	21.6	25.7	15.3	32.1	35.2	35.2	27.3	26.5	20.7	-	Triplicate Site with AS15, AS16 and AS17 - Annual data provided for AS17 only
AS18	601311	143568	33.4	28.7	28.4	30.3	16.4	23.0	19.3	20.3	30.4	29.2	36.1	21.8	-	-	-	Triplicate Site with AS18, AS19 and AS20 - Annual data provided for AS20 only
AS19	601311	143568	34.3	27.5	29.8	29.9	15.7		22.7	16.6	31.8	26.8	34.9	24.1	-	-	-	Triplicate Site with AS18, AS19 and AS20 - Annual data provided for AS20 only
AS20	601311	143568	35.6	27.6	29.0	29.3	23.2		22.1	20.0	31.1	27.6	34.8	21.2	26.6	20.8	-	Triplicate Site with AS18, AS19 and AS20 - Annual data provided for AS20 only
AS31	601840	141457	30.4	21.1	23.9	16.2	13.8		14.8	14.4	21.4	25.2	31.0	25.0	21.6	16.8	-	
AS33	599826	143084	25.6	25.8	19.8	16.7	18.2	17.2	14.9	12.2	23.8	21.3	21.8	20.4	19.8	15.5	-	
AS35	599521	142106	28.9	24.3	23.4	17.3	16.4	16.1	15.1	12.9	20.3	25.1	27.1	22.1	20.8	16.2	-	
AS37	600488	141277	26.0	30.3	28.2	26.3	27.4	23.4	20.9	12.6	32.6	30.2	31.1	29.4	26.5	20.7	-	
AS40	603229	142795	34.6	18.3	16.4	12.0	12.5	12.6	12.5	8.6		21.1	23.7	15.9	17.1	13.3	-	
AS44	603800	141792	34.4	22.8	20.0	15.3	17.2	14.5	13.4	9.3	18.9	21.5	24.7	18.5	19.2	15.0	-	
AS45	604207	141400	29.8	24.1	20.2	15.3	17.2	15.4	14.1	12.6	20.2	21.0	25.0	20.2	19.6	15.3	-	
AS46	603311	142192	31.0	23.5	25.7	18.9	19.6	19.1	19.0	18.5	25.8	33.3	31.5	28.3	24.5	19.1	-	
AS47	604583	140961		21.2	17.1	17.6	13.0	17.3	13.0	9.7	17.6	17.6	23.1	18.3	16.9	13.2	-	
AS48	604733	140878	38.2	19.0	14.7	15.8	12.9	12.6	12.2	8.1	16.5	14.1	22.1	15.0	16.8	13.1	-	
AS49	604005	141612	27.4	43.2	43.3	31.9	35.6	29.7	29.3	25.7	39.6	40.2	35.0	29.1	34.2	26.7	-	
AS50	601707	142748	29.9	30.9	28.1	30.3	24.2	26.7	22.5	17.3	31.8	26.2	33.4	27.5	27.4	21.4	-	

DT ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Easting)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean: Raw Data	Annual Mean: Annualised and Bias Adjusted (0.78)	Annual Mean: Distance Corrected to Nearest Exposure	Comment
AS51	601247	142850	50.2	65.0	42.3	-	-	-	45.3	37.1	49.5	48.2	51.1	46.3	48.3	37.7	36.7	
AS52	601211	142990	37.5	37.2	31.7	31.4	29.4	31.9	32.6	22.8	39.1	38.1	38.7	34.4	33.7	26.3	-	
AS53	601055	142972	34.6	35.8	30.7	27.5	30.5	25.1	27.7	22.6	38.2	32.6	35.3	33.8	31.2	24.3	-	
AS54	601068	143048	34.4	31.8	26.4	23.4	26.2	26.7	26.8	18.3	-	31.1	32.1	28.0	27.7	21.6	-	
AS55	600367	143225	27.4	25.8	24.0	21.3	21.4	18.4	18.1	13.6	24.6	22.8	24.8	18.9	21.8	17.0	-	
AS56	600667	143016	29.8	27.1	23.9	25.1	20.9	19.7	20.5	12.6	25.6	28.4	29.0	24.5	23.9	18.7	-	
AS57	600883	142694	38.2	29.5	34.9	28.8	30.0	27.0	29.1	26.8	33.1	35.8	-	28.8	31.1	24.3	-	
AS58	600865	142588	-	31.4	27.2	28.5	22.3	30.0	36.6	47.1	35.2	28.5	-	18.9	30.6	23.8	-	
AS59	601096	142114	29.9	47.9	38.7	39.4	41.7	39.9	43.4	36.7	53.5	53.0	43.6	44.2	42.7	33.3	-	
AS60	600992	142182	50.2	37.6	31.7	29.5	34.9	28.9	30.2	19.2	39.5	31.9	37.8	28.4	33.3	26.0	-	
AS61	601150	142342	37.5	34.1	29.7	-	28.1	28.1	26.0	23.9	35.9	37.5	34.6	24.8	30.9	24.1	-	
AS63	599263	142471	37.2	35.4	-	22.6	29.8	26.3	26.4	21.6	32.7	34.1	35.3	31.4	30.3	23.6	-	
AS64	600597	141385	31.9	27.0	27.6	24.6	17.3	20.5	16.9	15.6	26.7	27.3	33.5	25.6	24.5	19.1	-	
AS65	600188	143619	37.5	36.6	23.5	30.1	15.1	26.7	-	24.9	37.8	37.2	41.0	-	31.0	24.2	-	
HE1a	599298	145188	25.6	22.3	17.9	19.8	13.7	15.0	13.7	9.1	17.3	-	-	-	-	-	-	Triplicate Site with HE1a, HE1b and HE1c - Annual data provided for HE1c only
HE1b	599298	145188	26.1	25.1	17.2	19.1	12.5	15.3	13.2	10.8	19.6	-	-	-	-	-	-	Triplicate Site with HE1a, HE1b and HE1c - Annual data provided for HE1c only
HE1c	599298	145188	23.6	28.1	15.9	18.3	14.5	15.9	13.1	9.2	18.7	-	-	-	17.4	13.6	-	Triplicate Site with HE1a, HE1b and HE1c - Annual data provided for HE1c only
HE2a	594818	149759	35.0	26.5	18.7	11.7	18.9	-	16.9	9.8	19.7	-	-	-	-	-	-	Triplicate Site with HE2a, HE2b and HE2c - Annual data provided for HE2c only
HE2b	594818	149759	31.1	25.1	17.6	12.3	18.2	-	17.1	12.6	20.9	-	-	-	-	-	-	Triplicate Site with HE2a, HE2b and HE2c - Annual data provided for HE2c only
HE2c	594818	149759	34.4	24.4	17.6	12.1	18.1	-	16.5	13.4	19.7	-	-	-	19.5	15.4	-	Triplicate Site with HE2a, HE2b and HE2c - Annual data provided for HE2c only
HE3a	595216	149249	24.7	29.9	29.0	23.3	22.4	14.4	19.3	14.4	17.1	-	-	-	-	-	-	Triplicate Site with HE3a, HE3b and HE3c - Annual data provided for HE3c only

DT ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Easting)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean: Raw Data	Annual Mean: Annualised and Bias Adjusted (0.78)	Annual Mean: Distance Corrected to Nearest Exposure	Comment
HE3b	595216	149249	25.4	30.2	26.3	23.0	22.5	18.9	19.9	22.0	21.4	-	-	-	-	-	-	Triplicate Site with HE3a, HE3b and HE3c - Annual data provided for HE3c only
HE3c	595216	149249	24.9	30.8	27.1	23.8	23.5	18.9	19.4	14.5	24.6	-	-	-	22.7	17.7	-	Triplicate Site with HE3a, HE3b and HE3c - Annual data provided for HE3c only
HE4a	597003	146561	32.2	23.9	20.0	20.2	14.9	16.6	14.8	9.8	21.3	-	-	-	-	-	-	Triplicate Site with HE4a, HE4b and HE4c - Annual data provided for HE4c only
HE4b	597003	146561	38.9	24.3	19.9	17.0	15.4	16.3	16.2	10.7	20.4	-	-	-	-	-	-	Triplicate Site with HE4a, HE4b and HE4c - Annual data provided for HE4c only
HE4c	597003	146561	27.0	22.3	20.0	19.2	16.2	16.5	15.8	11.0	18.3	-	-	-	19.2	15.0	-	Triplicate Site with HE4a, HE4b and HE4c - Annual data provided for HE4c only
HE5a	599183	144730	22.1	34.4	28.9	25.1	28.8	26.9	27.5	20.9	33.4	-	-	-	-	-	-	Triplicate Site with HE5a, HE5b and HE5c - Annual data provided for HE5c only
HE5b	599183	144730	22.0	35.5	31.8	23.5	28.5	27.3	26.9	20.1	35.1	-	-	-	-	-	-	Triplicate Site with HE5a, HE5b and HE5c - Annual data provided for HE5c only
HE5c	599183	144730	23.5	35.2	27.1	22.2	26.6	26.6	29.6	20.1	29.3	-	-	-	27.4	21.3	-	Triplicate Site with HE5a, HE5b and HE5c - Annual data provided for HE5c only

☒ **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.**

☒ **Ashford Borough Council confirm that all 2021 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**.

NO_2 annual means exceeding 60µg/m^3, indicating a potential exceedance of the NO_2 1-hour mean objective are shown in **bold and underlined**.

See Appendix C for details on bias adjustment and annualisation.

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

New or Changed Sources Identified Within Ashford Borough Council During 2021

Major Town Centre Redevelopment Proposals

The council continues to pursue the revitalisation of Ashford Town Centre. This includes the acquisition of the Mecca Bingo, Homeplus Furniture, and Matalan sites alongside negotiations to secure the redevelopment of former underused and derelict land adjacent to the main transport corridor in central Ashford. There are a number of other sites close to the town centre where development is either approved, resolved to be granted subject to completion of legal agreements, completed or applications are imminent.

Major projects include the following sites:

- Klondyke Works - permission has been granted for 93 apartments and construction has now nearly completed;
- Victoria Road & George Street Site – the final element of this scheme, a 140-bed hotel was completed and opened in 2021;
- Victoria Crescent - a former brownfield site in two parts. Permission granted for 59 apartments over the two sites. Both sites are now completed;
- Former Powergen Site - the development of 660 dwellings over 5 plots with ancillary A1/A3 uses has commenced and 14 additional apartments (in the form of an additional storey to x2 of the apartment blocks) have since been permitted. The first block available for occupation comprises 74 homes including apartments and riverside townhouses and work on the remaining plots (phases) is continuing;
- Elwick Road - The remainder of the undeveloped site east of Elwick Place has been granted outline planning permission for residential and care home use;
- Godinton House - conversion and extension of the building into 28 apartments above ground floor commercial has been completed;

- Mecca Bingo site – site purchased by Ashford Borough Council and identified for mixed-use development. Detailed scheme and planning application awaited;
- Homeplus site – site purchased by Ashford Borough Council and identified for housing development. Works not yet commenced.
- Swanton House, Elwick Road – scheme for demolition of existing building and erection of two new blocks giving 34 apartments in total and residents' parking currently awaiting determination;

There is potential for these developments either individually, or cumulatively, to have an impact on air quality. It is possible that applications will come forward for further intensive redevelopment on Victoria Road in the area north of Victoria Crescent. Ashford Borough Council is using the planning system to ensure that where necessary, planning applications have robust air quality assessments submitted, and mitigation is requested if required.

Other Major Development Proposals:

- Conningbrook Lakes - the council has approved major development at Conningbrook Lakes including a country park, residential development and leisure activities (e.g. water sports). The first phase of residential development on the western side of the site, north of the overflow car parking area serving the Julie Rose Stadium, comprising 300 homes, is under construction by the Chartway Group with a substantial number of occupations having occurred;
- Chilmington Green - major development providing up to 5,750 residential units and supporting infrastructure. The first infrastructure phases of this development started in early 2017. The first detailed application for housing was granted planning permission in April 2018 and work has now started on site with circa 200 homes now being occupied in different locations in the development area;
- Waterbrook Park - a hybrid application (including outline and detailed elements) for a significant expansion of the existing lorry park to 600 spaces (and its relocation on the site) along with new business and retail floorspace together with up to 400 dwellings, has been approved and is under construction. The new lorry park and associated facilities is complete (and was used for a time period as a contingency in relation to the Stour park Inland Border Facility (below) as are small and medium size enterprise commercial uses on Arrowhead Road). The council has approved a

large storage and distribution single use for the entirety of Zone A on Arrowhead Road but this has not yet commenced. On Waterbrook Avenue, a drive through restaurant has been approved and has not commenced;

- Inland Border Facility, Sevington - The site has been purchased by the Department for Transport and, pursuant to Special Development Order and subsequent Article 4 applications has been developed as an Inland Border Facility. This was operational from 01/01/2021 and has elements still under construction;
- Newtown Works – Detailed application for a mixed-use development comprising film studios with post-productions offices and workshop, media village, 120 bed hotel, 62 serviced apartments, multi-storey car park, commercial and educational floorspace and 302 apartments permitted by the council in late summer 2020. This development has recently commenced.

The planning system is being used to ensure that major developments have a robust air quality assessment submitted, and relevant, proportionate mitigation is implemented where impacts are likely to arise.

Additional Air Quality Works Undertaken by Ashford Borough Council During 2021

Ashford Borough Council has not completed any additional works within the reporting year of 2021.

QA/QC of Diffusion Tube Monitoring

Nitrogen dioxide analysis procedures are compliant with the Diffusion Tubes for Ambient NO_2 Monitoring: Practical Guidance for users and laboratories (February 2008). The diffusion tubes are supplied and analysed by Socotec UK (formerly known as ESG Didcot) utilising the 50% Triethanolamine (TEA) in acetone preparation method. Socotec UK is a UKAS accredited laboratory which participates in the AEA inter-comparison, AIR PT and the WASP scheme. In 2021, Socotec UK was 100% satisfactory in the PT/WASP trials (January-March), the results for April to December have not been published.

Diffusion Tube Annualisation

Annualisation was required for one non-automatic co-location monitoring site, the site requiring annualisation, along with details of the calculation method undertaken, are provided in Table C.2. Annualisation is required for any site with data capture less than 75% but greater than 25%.

Diffusion Tube Bias Adjustment Factors

The diffusion tube data presented within the 2021 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.

Ashford Borough Council have applied a national bias adjustment factor of 0.78 to the 2021 monitoring data. A summary of bias adjustment factors used by Ashford Borough Council over the past five years is presented in Table C.1.

Ashford Borough Council does not undertake any automatic monitoring and does not calculate a local bias-adjustment factor. Therefore, the bias factor has been taken from the diffusion tube spreadsheet of national comparison studies as shown in Figure C.1.

Table C.1 – Bias Adjustment Factor

Monitoring Year	Local or National	If National, Version of National Spreadsheet	Adjustment Factor
2021	National	03/22	0.78
2020	National	03/21	0.77
2019	National	09/20	0.75
2018	National	06/19	0.76
2017	National	09/18	0.77

Figure C.1 National Diffusion Tube Bias Adjustment Factor

National Diffusion Tube Bias Adjustment Factor Spreadsheet — Spreadsheet Version Number: 03/22

Follow the steps below **in the correct order** to show the results of **relevant** co-location studies
Data only apply to tubes exposed monthly and are not suitable for correcting individual short-term monitoring periods
Whenever presenting adjusted data, you should state the adjustment factor used and the version of the spreadsheet
This spreadhseet will be updated every few months: the factors may therefore be subject to change. This should not discourage their immediate use.

This spreadsheet will be updated at the end of June 2022

LAQM Helpdesk Website

The LAQM Helpdesk is operated on behalf of Defra and the Devolved Administrations by Bureau Veritas, in conjunction with contract partners AECOM and the National Physical Laboratory.

Spreadsheet maintained by the National Physical Laboratory. Original compiled by Air Quality Consultants Ltd.

Step 1:	Step 2:	Step 3:	Step 4:							
Select the Laboratory that Analyses Your Tubes from the Drop-Down List	Select a Preparation Method from the Drop-Down List	Select a Year from the Drop-Down List	Where there is only one study for a chosen combination, you should use the adjustment factor shown with caution. Where there is more than one study, use the overall factor[3] shown in blue at the foot of the final column.							
If a laboratory is not shown, we have no data for this laboratory.	If a preparation method is not shown, we have no data for this method at this laboratory	If a year is not shown, we have no data[2]	If you have your own co-location study then see footnote[4]. If uncertain what to do then contact the Local Air Quality Management Helpdesk at LAQMHelpdesk@bureauveritas.com or 0800 0327953							
Analysed By[1]	Method To undo your selection, choose (All) from the pop-up list	Year[5] To undo your selection, choose (All)	Site Type	Local Authority	Length of Study (months)	Diffusion Tube Mean Conc. (Dm) (µg/m³)	Automatic Monitor Mean Conc. (Cm) (µg/m³)	Bias (B)	Tube Precision[6]	Bias Adjustment Factor (A) (Cm/Dm)
SOCOTEC Didcot	50% TEA in acetone	2021		Overall Factor[3] (23 studies)				Use		0.78

NO_2 Fall-off with Distance from the Road

Wherever possible, monitoring locations are representative of exposure. However, where this is not possible, the NO_2 concentration at the nearest location relevant for exposure has been estimated using the Diffusion Tube Data Processing Tool/NO_2 fall-off with distance calculator available on the LAQM Support website. Where appropriate, non-automatic annual mean NO_2 concentrations corrected for distance are presented in Table B.1.

Fall-off with distance calculations was completed at one site where concentrations were greater than 36µg/m^3 – AS51. This was completed using version 2.0 of the LAQM Diffusion Tube Data Processing Tool, and the output is presented in Table C.3.

Table C.2 – Annualisation Summary (concentrations presented in µg/m^3)

Site ID	Annualisation Factor Canterbury	Annualisation Factor Rochester Stoke	Annualisation Factor Eastbourne	Average Annualisation Factor	Raw Data Annual Mean	Annualised Annual Mean	Comments
HE2a	1.0626	1.0657	0.9046	1.0110	-	-	*Triplicate Site with HE2a, HE2b and HE2c - Annual data provided for HE2c only*
HE2b	1.0626	1.0657	0.9046	1.0110	-	-	*Triplicate Site with HE2a, HE2b and HE2c - Annual data provided for HE2c only*
HE2c	1.0626	1.0657	0.9046	1.0110	19.5	19.7	*Triplicate Site with HE2a, HE2b and HE2c - Annual data provided for HE2c only*

Table C.3 – NO_2 Fall off With Distance Calculations (concentrations presented in µg/m^3)

Site ID	Distance (m): Monitoring Site to Kerb	Distance (m): Receptor to Kerb	Monitored Concentration (Annualised and Bias Adjusted	Background Concentration	Concentration Predicted at Receptor	Comments
AS51	3.9	4.5	37.7	12.9	*36.7*	*Predicted concentration at Receptor within 10% the AQS objective.*

Appendix D: Map(s) of Monitoring Locations and AQMAs

Figure D.1 – Map of Non-Automatic Monitoring Site in Ashford

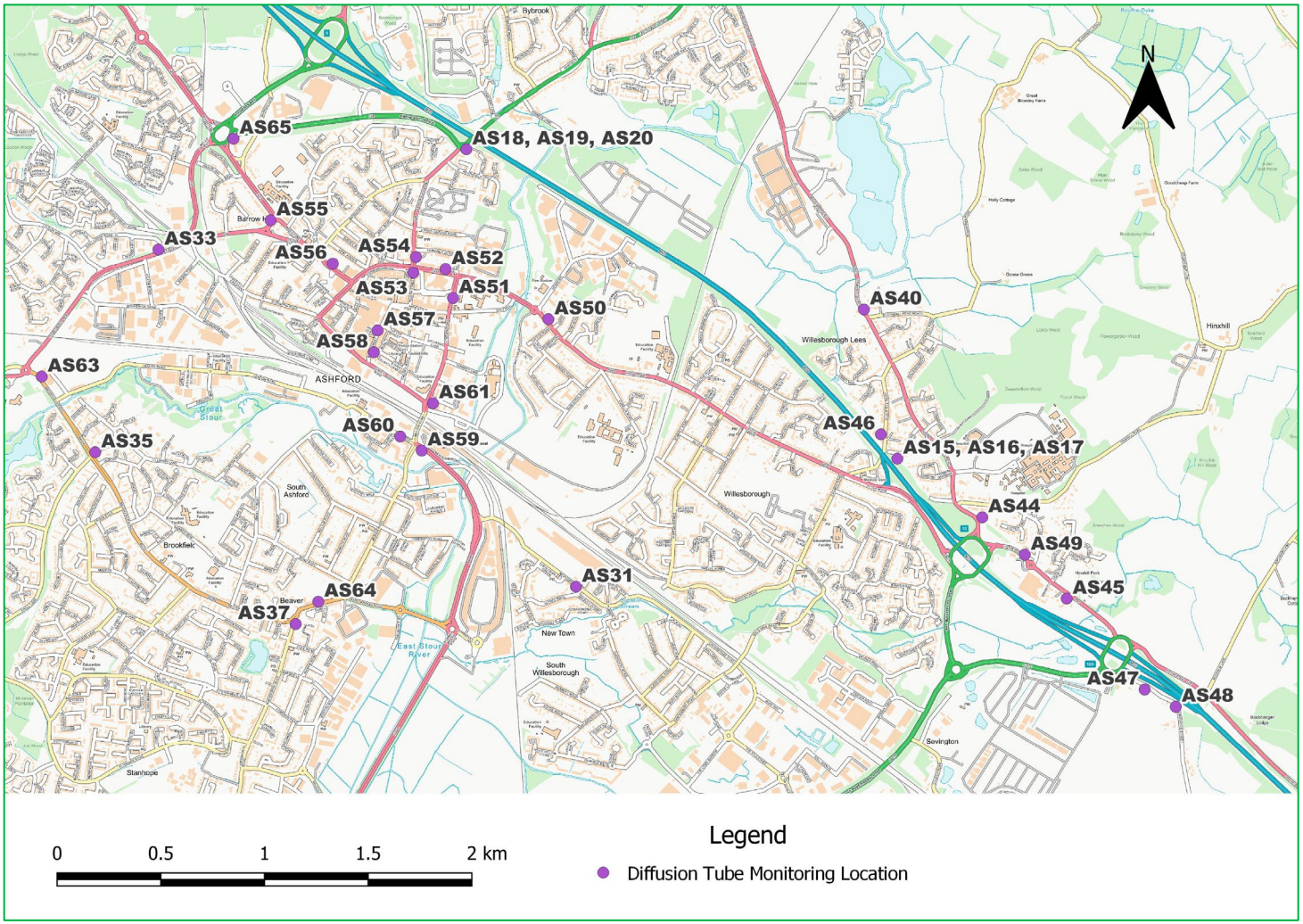
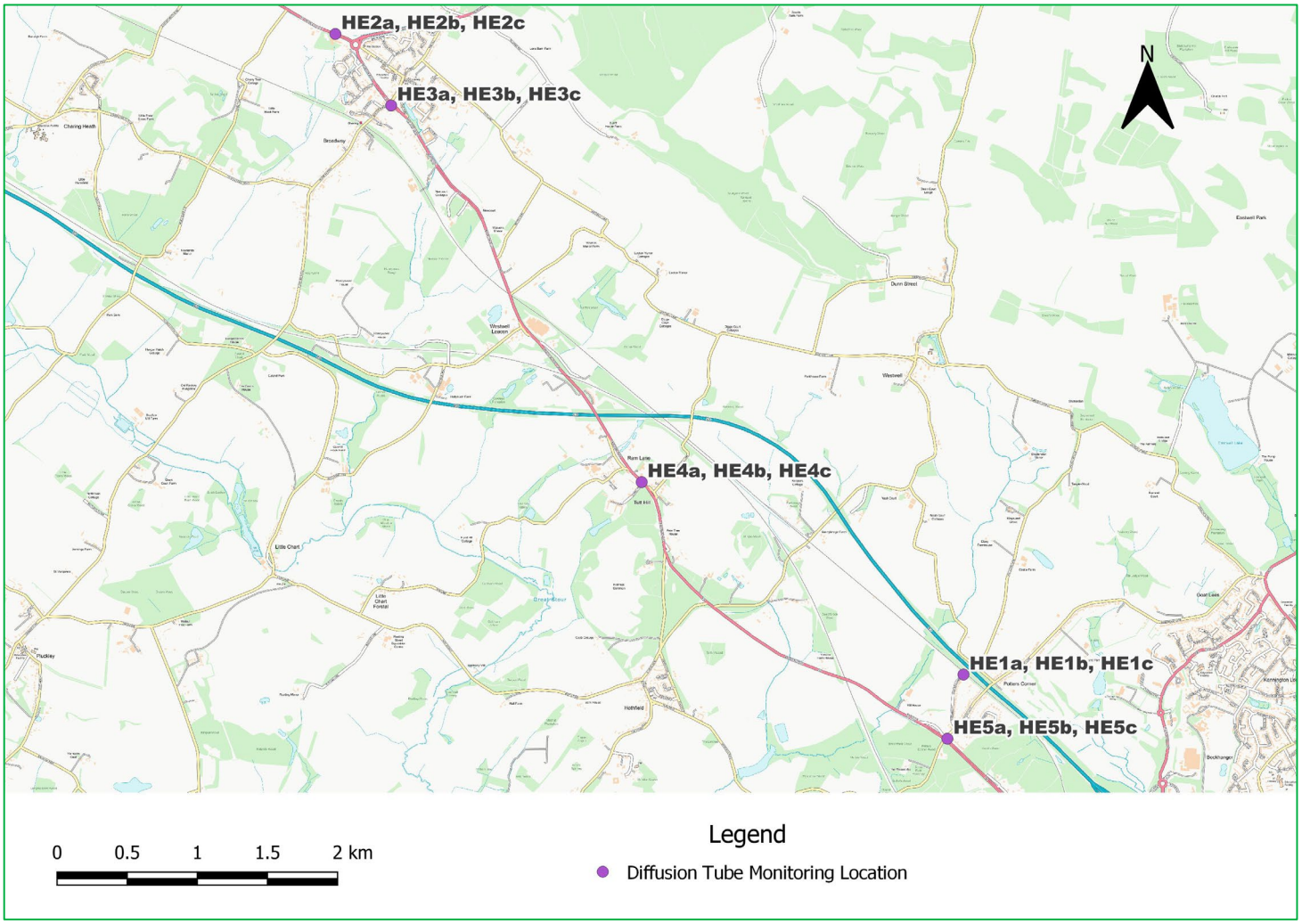


Figure D.2 – Map of Non-Automatic Monitoring Site in Ashford set up by National Highways



Appendix E: Summary of Air Quality Objectives in England

Table E.1 – 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

[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
EVCP	Electric Vehicle Charging Points
OLEV	Office for Low Emission Vehicles
REVS	Kent Realising Electric Vans
EV	Electric Van
PHOF	Public Health Outcomes Framework
QBP	Quality Bus Partnership

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