

2020 Air Quality Annual Status Report (ASR)

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

June 2020



ASHFORD
BOROUGH COUNCIL

www.ashford.gov.uk

Local Authority Officer	Linda Spicer
Department	Environmental Protection Officer
Address	Civic Centre Tannery Lane Ashford TN23 1PL
Telephone	01233 330 645
E-mail	linda.spicer@ashford.gov.uk
Report Reference number	J2505D/1/F2
Date	June 2020
Report prepared by	Jack Buckley and Dr Clare Beattie 

Executive Summary: Air Quality in Our Area

This report fulfils the requirements of the Local Air Quality Management process as set out in Part IV of the Environment Act (1995), the Air Quality Strategy for England, Scotland, Wales and Northern Ireland 2007 and the relevant Policy and Technical Guidance documents.

This document is Ashford Borough Council's Annual Status Report (ASR). Results from monitoring by the council are presented and sources of air pollution are identified. The ASR determines those changes since the last assessment that could lead to the risk of an air quality objective being exceeded.

This Annual Status Report confirms that air quality within Ashford continues to meet the relevant air quality objectives.

Air Quality in Ashford

Air pollution is associated with a number of adverse health impacts. It is recognised as a contributing factor in the onset of heart disease and cancer. Additionally, air pollution particularly affects the most vulnerable in society: children and older people, and those with heart and lung conditions. There is also often a strong correlation with equalities issues, because areas with poor air quality are also often the less affluent areas^{1,2,3}.

The annual health cost to society of the impacts of particulate matter alone in the UK is estimated to be around £16 billion⁴.

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 emissions from major roads, notably the M20, A20, A28 and A292. Other pollution sources, including commercial, industrial

¹ Defra Clean Air Strategy, 2019 <https://www.gov.uk/government/publications/clean-air-strategy-2019>

² Environmental equity, air quality, socioeconomic status and respiratory health, 2010

³ Air quality and social deprivation in the UK: an environmental inequalities analysis, 2006

⁴ Defra. Abatement cost guidance for valuing changes in air quality, May 2013

and domestic sources, also make a contribution to background pollutant concentrations. Pollutant concentrations within the borough are all below the national air quality objectives and the latest monitoring data show levels are decreasing slightly.

Actions to Improve Air Quality

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. 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; details of the actions taken recently are described below.

Local Plan to 2030

The Ashford Local Plan was adopted in February 2019.

Policy ENV12 on 'Air Quality' concerns major development proposals and their potential impact on air quality; it states that *"...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

At the beginning of 2014 the council (in partnership with KCC) agreed to install five, double electric-vehicle charging points as part of a network across Kent. This is part of a wider government-backed initiative to provide the infrastructure to support electric vehicle use. Although there are only a small number of electric vehicle owners at present, the current network of charging points resulted in 1,790 charging sessions from 1 January 2019 to 31 December 2019. The council has also installed four 7 kWh charging points in Elwick Place Car Park, which doubles the number of charge points in Ashford town centre. These contributed to a 56% increase in total kWh provided across the borough, which facilitated an almost 20% increase in the number of charging sessions. There was a 33% decrease in the number of charging sessions in Tenterden, but an increase in overall kWh usage. Table 1 shows the charging

sessions, and total energy consumption from the electric charging points in 2018 and 2019.

Table 1 – Electric Vehicle Charging Sessions

Location	Sum of Charging Sessions			Sum of Total kWh		
	2018	2019	%Change	2018	2019	%Change
Civic/ Stour Centre, Ashford x2	582	417	-28.4	3911.64	2633.58	-32.7
Julie Rose Stadium Car Park, Ashford x2	142	408	187.3	1076.386	3166.721	194.2
Leisure Centre, Tenterden x2	356	204	-42.7	2322.612	2364.869	1.8
Station Road (West) Car Park, Tenterden x2	279	222	-20.4	3119.003	3544.582	13.6
Vicarage Lane Car Park, Ashford x2	137	318	132.1	650.667	3720.455	471.8
Elwick Place, Ashford x4	-	221	-	-	1879.176	-
Grand Total	1496	1790	19.7	11080.3	17309.4	56.2

To take into account the cumulative impacts of development on air quality, and to encourage electric vehicle ownership, Ashford Borough Council is now requiring 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. 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 has launched a scheme to encourage electric and hybrid vehicle uptake amongst taxi and private hire fleets in the borough. Furthermore, the council intends to explore options to provide fuel efficient driver training for taxi and private hire drivers to reduce vehicle emissions.

Variable Message Signs

Ashford Borough Council encourage and support Kent County Council in displaying roadside messages such as “Could you car share? Search Kent Lift Share”, “Don’t take your speed to the limit”, “Save fuel, cut pollution, switch off when stopped”; which are intended to help to encourage behaviour change to lower emissions.

Air Quality Strategy

Further to the actions identified above Ashford Borough Council has also adopted an Air Quality Strategy to reduce emissions and maintain and improve air quality⁵. Actions are focussed around behaviour change away from unsustainable modes of transport, reducing emissions per vehicle and implementing high standards for development. This includes ensuring Ashford Borough Council lead the way, whilst working with partners and the public. Details of the actions included in the Strategy are provided in appendix F.

A28 Chart Road Improvement Scheme

The A28 is the main route serving the south and west of Ashford. The route runs north-south on the western side of the town and connects to the A20/A292 to the north, and ultimately, the strategic highway network via the M20.

The scope of the improvement scheme includes the dualling of the existing A28 Chart Road carriageway, with two lanes being provided in both directions between Matalan (Brookfield Road) and Templer Way roundabouts. A new bridge over the railway line is proposed to take the southbound carriageway with the existing bridge carrying the northbound carriageway.

⁵ <https://news.ashford.gov.uk/business-news/new-air-quality-strategy-for-ashford-approved/>

Further, the plan is to enlarge both the Brookfield Road and Templar Way junctions to accommodate increased capacity stemming from the carriageway upgrade. Under the scheme, the Loudon Way signalised junction would be retained and improved with more efficient signals, new pedestrian and cycle crossing facilities and dedicated right and left turning lanes from Chart Road. Currently the works have been delayed for financial reasons and it is anticipated that the project will recommence in 2022 or 2023.

Local Priorities and Challenges

M20 Junction 10a

The need for additional motorway junction capacity to the southeast of Ashford has been recognised for the past two decades. The Ashford Local Plan to 2030 relies on the delivery of Junction 10a to support the delivery of key proposed site allocations for housing and employment development.

The works are now complete and the junction open for traffic. The application was accompanied by an environmental impact assessment that included a chapter on air quality, which demonstrated that impacts on air quality would not be significant⁶.

Network Rail LTPP – Kent Route Study

The Long Term Planning Process (LTPP) strategy is designed to facilitate strategic planning of the rail network, taking into consideration passenger and freight forecasts. The Kent Route Study (KRS) was published in May 2018 and sets out the strategic vision for this part of the rail network over the next 30 years⁷.

Ashford International Station

When the Channel Tunnel Rail Link was constructed, the preferred route alignment passed immediately to the north of Ashford International Passenger Station (IPS) and spurs were constructed to allow Eurostar trains to stop and pick up passengers. These spurs, which are owned and managed by High Speed 1 and Network Rail, were signalled using a system that was incompatible with the new Siemens Class 374 trains

⁶ For details see https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR010006/TR010006-000178-M20_J10a_6.1_ES_Chapter_5.pdf

⁷ For details see <https://cdn.networkrail.co.uk/wp-content/uploads/2018/06/South-East-Kent-route-study-print-version.pdf>

being operated by Eurostar, which means that they could not access Ashford International Passenger Station (IPS).

Funding of £9.8 million was secured through the South East Local Enterprise Partnership via the Local Growth Fund as part of the £10.5 million project to re-signal the Station and improve the platforms at Ashford IPS. This project was delivered by the end of March 2018, however a further technical issue arose for Class 374 trains accessing Ashford via the spurs. Eurostar, HS1, Network Rail, Kent County Council and Ashford Borough Council have worked to resolve this issue so that the Class 374 trains can be used for services stopping in Ashford since early 2020. The Class 374 trains have a number of benefits including more seats on each train, a higher roof to reduce sonic boom through tunnels, better aerodynamics, units that reduce energy demand, and an electric braking system resulting in 10% energy savings, all of which provide greater energy efficiency.

Operation Brock – Brexit Contraflow

A contraflow was in use between March 2019 and February 2020 on the M20 in anticipation of problems caused by cross-channel disruption after Brexit. The contraflow has now been removed.

As of July 2018, in conjunction with Highways England, additional NO₂ diffusion tubes were installed at five locations along the A20/M20. These have been included in the monitoring data for 2018 and 2019 and were subsequently removed at the start of 2020.

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 or applications are imminent.

Major projects include the following sites:

- Ashford Designer Outlet Expansion - opened in Autumn of 2019, comprising of new units within the existing shell of the Designer Outlet. The development has

the potential to attract a considerable number of additional visitors to Ashford and includes plans to improve the pedestrian/cycle routes between the Designer Outlet and public transport links provided at Ashford International and domestic railway station;

- Klondyke Works - a brownfield site previously identified as a location for a model railway visitors centre. The site was remarketed and an application for 93 apartments has been approved with commencement awaited;
- Victoria Road & George Street Site - a former brownfield site occupying a prominent location opposite the Ashford IPS identified for a mixed-use redevelopment. Works have completed on the food-store and brewery and both are now open for trading. Work has also commenced on the hotel, commercial, and 216 apartments elements of the scheme, with the latter parts nearing completion. Permission was granted in 2017.
- Victoria Crescent - a former brownfield site in two parts. Permission granted for 59 apartments over the two sites. Both sites are now complete;
- 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 at the apartment blocks) have since been permitted. The first block available for occupation comprises 74 homes and is now being marketed;
- Elwick Place - cinema, restaurants and hotel has been completed and some are open for trading. The remainder of the site has been granted outline planning permission for residential and care home use;
- Former Godinton Way Industrial Estate - a "brownfield" site for residential development. The scheme for 83 dwellings is complete;
- Godinton House - permission granted and construction underway for conversion and extension of the building into 28 apartments has been granted, with commencement awaited;
- Mecca Bingo site – site purchased by Ashford Borough Council and identified for mixed-use development. Detailed scheme and planning application awaited;

- Multi-storey car park, Station Road – existing surface level car park, owned and operated by Ashford Borough Council, identified for erection of multi-storey car park. Outline planning permission granted;
- Homeplus site – site purchased by Ashford Borough Council and identified for housing development. Detailed planning application submitted, with decision likely in summer 2020;
- Commercial Quarter – the former ‘Coachworks’ part of site has the potential to deliver an Enterprise/Innovation Centre as part of one of the office buildings, providing start up space and small serviced office space within Ashford. Planning permission has been granted. The business ‘start up’ units and food and drink outlets are complete and occupied;

There is potential for these developments either individually, or cumulatively, to have an impact on air quality. It is likely 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 being taken forward by the Chartway Group; the first tranche of homes are now occupied;
- 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 the first occupations now occurring;
- 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;

- Stour Park, Sevington - permission was granted by the council in late Summer 2017 for substantial employment floor space suited to storage and distribution/logistics uses together with general and business floor space and supporting retail provision. The first application for 'site layout' has been approved and was lawfully commenced in 2019. The site is being marketed by the applicant;
- 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 resolved to be permitted by the Council in spring 2020.

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.

Environmental Permitting

There was only one new permit in 2019, a biomass plant at Henwood Industrial Estate, Ashford. This plant replaces an older biomass plant at a former premises which fell below permitting thresholds. As part of the permitting process, D1 and H1 calculations were undertaken to ensure that the chimney height was sufficient to ensure that impacts are minimised. No other significant changes in existing emission sources within Ashford have been identified in 2019.

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, and 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. Priorities for this year will include ensuring that large scale developments are monitored, and future applications are properly assessed.

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.

Table of Contents

Executive Summary: Air Quality in Our Area	3
Air Quality in Ashford	3
Actions to Improve Air Quality	4
Local Priorities and Challenges	7
Conclusions and Priorities	11
Local Engagement and How to get Involved	12
1 Local Air Quality Management	14
2 Actions to Improve Air Quality	15
2.1 Air Quality Management Areas	15
2.2 PM _{2.5} – Local Authority Approach to Reducing Emissions and/or Concentrations	15
3 Air Quality Monitoring Data and Comparison with Air Quality Objectives and National Compliance	17
3.1 Summary of Monitoring Undertaken	17
3.1.1 Automatic Monitoring Sites	17
3.1.2 Non-Automatic Monitoring Sites	17
3.2 Individual Pollutants	17
3.2.1 Nitrogen Dioxide (NO ₂)	17
Appendix A: Monitoring Results	20
Appendix B: Full Monthly Diffusion Tube Results for 2019	28
Appendix C: Supporting Technical Information / Air Quality Monitoring Data QA/QC	31
Supporting Technical Information	31
QA/QC of diffusion tube monitoring	31
Appendix D: Maps of Monitoring Locations	33
Appendix E: Summary of Air Quality Objectives in England	38
Appendix F: Air Quality Strategy	39
Glossary of Terms	44
References	45

1 Local Air Quality Management

This report provides an overview of air quality in Ashford during 2019. 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 can be found in Table E.1 in Appendix E.

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

2.2 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 2.5 µm 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 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, based on the effect of particulate matter (PM_{2.5}) on mortality. For Ashford, this indicator (3.01) for 2018 is 5.4% of deaths attributable to PM_{2.5}, which is slightly lower than the regional average (5.6%) and slightly higher than the average for England (5.2%). 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 2.13) and reducing excess weight at various ages (indicators 2.6 & 2.12).

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} 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 new signalling at Ashford International Station (Ashford Spurs), improvements to local bus and rail services, district and borough cycling strategies, and a new junction on the M20.

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 PM_{2.5} and Ashford Borough Council is focussed through its planning policy on preventing concentrations being inadvertently increased. Policy CS1 within the Core Strategy states that “*sustainable development and high quality design are at the centre of the council's approach to plan making and deciding planning applications*” and 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

3.1 Summary of Monitoring Undertaken

This section sets out the monitoring that has taken place and how it compares with the objectives.

3.1.1 Automatic Monitoring Sites

There was no automatic monitoring undertaken within the borough.

3.1.2 Non-Automatic Monitoring Sites

Ashford Borough Council undertook non-automatic (passive) monitoring of NO₂ at 42 sites during 2019. This included 16 new sites commissioned in August 2019, with no sites being decommissioned. Since July 2018 Ashford Borough Council, in conjunction with Highways England, has undertaken monitoring at five further sites along the A20/M20, which are included in the above, but were decommissioned at the start of 2020. Table A.1 in Appendix A shows the details of the 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.

3.2 Individual Pollutants

The air quality monitoring results presented in this section are, where relevant, adjusted for bias⁸, “annualisation” (where the data capture falls below 75%, but are above 25%), and distance correction⁹. Further details on the adjustments applied are provided in Appendix C.

3.2.1 Nitrogen Dioxide (NO₂)

Table A.2 in Appendix A compares the ratified and adjusted monitored NO₂ annual mean concentrations for the past five years with the air quality objective (40 µg/m³). Note that the values presented in Table A.2 represents the concentration at the location

⁸ <https://laqm.defra.gov.uk/bias-adjustment-factors/bias-adjustment.html>

⁹ Fall-off with distance correction criteria is provided in paragraph 7.77, LAQM.TG(16)

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 2019 dataset of monthly mean values is provided in Table B.1 in Appendix B. Note that the concentration data presented in Table B.1 includes distance corrected values, only where relevant.

A site at Wellesley Road (AS51) is included in Table A.1, but does not have enough data to be included in Table B.1. Data from this site will be included in the ASR due in 2021.

As the concentrations at all sites were below 60 $\mu\text{g}/\text{m}^3$, exceedances of the 1-hour mean objective are unlikely.

Measured annual mean concentrations for the past five years are presented in Table A.2. There are no clear trends, as shown in Figure 3.1 below, although it does appear that concentrations are reducing over the last 2 years.

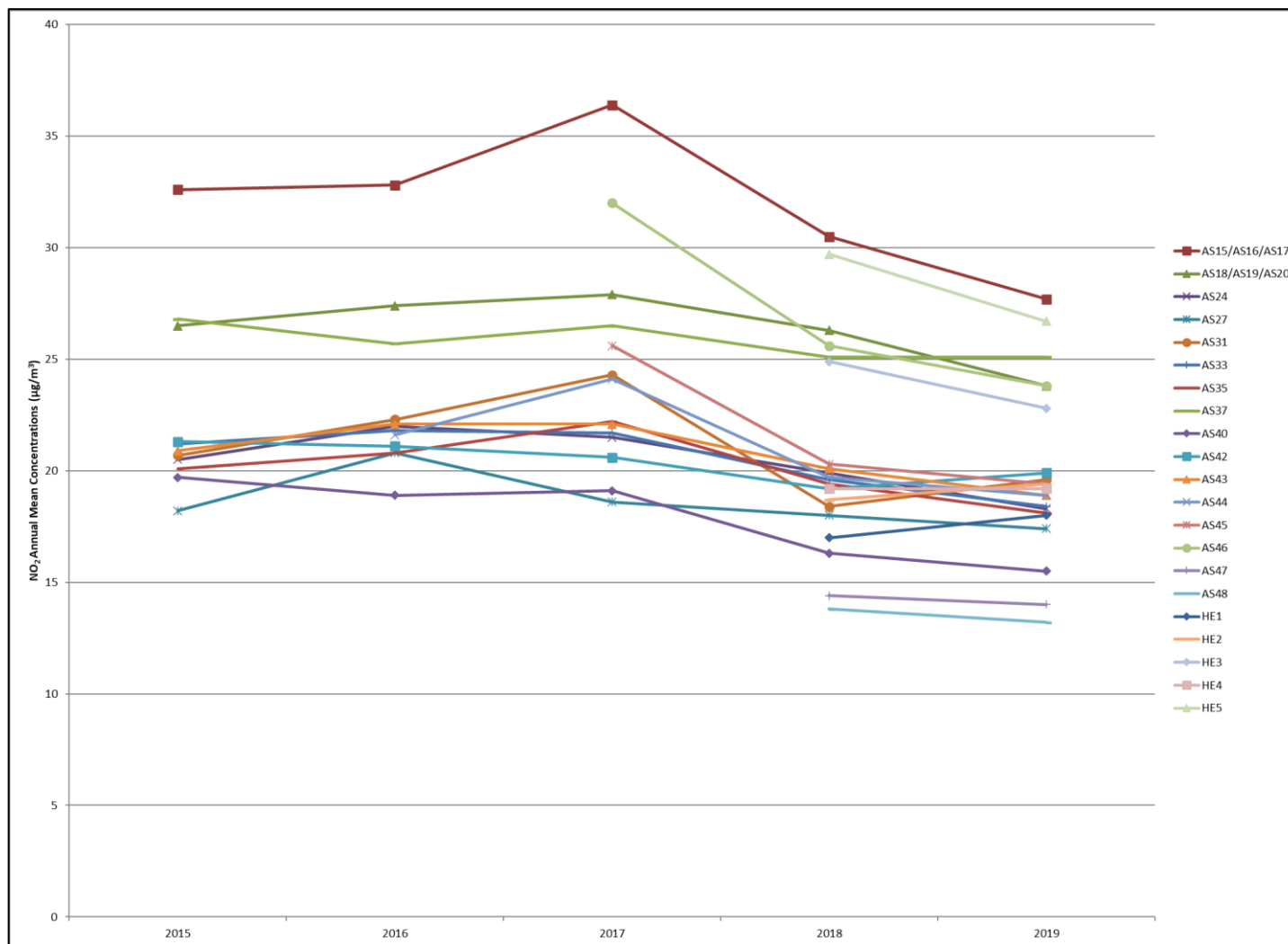


Figure 3.1: Trends in Annual Mean Nitrogen Dioxide Concentrations Measured at the Diffusion Tube Monitoring Sites

Appendix A: Monitoring Results

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

Site ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA?	Distance to Relevant Exposure (m) ^(a b)	Distance to kerb of nearest road (m)	Tube collocated with a Continuous Analyser?	Height (m) ^(b)
AS15/AS16 /AS17^c	Lees Road	Other	601303	142563	NO2	NO	0	33	NO	3
AS18/AS19 /AS20^c	Heathfield Residential Home, Canterbury Road	Suburban	603393	142073	NO2	NO	0	17.3	NO	3
AS24	New Street	Roadside	600778	142910	NO2	NO	0	7.4	NO	2
AS27	Victoria Road Primary School, Victoria Road	Roadside	600794	142320	NO2	NO	1	2.1	NO	2.1
AS31	42 Newtown Green	Roadside	601828	141461	NO2	NO	0	3.8	NO	2
AS32	2A Hollington Place	Roadside	600973	143027	NO2	NO	0	5	NO	2
AS33	East Lodge, Chart Road	Urban	599826	143084	NO2	NO	0	12.7	NO	1.8
AS35	102 Brookfield Road	Urban	599513	142110	NO2	NO	0	14.3	NO	1.8
AS36	99 Beaver Lane	Urban	600023	141445	NO2	NO	0	11.6	NO	1.8
AS37	30 Kingsnorth Road	Urban	600488	141277	NO2	NO	0	7	NO	1.8
AS38	22 Magazine Road	Urban	600701	143168	NO2	NO	0	7.3	NO	1.8

Site ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA?	Distance to Relevant Exposure (m) ^(a b)	Distance to kerb of nearest road (m)	Tube collocated with a Continuous Analyser?	Height (m) ^(b)
AS40	4 Blackwall Road North	Urban	603229	142795	NO2	NO	0	14	NO	1.8
AS41	408 Hythe Road	Suburban	603160	141971	NO2	NO	0	14	NO	2
AS42	Sunnyside, Elwick Road	Urban	601020	142434	NO2	NO	0	13.7	NO	1.9
AS43	60 Godinton Road	Urban	600665	142703	NO2	NO	0	8.8	NO	1.9
AS44	Dovecote House, 73 The Street, Willesborough	Urban Background	603800	141792	NO2	NO	0	22.2	NO	1.8
AS45*	Warren Lodge, Hythe Road, Willesborough	Urban Background	604211	141457	NO2	NO	0	21	NO	1.8
AS45**	1 Highfield Court, Hythe Road	Urban Background	604207	141387	NO2	NO	0	18	NO	1.8
AS46	8 Winslade Way	Other	603311	142192	NO2	NO	0	21	NO	2.1
AS47	Kenistone, Kingsford St TN25 6PF	Other	604583	140961	NO2	NO	0	21.3	NO	2.1
AS48	Ransley House, Kingsford St TN25 6PF	Other	604733	140878	NO2	NO	0	10.9	NO	2.1
AS49	Hythe Road, Willesborough (opp Tesco)	Roadside	604005	141616	NO2	NO	4.3	2	NO	2

Site ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA?	Distance to Relevant Exposure (m) ^(a b)	Distance to kerb of nearest road (m)	Tube collocated with a Continuous Analyser?	Height (m) ^(b)
AS50	49 Hythe Road, Ashford	Urban Background	601707	142748	NO2	NO	0	5.7	NO	2
AS51	Wellesley Road (by Pilgrims Hospice Shop)	Roadside	601249	142854	NO2	NO	0.6	3.9	NO	2
AS52	49 Somerset Road	Urban Background	601211	142990	NO2	NO	0	5.4	NO	2
AS53	Northgate House, 1-9 North Street, Ashford	Urban Background	601055	142972	NO2	NO	0	2.4	NO	2
AS54	North Street (opp Applegreen Petrol Station)	Roadside	601065	143048	NO2	NO	2.7	2	NO	2
AS55	7 Maidstone Road, Ashford	Urban Background	600361	143234	NO2	NO	0	12.7	NO	2
AS56	68 New Street, Ashford	Urban Background	600667	143016	NO2	NO	0	5	NO	2
AS57	24 Bank Street, Ashford	Urban Background	600877	142694	NO2	NO	0	4.5	NO	2
AS58	Trafalgar House, Elwick Road, Ashford	Urban Background	600865	142588	NO2	NO	0	18.7	NO	2
AS59	Romney Marsh Road (opposite railway station)	Roadside	601096	142114	NO2	NO	3	3.2	NO	2

Site ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA?	Distance to Relevant Exposure (m) ^(a b)	Distance to kerb of nearest road (m)	Tube collocated with a Continuous Analyser?	Height (m) ^(b)
AS60	Victoria Road (opposite Curious Brewery)	Roadside	600946	142205	NO2	NO	0.6	1.8	NO	2
AS61	117 Station Road (Otta Bar & Shisha Lounge)	Urban Background	601150	142342	NO2	NO	0	10.8	NO	2
AS62	Warren Lodge Nursing Home, Ashford TN24 8UF	Urban Background	600191	143560	NO2	NO	0	16.6	NO	2
AS63	Brookfield Road (by Matalan)	Roadside	599263	142471	NO2	NO	5.8	5.9	NO	2
AS64	282 Beaver Road, Ashford TN23 7SP	Urban Background	599391	141842	NO2	NO	0	58	NO	2
HE1 ^e	Westwell Lane, Ashford TN26 1JA	Roadside	599298	145188	NO2	NO	0	0.3	NO	1.8
HE2 ^e	Maidstone Road, Charing TN27 0JS	Roadside	594818	149759	NO2	NO	N/A	0.3	NO	1.8
HE3 ^e	Ashford Road, Charing TN27 0JA	Roadside	595216	149249	NO2	NO	2.3	0.03	NO	1.8
HE4 ^e	Maidstone Road, Hothfield TN26 1AP	Roadside	597003	146561	NO2	NO	4.4	0.04	NO	1.8
HE5 ^e	Maidstone Road, Ashford TN25 4NR	Roadside	599183	144730	NO2	NO	3.5	0.04	NO	1.8

Notes:

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

^b N/A if not available.

^c Became a triplicate site in April 2017.

^d Site formerly known as Hill View Nursing Home.

^e Diffusion tube triplicate site set up by Highways England.

* House was demolished on 28 June 2017. This monitoring site has subsequently been replaced by site AS45**.

** Replaces Warren Lodge site from 28 June 2017 onwards.

Table A.2 – Annual Mean NO₂ Monitoring Results

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Monitoring Type	Valid Data Capture for Monitoring Period (%) ^(a)	Valid Data Capture 2019 (%) ^(b)	NO ₂ Annual Mean Concentration (µg/m ³) ^(c)				
							2015	2016	2017	2018	2019
AS15/AS16/AS17 ^d	601303	142563	Other	Diffusion Tube	100	100	32.6	32.8	36.4	30.5	27.7
AS18/AS19/AS20 ^d	603393	142073	Kerbside	Diffusion Tube	100	100	26.5	27.4	27.9	26.3	23.8
AS24	600778	142910	Roadside	Diffusion Tube	100	100	20.5	22	21.5	19.9	18.3
AS27	600794	142320	Roadside	Diffusion Tube	100	100	18.2	20.8	18.6	18	17.4
AS31	601828	141461	Roadside	Diffusion Tube	100	100	20.7	22.3	24.3	18.4	19.6
AS33	599826	143084	Urban Background	Diffusion Tube	100	100	21.2	21.8	21.7	19.6	18.4
AS35	599513	142110	Urban Background	Diffusion Tube	100	100	20.1	20.8	22.2	19.4	18.1
AS37	600488	141277	Urban Background	Diffusion Tube	100	100	26.8	25.7	26.5	25.1	25.1
AS40	603229	142795	Urban Background	Diffusion Tube	100	100	19.7	18.9	19.1	16.3	15.5
AS42	601020	142434	Urban Background	Diffusion Tube	100	100	21.3	21.1	20.6	19.2	19.9
AS43	600665	142703	Urban Background	Diffusion Tube	100	100	20.9	22.1	22.1	20.1	18.9
AS44	603800	141792	Urban Background	Diffusion Tube	100	100	-	21.6	24.1	19.7	18.9
AS45	604207	141400	Urban Background	Diffusion Tube	100	100	-	-	25.6	20.3	19.4
AS46	603311	142192	Other	Diffusion Tube	100	100	-	-	32	25.6	23.8
AS47	604583	140961	Other	Diffusion Tube	100	100	-	-	-	14.4	14

Ashford Borough Council

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Monitoring Type	Valid Data Capture for Monitoring Period (%) ^(a)	Valid Data Capture 2019 (%) ^(b)	NO ₂ Annual Mean Concentration (µg/m ³) ^(c)				
							2015	2016	2017	2018	2019
AS48	604733	140878	Other	Diffusion Tube	100	100	-	-	-	13.8	13.2
AS49	604005	141616	Roadside	Diffusion Tube	100	100	-	-	-	-	37.1
AS50	601707	142748	Urban Background	Diffusion Tube	80	33.3	-	-	-	-	23.4
AS52	601211	142990	Urban Background	Diffusion Tube	100	100	-	-	-	-	34.7
AS53	601055	142972	Urban Background	Diffusion Tube	100	100	-	-	-	-	33.3
AS54	601065	143048	Roadside	Diffusion Tube	100	100	-	-	-	-	30.1
AS55	600361	143234	Urban Background	Diffusion Tube	100	100	-	-	-	-	23.7
AS56	600667	143016	Urban Background	Diffusion Tube	100	100	-	-	-	-	22.4
AS57	600877	142694	Urban Background	Diffusion Tube	100	100	-	-	-	-	28.8
AS58	600865	142588	Urban Background	Diffusion Tube	80	33.3	-	-	-	-	26.8
AS59	601096	142114	Roadside	Diffusion Tube	100	100	-	-	-	-	25.1
AS60	600946	142205	Roadside	Diffusion Tube	100	100	-	-	-	-	29.4
AS61	601150	142342	Urban Background	Diffusion Tube	100	100	-	-	-	-	31.1
AS62	600191	143560	Urban Background	Diffusion Tube	100	100	-	-	-	-	19.8
AS63	599263	142471	Roadside	Diffusion Tube	100	100	-	-	-	-	29.1
AS64	599391	141842	Urban Background	Diffusion Tube	100	100	-	-	-	-	21.2
HE1 ^e	599298	145188	Other	Diffusion Tube	100	100	-	-	-	17	18
HE2 ^e	594818	149759	Roadside	Diffusion Tube	97.2	97.2	-	-	-	18.7	19.4

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Monitoring Type	Valid Data Capture for Monitoring Period (%) ^(a)	Valid Data Capture 2019 (%) ^(b)	NO ₂ Annual Mean Concentration (µg/m ³) ^(c)				
							2015	2016	2017	2018	2019
HE3 ^e	595216	149249	Roadside	Diffusion Tube	100	100	-	-	-	24.9	22.8
HE4 ^e	597003	146561	Roadside	Diffusion Tube	100	100	-	-	-	19.2	19.2
HE5 ^e	599183	144730	Roadside	Diffusion Tube	100	100	-	-	-	29.7	26.7

☒ Diffusion tube data has been bias corrected

☒ Annualisation has been conducted where data capture is <75%

☒ If applicable, all data has been distance corrected for relevant exposure

Notes:

Exceedances of the NO₂ annual mean objective of 40µg/m³ are shown in **bold**.

NO₂ annual means exceeding 60µg/m³, indicating a potential exceedance of the NO₂ 1-hour mean objective are shown in **bold and underlined**.

^a Data capture for the monitoring period, in cases where monitoring was only carried out for part of the year.

^b 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%).

^c Means for diffusion tubes have been corrected for bias. All means have been “annualised” as per Boxes 7.9 and 7.10 in LAQM.TG16 (Defra, 2016b) if valid data capture for the full calendar year is less than 75%. See Appendix C for details.

^d Became a triplicate site in April 2017. For each month, the reported NO₂ concentrations at the triplicate sites have been averaged from the three tubes (see Table B.1). The overall annual NO₂ concentrations have then been determined by averaging these monthly concentrations.

^e Diffusion tube triplicate site set up by Highways England. For each month, the reported NO₂ concentrations at the triplicate sites have been averaged from the three tubes. The overall annual NO₂ concentrations have then been determined by averaging these monthly concentrations.

** House was demolished on 28 June 2017. This monitoring site has subsequently been replaced by site AS45**.

** Replaces Warren Lodge site from 28 June 2017 onwards.

Appendix B: Full Monthly Diffusion Tube Results for 2019

Table B.1 – NO₂ Monthly Diffusion Tube Results - 2019

Site ID	NO ₂ Mean Concentrations (µg/m ³)														
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean		
													Raw Data	Bias Adjusted (0.75) and Annualised ^(a)	Distance Corrected to Nearest Exposure ^(b)
AS15/AS16/AS17	43.2	48.3	36.9	27.4	32.9	31.7	37.7	42.4	30.9	30.8	36.2	44.8	36.9	27.7	-
AS18/AS19/AS20	41.4	31.9	32.3	35.9	29.8	25.0	26.2	28.5	29.8	30.0	39.6	32.9	31.9	23.8	-
AS24	23.5	34.4	28.7	26.5	21.2	18.3	18.9	20	21	22.3	32	28.4	24.6	18.3	-
AS27	31.8	27.7	22.9	26.3	17	18.1	15.8	18.1	17.4	21.7	36	28.2	23.4	17.4	-
AS31	37	36.8	26.5	25.5	19	15	17.3	24.3	23.5	26.3	35.4	30.5	26.4	19.6	-
AS33	26.9	31.6	26	25.2	20.9	3	22.9	24.2	23.8	26.4	33.1	30	24.5	18.4	-
AS35	29	35.7	27.2	24.6	19.9	3.2	20	21.4	21.4	24.6	31.5	31.9	24.2	18.1	-
AS37	37.7	38.2	36	39.6	31.8	28.6	29.4	29	27	30.4	40.9	34.9	33.6	25.1	-
AS40	27.7	25.1	18.3	17.5	15.2	15.4	16.5	21.9	17.3	20.2	25	28.2	20.7	15.5	-
AS42	33	32.1	25	26	22.7	22.6	21.7	22.5	21.7	25.9	35.4	31.1	26.6	19.9	-
AS43	28.6	31.7	26.8	26.4	21.6	19.4	19.1	21.6	23	24.3	34.3	28.3	25.4	18.9	-
AS44	35.5	32.3	26.9	22.3	21.1	19	22.7	23.6	21.5	23.6	26	29.2	25.3	18.9	-
AS45	36.1	29.8	24.7	26	22.9	21.7	23	24.3	25.1	27.9	26	24.7	26.0	19.4	-
AS46	40.5	43.4	30.7	24.4	25.5	24.8	27.9	30.5	25.9	30.9	35.4	40.8	31.7	23.8	-

Ashford Borough Council

Site ID	NO ₂ Mean Concentrations (µg/m ³)														
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean		
													Raw Data	Bias Adjusted (0.75) and Annualised ^(a)	Distance Corrected to Nearest Exposure ^(b)
AS47	23.1	20.7	17.2	32.8	16.2	14.6	13.1	12.9	14	17.9	25.4	18.1	18.8	14.0	-
AS48	23.8	18.5	17.9	23.2	16.8	12.8	13.4	12.9	15.1	16.9	26	15.8	17.8	13.2	-
AS49	-	-	-	-	-	-	-	56.4	47	47.6	45.5	45.4	48.4	37.1	30.2
AS50	-	-	-	-	-	-	-	24.9	30.5	32.2	-	32.9	30.1	23.4	-
AS52	-	-	-	-	-	-	-	39.3	40.1	43.7	55.5	46.8	45.1	34.7	-
AS53	-	-	-	-	-	-	-	41	36.6	40.7	51.3	46.5	43.2	33.3	-
AS54	-	-	-	-	-	-	-	34	32.4	37.7	50.3	41.5	39.2	30.1	-
AS55	-	-	-	-	-	-	-	26.2	27.3	28.9	39.1	32.5	30.8	23.7	-
AS56	-	-	-	-	-	-	-	22.4	24.5	29.9	39.6	29.2	29.1	22.4	-
AS57	-	-	-	-	-	-	-	36.9	34.2	35.3	42.3	39.1	37.6	28.8	-
AS58	-	-	-	-	-	-	-		30.4	35.3	45	38	37.2	26.8	-
AS59	-	-	-	-	-	-	-	22.1	30.1	33.2	43.9	33.5	32.6	25.1	-
AS60	-	-	-	-	-	-	-	34.3	35.6	36.5	45.9	38.9	38.2	29.4	-
AS61	-	-	-	-	-	-	-	38.5	35.7	36.1	48.5	43.9	40.5	31.1	-
AS62	-	-	-	-	-	-	-	23.1	22.9	23.5	33.4	26.3	25.8	19.8	-
AS63	-	-	-	-	-	-	-	37.8	34.6	34	43	40.2	37.9	29.1	-
AS64	-	-	-	-	-	-	-	24	23.9	27	28.5	33	27.3	21.2	-
HE1 ^d	28.1	25.8	20.5	30.2	41.3	17.3	17.5	15.9	17.6	21.2	33.0	19.1	24.0	18.0	-

Site ID	NO ₂ Mean Concentrations (µg/m ³)												Annual Mean		
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Raw Data	Bias Adjusted (0.75) and Annualised ^(a)	Distance Corrected to Nearest Exposure ^(b)
HE2 ^d	30.0	34.8	29.6	22.4	32.6	19.0	20.8	22.6	18.6	22.9	30.1	27.6	25.9	19.4	-
HE3 ^d	38.9	41.1	35.0	30.0	31.2	25.4	22.1	26.2	24.4	27.0	36.5	29.6	30.6	22.8	-
HE4 ^d	31.9	30.2	25.0	30.2	36.0	19.0	17.5	19.0	20.1	22.5	33.7	22.7	25.7	19.2	-
HE5 ^d	44.1	45.0	39.8	35.9	12.4	31.9	36.0	37.0	34.1	36.7	43.7	35.7	36.0	26.7	-

☒ Local bias adjustment factor used

☒ National bias adjustment factor used

☒ Annualisation has been conducted where data capture is <75% (none required)

☒ Where applicable, data has been distance corrected for relevant exposure

Notes:

Exceedances of the NO₂ annual mean objective of 40µg/m³ are shown in **bold**.

NO₂ annual means exceeding 60µg/m³, indicating a potential exceedance of the NO₂ 1-hour mean objective are shown in **bold and underlined**.

^a See Appendix C for details on bias adjustment and annualisation.

^b Distance corrected to nearest relevant public exposure.

^c Became a triplicate site on 26 April 2017. For each month, the reported NO₂ concentrations at the triplicate sites have been averaged from the three tubes. The overall annual NO₂ concentrations have then been determined by averaging these monthly concentrations.

^d Diffusion tube triplicate set up by Highways England. For each month, the reported NO₂ concentrations at the triplicate sites have been averaged from the three tubes. The overall annual NO₂ concentrations have then been determined by averaging these monthly concentrations

** Replaces Warren Lodge site from 28 June 2017 onwards.

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

Supporting Technical Information

Changed and new sources of pollution have been investigated. No changes to existing sources have been identified and the only new source is a biomass plant at Piper Joinery Ltd, Fraser House, Henwood Industrial Estate, Ashford, Kent TN24 8DT, which has been permitted and gained planning permission for the stack. This plant replaces an older biomass plant at a former premises which fell below permitting thresholds. As part of the permitting process D1 and H1 calculations were undertaken to ensure that the chimney height was sufficient to ensure that impacts are minimised.

QA/QC of diffusion tube monitoring

Nitrogen dioxide analysis procedures are compliant with the Diffusion Tubes for Ambient NO₂ 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 2019, Socotec UK was 100% satisfactory in all but one AIR PT/WASP trial, in which it was 87.5% satisfactory (January – February).

Diffusion Tube Bias Adjustment Factors

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. This has given a bias-adjustment factor for 2019 of 0.75 (based on 24 studies, 03/20 version of the spreadsheet). The spreadsheet is shown below in Figure C.1. The bias-adjustment factors for previous years were 0.81 in 2014, 0.79 in 2015, 0.77 in 2016, 0.77 in 2017 and 0.76 in 2018.

National Diffusion Tube Bias Adjustment Factor Spreadsheet							Spreadsheet Version Number: 03/20				
Follow the steps below in the correct order to show the results of relevant co-location studies								This spreadsheet will be updated at the end of June 2020			
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 spreadsheet will be updated every few months: the factors may therefore be subject to change. This should not discourage their immediate use.								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.							
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	Where there is more than one study, use the overall factor ¹ shown in blue at the foot of the final column.							
If you have your own co-location study then see footnote ¹ . If uncertain what to do then contact the Local Air Quality Management Helpdesk at LAQMHelpdesk@uk.bureauveritas.com or 0800 0327953											
Analysed By ¹	Method <small>To undo your selection, choose (All) from the pop-up list</small>	Year ² <small>To undo your selection, choose (All)</small>	Site Type	Local Authority	Length of Study (months)	Diffusion Tube Mean Conc. (Dm) (µg/m ³)	Automatic Monitor Mean Conc. (Cm) (µg/m ³)	Bias (B)	Tube Precision ³	Bias Adjustment Factor (A) (Cm/Dm)	
Socotec Didcot	50% TEA in acetone	2019	UB	Kingston upon Hull City Council	12	30	23	32.2%	G	0.76	
Socotec Didcot	50% TEA in acetone	2019	O	Kingston upon Hull City Council	11	32	26	19.1%	G	0.84	
Socotec Didcot	50% TEA in acetone	2019	R	Vale of Glamorgan	11	40	24	68.0%	G	0.60	
Socotec Didcot	50% TEA in acetone	2019	R	Watford Borough Council	12	35	30	16.8%	S	0.86	
Socotec Didcot	50% TEA in acetone	2019	R	Dumfries & Galloway Council	13	35	31	11.9%	G	0.89	
Socotec Didcot	50% TEA in acetone	2019	KS	Marglebone Road Intercomparison	12	92	65	40.5%	G	0.71	
Socotec Didcot	50% TEA in acetone	2019	UB	City of York Council	12	22	16	35.6%	G	0.74	
Socotec Didcot	50% TEA in acetone	2019	R	City of York Council	12	33	26	26.8%	G	0.79	
Socotec Didcot	50% TEA in acetone	2019	R	City of York Council	9	32	23	37.2%	G	0.73	
Socotec Didcot	50% TEA in acetone	2019	R	City of York Council	11	40	28	43.4%	G	0.70	
Socotec Didcot	50% TEA in acetone	2019	R	Ipswich Boorough council	11	34	26	34.1%	G	0.75	
Socotec Didcot	50% TEA in acetone	2019	R	Swale BC	12	51	39	31.7%	G	0.76	
Socotec Didcot	50% TEA in acetone	2019	R	Swale BC	12	33	27	23.9%	G	0.81	
Socotec Didcot	50% TEA in acetone	2019	R	Swale BC	12	40	31	26.7%	G	0.79	
Socotec Didcot	50% TEA in acetone	2019	R	Wrexham County Borough Council	10	20	16	22.2%	G	0.82	
Socotec Didcot	50% TEA in acetone	2019	R	City of Wolverhampton Council	12	39	27	48.4%	G	0.67	
Socotec Didcot	50% TEA in acetone	2019	R	North Herts DC	12	59	46	28.5%	G	0.78	
Socotec Didcot	50% TEA in acetone	2019	R	Horsham District Council	12	30	24	24.5%	G	0.80	
Socotec Didcot	50% TEA in acetone	2019	R	Horsham District Council	11	31	22	44.5%	G	0.69	
Socotec Didcot	50% TEA in acetone	2019	R	Horsham District Council	11	32	24	34.4%	G	0.74	
Socotec Didcot	50% TEA in acetone	2019	B	Medway Council	10	21	13	59.5%	P	0.63	
Socotec Didcot	50% TEA in acetone	2019	R	Medway Council	12	33	24	35.1%	G	0.74	
Socotec Didcot	50% TEA in acetone	2019	R	Waverley Borough Council	10	38	30	27.5%	G	0.78	
Socotec Didcot	50% TEA in acetone	2019	R	Waverley Borough Council	12	35	24	44.7%	G	0.69	
SOCOTEC Didcot	50% TEA in acetone	2019		Overall Factor ¹ (24 studies)					Use	0.75	

Figure C.1: National bias-adjustment factor spreadsheet

Source: <http://laqm.defra.gov.uk/bias-adjustment-factors/national-bias.html>

Appendix D: Maps of Monitoring Locations

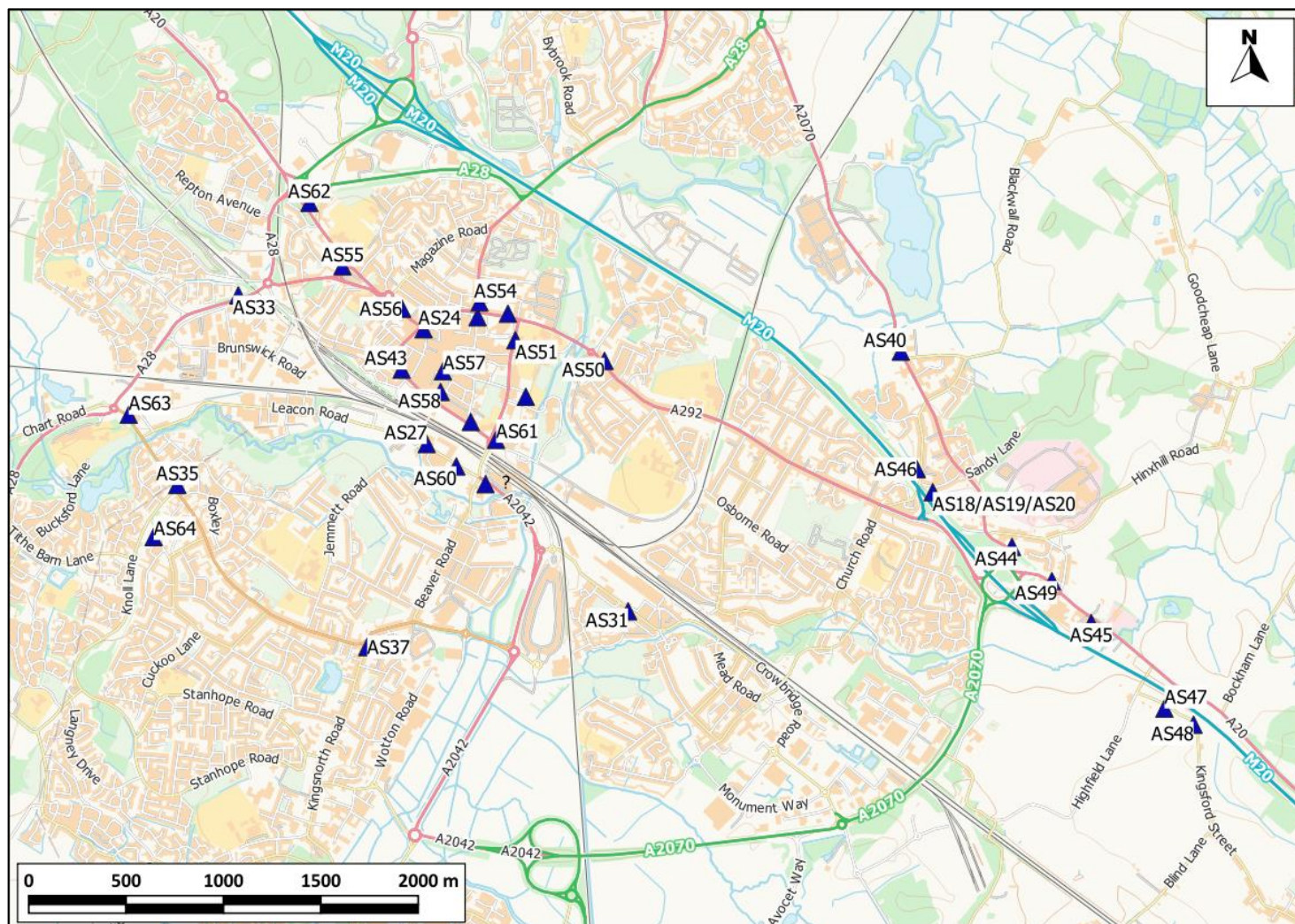


Figure D.1: Map of Non-Automatic Monitoring Locations

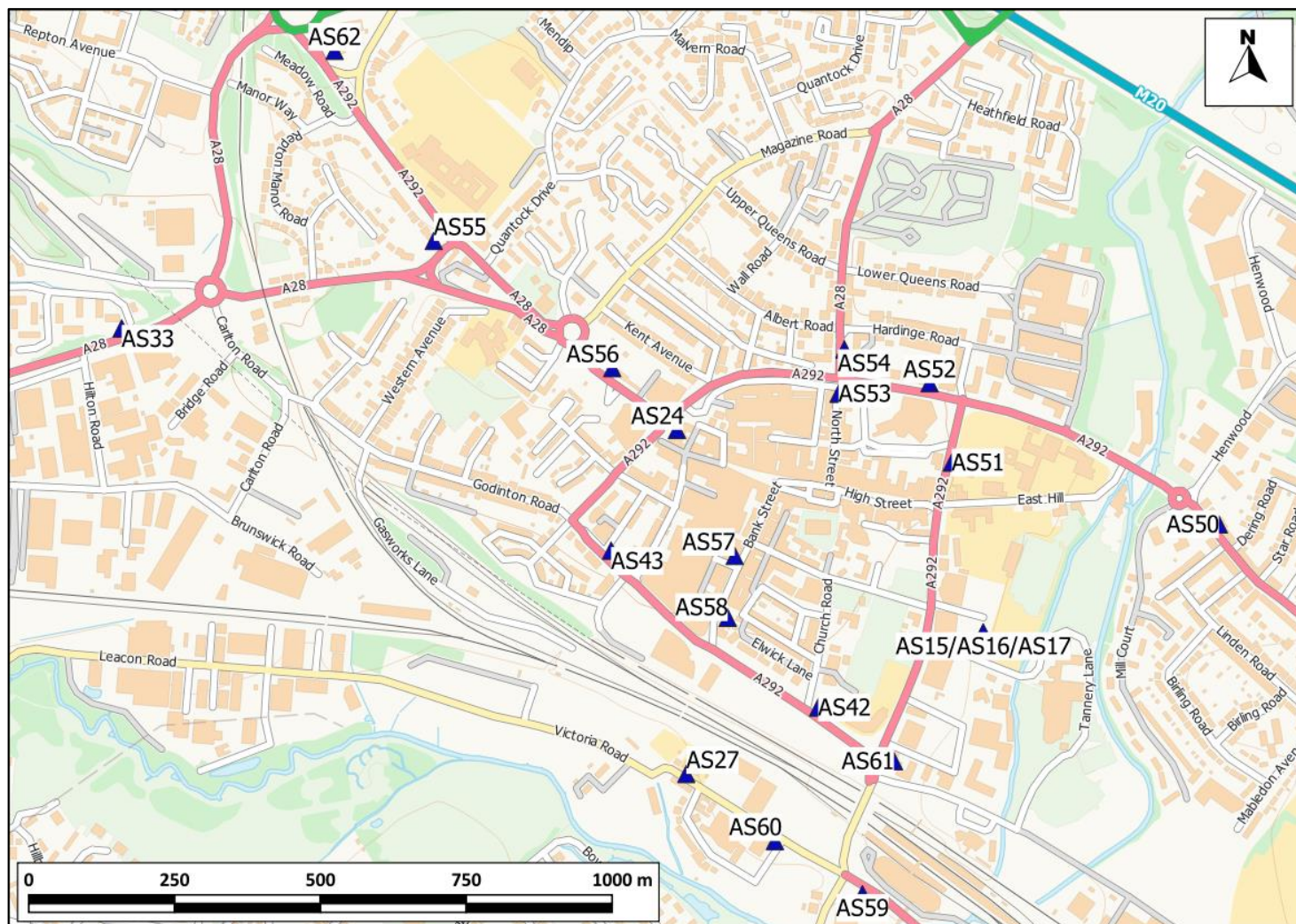


Figure D.2: Diffusion Tubes in the Centre of Ashford

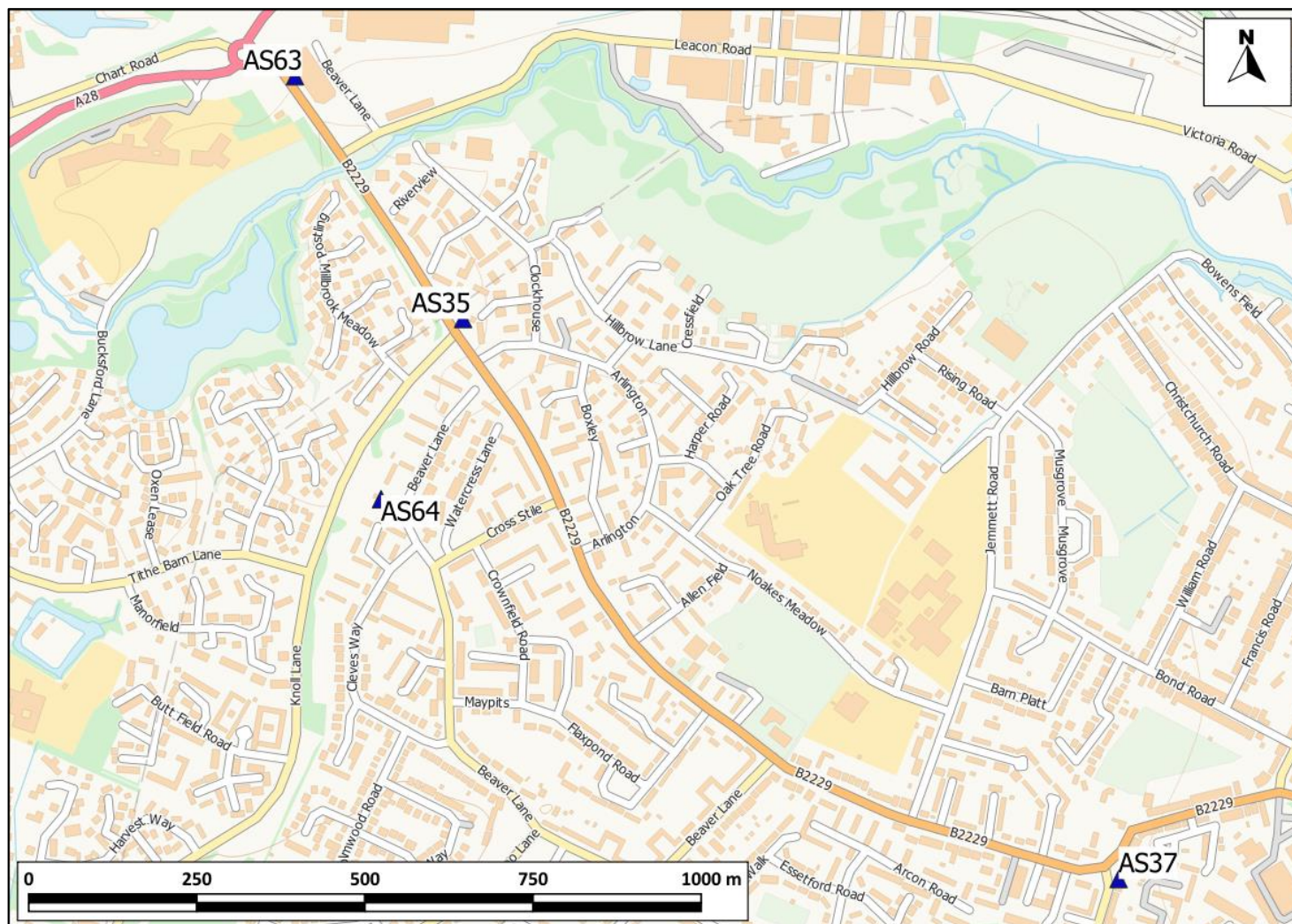


Figure D.3: Diffusion Tubes South of Ashford

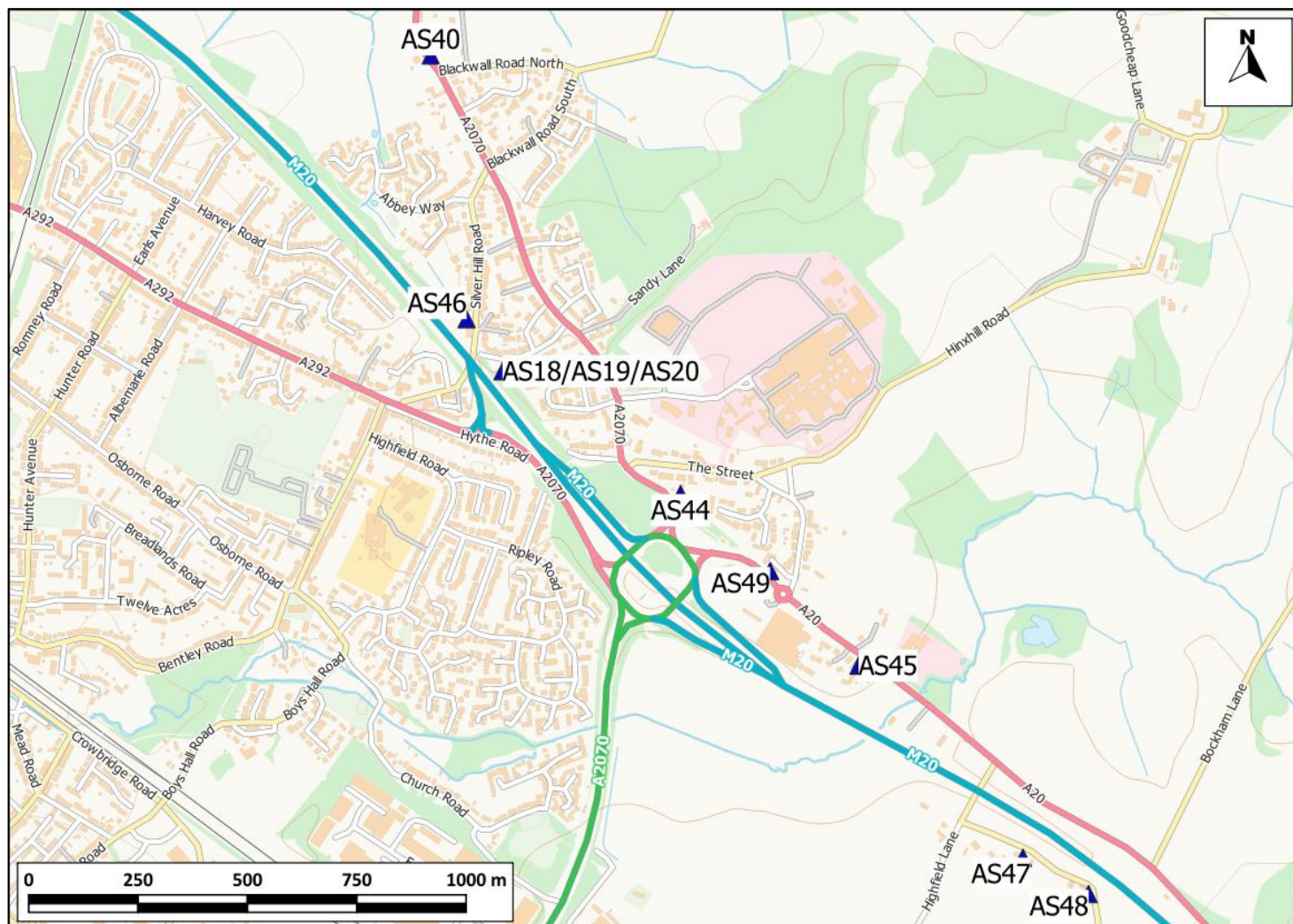


Figure D.4: Diffusion Tubes East of Ashford

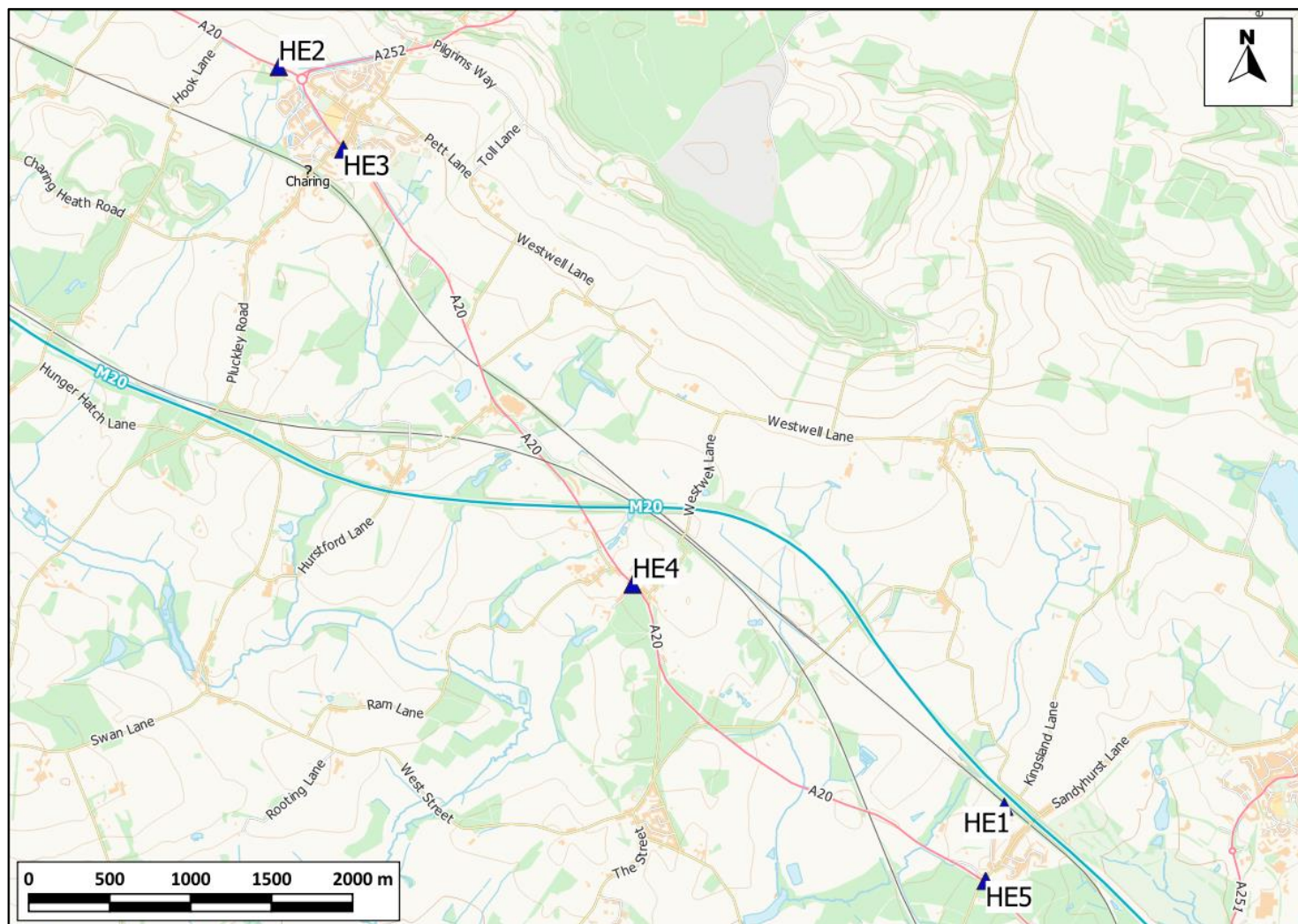


Figure D.5: Diffusion Tubes set up by Highways England

Appendix E: Summary of Air Quality Objectives in England

Table E.1 – Air Quality Objectives in England

Pollutant	Air Quality Objective ¹⁰	
	Concentration	Measured as
Nitrogen Dioxide (NO ₂)	200 µg/m ³ not to be exceeded more than 18 times a year	1-hour mean
	40 µg/m ³	Annual mean
Particulate Matter (PM ₁₀)	50 µg/m ³ , not to be exceeded more than 35 times a year	24-hour mean
	40 µg/m ³	Annual mean
Sulphur Dioxide (SO ₂)	350 µg/m ³ , not to be exceeded more than 24 times a year	1-hour mean
	125 µg/m ³ , not to be exceeded more than 3 times a year	24-hour mean
	266 µg/m ³ , not to be exceeded more than 35 times a year	15-minute mean

¹⁰ The units are in microgrammes of pollutant per cubic metre of air (µg/m³).

Appendix F: Air Quality Strategy

Ensuring we lead the way			
Objective	Key Actions	Key Performance Issues	Lead
Create an in house resource to deliver the Air Quality Strategy	Appoint an officer, with key tasks to include establishing a cross council delivery group, developing a lobbying and funding strategy and developing behaviour change campaigns. (recommendation 25, 26)	<ul style="list-style-type: none"> Officer in post Delivery group set up Additional funding levered in 	Community Safety and Wellbeing Manager
Increase the number of staff using public transport, cycling walking or car pools in their journeys to, from, and within work	Conduct annual staff survey, includes questions around journeys to, from, and within work to establish current methods and trends. (recommendation 23)	<ul style="list-style-type: none"> New schemes launched to target barriers identified by the survey e.g car pooling Increase in those using public transport cycling or walking 	Environmental Policy and Projects Officer
	Review the impact of free car parking permits for staff in terms of the implications for air quality, parity of terms and conditions with staff who use other modes of transport and our incomes levels	Review completed after six months of free car parking scheme	Community Safety and Wellbeing Manager
	Explore the installation of additional shower facilities within the Civic Centre to enable staff to cycle to and from work (recommendation 24)	Increased use of public transport and cycling as primary means of travel to and from baseline to be established through staff survey	Head of Human Resources
	Explore the establishing of a pool bike scheme to enable travel whilst in work (recommendation 21)	Reduced levels of claim against vehicle mileage scheme	Head of Human Resources
	Promote mileage rate for cycling scheme (recommendation 24)	Increased take up of cycle to work subsidy	Head of Human Resources
Reduce the pollutants from our vehicle fleet	Explore limits on high polluting vehicles within our leasing and mileage claim schemes (recommendation 19)	Following feasibility, reduced levels of CO ₂ within staff vehicle fleet as recorded in annual greenhouse gas emission report	Head of Human Resources

Ashford Borough Council

	Explore procurement of fuel efficient driver training for essential car users (recommendation 22)	<ul style="list-style-type: none"> Following feasibility, reduced levels of CO₂ within staff vehicle fleet as recorded in annual greenhouse gas emission report Following feasibility reduced fuel consumption within council fleet vehicles 	Head of Human Resources
Ensure the highest standards of development in our borough	<p>A best practice standard is set for future developments and this standard to be applied as is appropriate. The standard includes:</p> <ul style="list-style-type: none"> Electric vehicle charging points for residential and non-residential development, including off street car parking for major developments Minimum standard gas fired boilers Major developments carried out in line with guidance from the Institute of Air Quality Management <p>(recommendation 3)</p>	The standard is applied to all new developments as and where appropriate	Head of Planning and Development
	A proportion of Community Infrastructure Levy C1L should be set aside for air pollution mitigation measures (recommendation 2)	This will be taken forward dependent on the future of the C1L post national government changes	Head of Planning and Development
	Set appropriate planning conditions requiring the delivery or electric vehicle charging points within residential and non-residential developments. (recommendation 5)	<ul style="list-style-type: none"> Electric vehicle charging points provided within new developments at a minimum of 1 per residential property with a dedicated parking space. Electric vehicle charging points provided within new non-residential development at a minimum of 10% of parking provision. Increased number of charging points within the borough. 	Head of Planning and Development
	Set appropriate planning conditions for enabling cycling to work within new commercial development. (recommendation 15)	Cycle storage, shower and changing facilities provided within non-residential development.	Head of Planning and Development
	Maintain high standards of green space, including effective planting strategies to support pollution mitigation and street ventilation. (recommendation 4)	Improved spaces around the areas with the highest air pollution levels.	Environmental Policy and Projects Officer

Ashford Borough Council

Ensure we understand our air quality	Ongoing monitoring of our air quality making best use of available resources and information	Annual air quality status reports compiled and submitted to the Department for the Environment, Food and Rural Affairs (DEFRA).	Environmental Protection and Licensing Team Leader
Working with our partners			
Objective	Key Actions	Key Performance Issues	Lead
Increasing the use of sustainable transport	Lobbying bus companies and KCC to provide low emission buses within Ashford and maintain good, high quality, frequent and well used services. (recommendation 11)	<ul style="list-style-type: none"> Bus vehicles at Euro IV standard or higher Reduced levels of private car use within Ashford and consequential reduction in pollutant concentrations. 	Environmental Policy and Projects Officer
	Lobby rail companies to ensure services continue to be frequent and regular	There is a positive impact in decision making	Environmental Policy and Projects Officer
	Lobby KCC regarding the outcomes of The Big Conversation	Community preferred rural public transport options maintained in Ashford, particularly serving rural communities	Environmental Policy and Projects Officer
Minimising the impacts of poor air quality	Work with KCC to deliver roadside planting that seeks to mitigate air pollution (recommendation 4)	Roadside planting delivered and impacting positively on pollutant concentrations along key transport routes	Environmental Policy and Projects Officer
	Lobby KCC to consider air quality impacts in the design of road layouts and traffic calming measures	Reduced pollutant concentrations along key transport routes	Environmental Policy and Projects Officer
	Lobby KCC to use urban traffic management control to optimise traffic flow within Ashford. (recommendation 7)	Reduced pollutant concentrations along key transport routes	Environmental Policy and Projects Officer
	Work with KCC to explore options for providing on street electric vehicle charging points (recommendation 6)	Feasibility is assessed and a project developed accordingly.	Environmental Policy and Projects Officer
	Collaborate with KC over the use of variable message signing (VMS) to promote air quality information (recommendation 28)	<ul style="list-style-type: none"> Reduced pollutant concentrations along key transport routes. Reduced incidents of vehicle idling in high risk areas. 	Environmental Policy and Projects Officer
	Work with Kent Police to tackle vehicle idling in key locations such as outside schools (recommendation 18)	Reduced incidents of vehicle idling in high risk areas.	Environmental Policy and Projects Officer

Ashford Borough Council

Driving a collaborative approach to air quality	Continue to work with our KCC partners, including in the development and delivery of the Kent energy and low emissions strategy.	Positive impact on the developing strategy and the direction of travel.	Environmental Policy and Projects Officer
	Influence any legislation emerging nationally; lobby the national government to ensure we are able to take action where we need to.	Positive outcomes in the national environment, for example in terms of funding allocated to district authorities.	Environmental Policy and Projects Officer
	Work with the Ashford Health and Wellbeing Partnership to ensure all partners are playing their part in tackling air quality, for example the NHS.	The Ashford Health and Wellbeing Partnership develops the action plan across the partnership and drives delivery accordingly.	Environmental Policy and Projects Officer
	Work with big employers in Ashford to reduce the number of employee journeys made to and from work by single occupant vehicles.	A scheme is developed and key big employers sign up to it.	Environmental Policy and Projects Officer
Enabling behaviour change			
Objective	Key Actions	Key Performance Issues	Lead
Making sustainable transport the easy and preferred choice for our community	Delivering the council's Cycling and Walking Strategy, including an audit of what cycling facilities are available in the borough and action to be taken where gaps are found.	Delivery of the strategic aims contained in the strategy.	Community Project Manager
	Continue to support and enhance walk to school schemes within the borough (recommendation 17)	Increased uptake of walk to school schemes.	Environmental Policy and Projects Officer
	Rolvenden Rocket pilot continues, with lessons learned and expansion to other parishes/ hosts.	<ul style="list-style-type: none"> Number of schemes launched, in operation and level of usage. Promotion of community transport grant schemes 	Community Safety and Wellbeing Manager
	Promotion of Kent Karrier and other sustainable transport schemes, where appropriate.	Increased membership recorded in Ashford borough.	Environmental Policy and Projects Officer
	Ensuring our network of electric vehicle charging points expands (recommendation 5).	Number of electric charging points across the borough.	Environmental Policy and Projects Officer
	Explore options to reduce or remove parking charges for electric vehicles within our own car parks to encourage increased uptake of these vehicles (recommendation 14).	Options paper developed for consideration.	Environmental Policy and Projects Officer

Ashford Borough Council

Making sustainable transport easy and preferred choice for business	Launch a scheme to encourage electric and hybrid vehicles in the taxi and private hire fleets in the borough (recommendation 13).	Uptake of scheme among trade.	Community Safety and Wellbeing Manager
	Explore options to deliver fuel efficient driver training for taxi and private hire drivers (recommendation 10).	Interest in scheme established and uptake of scheme.	Environmental Policy and Projects Officer
	Explore options for new HGV parking facilities to provide electric HGV charging and refrigeration (recommendation 10).	Options paper developed for consideration.	Environmental Policy and Projects Officer
Advising and informing the public	A long term overarching behavioural change campaign to be designed and delivered – key messages will need to be identified, as well as target audiences. This campaign will need to include an educational aspect, to ensure people understand the issues around air quality. The campaign will show individuals how they can help protect them, their families, neighbours and communities. The campaign should link to existing national, high profile activities, such as Clean Air Day.	<ul style="list-style-type: none"> • Number of people who recognise air quality and pollution as an important issue, as measured by the residents survey. • Increased use of sustainable transport options. • Measured reduction in pollutant concentrations. 	Environmental Policy and Projects Officer
	Linked to the campaign, the council's webpages to be updated to ensure full information on air quality is provided to members of the public, including actions they can take themselves (recommendation 27).	<ul style="list-style-type: none"> • Number of hits on the new webpages. • Number of people who recognise air quality and pollution as an important issue, as measured by the residents survey. • Increased use of sustainable transport options. • Measured reduction in pollutant concentrations. 	Environmental Policy and Projects Officer
	Work with the Ashford Health and Wellbeing Partnership information for residents living in the worst affected areas in relation to steps they can take to minimise impacts on their health (recommendation 29).	<ul style="list-style-type: none"> • Number of people taking regular physical exercise. • Number of people categorized as obese. • Number of smokers in the adult population. • Reduction in hospital admissions where poor air quality may be a contributory factor. • Improvement in health profile of target areas. 	Community Safety and Wellbeing Manager

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	Air quality Annual Status Report
Defra	Department for Environment, Food and Rural Affairs
DMRB	Design Manual for Roads and Bridges – Air quality screening tool produced by Highways England
EU	European Union
Exceedance	A period of time when the concentration of a pollutant is greater than the appropriate air quality objective. This applies to specified locations with relevant exposure
FDMS	Filter Dynamics Measurement System
LAQM	Local Air Quality Management
µg/m ³	Microgrammes per cubic metre
NO ₂	Nitrogen Dioxide
NO _x	Nitrogen Oxides
PM ₁₀	Airborne particulate matter with an aerodynamic diameter of 10µm (micrometres or microns) or less
PM _{2.5}	Airborne particulate matter with an aerodynamic diameter of 2.5µm or less
Standards	A nationally defined set of concentrations for nine pollutants below which health effects do not occur or are minimal
QA/QC	Quality Assurance and Quality Control
SO ₂	Sulphur Dioxide

References

- Defra. (2016a). *Local Air Quality Management Policy Guidance (PG16)*.
Defra. (2016b). *Local Air Quality Management Technical Guidance (TG16)*.
HMSO. (1995). *Environment Act*.
Kent County Council. (2014). *Kent Joint Health and Wellbeing Strategy 2014 - 2017*.
Kent County Council. (2017). *Local Transport Plan 4: Delivering Growth without Gridlock 2016-2031*.