

2018 Air Quality Annual Status Report (ASR)

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

June 2018



ASHFORD
BOROUGH COUNCIL

www.ashford.gov.uk

Local Authority Officer	Linda Spicer
Department	Environmental Control Officer
Address	Civic Centre Tannery Lane Ashford TN23 1PL
Telephone	01233 330 645
E-mail	linda.spicer@ashford.gov.uk
Report Reference number	J2505B/1/F3
Date	June 2018
Report prepared by	Samantha Barber 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. In 2017, the council identified three small scale cement batching plants, all of which are now permitted by the council. These cement batching plants will have an insignificant impact on air quality in Ashford; no other significant changes in existing emission sources within Ashford have been identified.

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}.

The annual health cost to society of the impacts of particulate matter alone in the UK is estimated to be around £16 billion³.

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

¹ Environmental equity, air quality, socioeconomic status and respiratory health, 2010

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

³ Defra. Abatement cost guidance for valuing changes in air quality, May 2013

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. 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. Ashford Borough Council largely protects air quality within its borough by using Core Strategy Policy CS1 to encourage sustainable development and high quality designs. The main source of pollution within the borough is road traffic emissions, and 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; below are details of the actions taken recently.

Local Plan to 2030

In December 2017, Ashford Borough Council submitted the final draft of the new Local Plan to the Secretary of State. The independent examination process into the Local Plan has now commenced.

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 a total of 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 still currently a small number of electric vehicle owners, the current network of charging points has resulted in 1,459 charging sessions from 1 April 2017 to 31 March 2018.

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), shall be provided with 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 fund 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 other active way. The programme has attempted to improve road awareness, encourage physical activity and reduce the use of vehicles, which should improve air quality.

Variable Message Signs

Variable Message Signs have now been implemented within Ashford displaying 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 will all encourage behaviour which should lower emissions at a general level.

A28 Chart Road Improvement Scheme

The A28 is a strategic route serving the east and south side of Ashford from Junction 9 of the M20. The existing transport corridor from Junction 9 to the A28 ‘Tank Roundabout’ has been progressively improved over past years.

The existing road and junctions are regularly congested, the route lacks continuity of footway and cycle provision and the vertical alignment over the existing railway bridge is poor. An outline design has been prepared to provide a two lane dual

carriageway with shared unsegregated footway and cycleway along both sides of the road. It includes improved junction capacity at the Tank Roundabout, Matalan Roundabout and Loudon Way. Kent County Council Highways have commenced initial works and clearance of vegetation has begun, however, the main works have currently been delayed for financial reasons.

An air quality technical review by Amey (report ref. C004300246) has been undertaken and issued to stakeholders. The improvements recommended in the review are to include incentives to encourage walking and cycling along this route. It remains an on-going project within the borough.

Local Priorities and Challenges

M20 Junction 10a

The need for additional motorway junction capacity to the southeast of Ashford has been recognised since at least the turn of the century. The Ashford Local Plan to 2030 relies on the delivery of Junction 10a to demonstrate the deliverability of key proposed site allocations for housing and employment development.

In December 2017 works were approved and from January 2018, ground works have begun. It is anticipated that the project will be completed in May 2020. The application was accompanied by an environmental impact assessment that included a chapter on air quality, which demonstrated that impacts on air quality would be not significant⁴.

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) Draft for Consultation was published in March 2017 and sets out the strategic vision for this part of the rail network over the next 30 years⁵. The published draft explains that rail is the predominant mode of transport for the commuter market and states:

⁴ For details see https://infrastructure.planninginspectorate.gov.uk/wp-content/uploads/projects/TR010006/TR010006-000178-M20_J10a_6.1_ES_Chapter_5.pdf

⁵ For details see <https://cdn.networkrail.co.uk/wp-content/uploads/2016/12/Kent-Route-Study-Draft-for-Consultation.pdf>

“Each day the railway in Kent carries more than 68,000 people in the high peak hour (08:00-08:59) alone into Central London, with many thousands more accessing key interchange points... and travelling between regional centres on the route.”

The KRS “seeks to identify the capacity requirements in the medium and long term” to help assist with economic growth, alongside “improving connections between people and jobs, and between business and markets”.

The KRS outlines improvements that will be made to the following service groups:

- London Bridge Metro Services - covering services that operate from London Charing Cross and London Cannon Street, through London Bridge to Gillingham and Dartford via three lines, to Hayes, to Sevenoaks via the Main Lines and the Bromley North branch;
- London Victoria Metro Services – covering services that operate to Orpington via the Herne Hill and Catford Loop routes, alongside services to Dartford via Lewisham and Bexleyheath;
- London Bridge and Victoria Main Line Services – covering longer distance services from the Chatham and Swanley area, from the Maidstone East line and also the Tonbridge Line. The Tonbridge route includes services from Ashford and Hastings (via Tunbridge Wells);
- Domestic High Speed Services – services on High Speed 1 operating from Dover/Folkestone, Ramsgate/Canterbury West and Faversham to St Pancras International;
- London Blackfriars Services – services coming through the Thameslink Core and operate via the Catford Loop to Orpington and Sevenoaks; and
- Regional Services.

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 e320 trains 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 (round 3 allocation) 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 has arisen for e320 trains accessing Ashford via the spurs. Eurostar and network rail are working to resolve this issue so that the e320 trains can be used for services stopping in Ashford in the near future. The e320 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.

Major Town Centre Redevelopment Proposals

The council continues to pursue the revitalisation of Ashford Town Centre. This includes the acquisition of an existing shopping centre (Park Mall) and the Mecca Bingo site alongside negotiation 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 authorised or applications are imminent and these are also included.

Major projects include the following sites:

- Ashford Designer Outlet Expansion - planning permission has been granted to enlarge the footprint of the existing retail space and a further application seeking amendments to that permission was determined in Summer 2017. Construction has commenced with a plan for opening of the enlarged centre in Autumn 2019. The development has the potential to attract considerable additional visitors to Ashford and improve the environment between the Ashford IPS/Domestic Station and the Designer Outlet;
- Klondyke Works - a brownfield site adjacent to the Ashford to Hastings railway line which has previously been identified as a suitable location for a model railway visitors centre (AIMREC) with a viewing platform and associated parking, landscaping and access. Although the council resolved

to permit the application subject to S.106 agreement the applicant decided not to proceed with this site for AIMREC. The site was remarketed and the application for 93 apartments and has been received, with a decision likely in Summer 2018;

- Victoria Road & George Street Site - a brownfield site occupying a prominent location opposite the Ashford IPS which has been identified for a mixed use redevelopment including, a food-store, brewery, hotel, commercial units, residential and associated parking, landscaping and access. Permission was granted in 2017. The Brewery scheme has commenced with a current minor amendment application related to the layout and elevations being considered. The mixed-use residential part of the site has been the subject of a subsequent amendment application that was approved in Spring 2018. It is understood that an application to amend the hotel to improve room sizes by creation of an additional storey has been received with a decision due in Summer 2018. The applicant has suggested commencement of the amended scheme in Autumn 2018;
- Victoria Crescent - a brownfield site (the former Travis Perkins premises) in two parts. Permission granted for 59 apartments over the 2 sites. They are now in separate ownership. Both are under construction with the northernmost site being significantly more advanced;
- Former Powergen Site - ground works have commenced for five plots comprising 660 dwellings and ancillary uses (A1/A3) together with parking, landscaping and access works. The development has commenced and 14 additional apartments have since been permitted;
- Elwick Place - a major brownfield site adjacent to the main railway corridor in central Ashford designated for a mixed retail, leisure, office and residential use. Permission has been granted for the hotel, leisure and car park elements and the development is under construction. The remainder of the site is subject of an outline application for residential development but this has not yet been determined;
- Former Godinton Way Industrial Estate - a "brownfield" site for residential development. Planning permission has been granted for 83 dwellings and the development is now substantially complete;

- Godinton House - located adjacent to the Enterprise Car Rental site, an application for conversion and extension of the building which formerly housed a snooker club on upper floors into 28 apartments has been received and is yet to be determined;
- Commercial Quarter - the 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. The first new building on the site granted detailed permission is now at an advanced stage of construction; and
- Ashford College Campus - a former brownfield site occupying a prominent location at the corner of Elwick Road and Station Road which was identified for redevelopment as an educational centre. The campus opened in September 2017 and there is the possibility of a further extension to this development along Station Road, to provide additional floor space.

There is potential for these developments either singly or cumulatively to have an impact on air quality at particular locations. Ashford Borough Council is using the planning system to ensure that where necessary, planning applications have a robust air quality assessment submitted with them, 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 and the development has commenced;
- Chilmington Green - Major development including 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;

- Waterbrook Park - a hybrid application (including outline and detailed elements) has been received 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; and
- Stour Park, Sevington - permission was granted by the council in late Summer 2017 for substantial employment floorspace suited to storage and distribution/logistics uses together with general and business floorspace and supporting retail provision.

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

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 encourages the promotion of air quality, and education material 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.....	6
Local Engagement and How to get Involved	11
1 Local Air Quality Management.....	13
2 Actions to Improve Air Quality.....	14
2.1 Air Quality Management Areas.....	14
2.2 PM _{2.5} – Local Authority Approach to Reducing Emissions and/or Concentrations.....	14
3 Air Quality Monitoring Data and Comparison with Air Quality Objectives and National Compliance.....	16
3.1 Summary of Monitoring Undertaken	16
3.1.1 Automatic Monitoring Sites	16
3.1.2 Non-Automatic Monitoring Sites.....	16
3.1.3 Individual Pollutants	16
3.1.4 Nitrogen Dioxide (NO ₂).....	16
Appendix A: Monitoring Results	18
Appendix B: Full Monthly Diffusion Tube Results for 2017	23
Appendix C: Supporting Technical Information / Air Quality Monitoring Data QA/QC	25
Appendix D: Map(s) of Monitoring Locations and AQMAs	28
Appendix E: Summary of Air Quality Objectives in England.....	34
Glossary of Terms	35
References	36

List of Figures

Figure 3.1: Trends in Annual Mean Nitrogen Dioxide Concentrations Measured at the Diffusion Tube Monitoring Sites	17
--	----

1 Local Air Quality Management

This report provides an overview of air quality in Ashford during 2017. It fulfils the requirements of Local Air Quality Management (LAQM) as set out in Part IV of the Environment Act (1995) (HMSO, 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 12-18 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 AQMAs. For reference, a map of Ashford Borough Council's monitoring locations is available 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 (Defra, 2016a), 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 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 in its local area 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 healthy 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. 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 by the previous Government 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 released in road traffic emissions; improving transport 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 work closely with local bus operators and are 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 some positive moves towards improving air quality across the borough. Such measures include:

- removal of higher polluting Euro 2 buses from all routes several months before the government deadlines;
- introduction of the little and often bus fleet comprising of the latest Euro 6 diesel engine buses; and
- improved frequency means less sitting around, especially in built up Town Centre areas.

As part of the commitment to improving air quality, updates are provided to the QBP by the Environmental Team through the quarterly meeting.

Planning is also particularly important for PM_{2.5} and Ashford Borough Council is focussed through its planning policy on preventing particulate matter 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 in Ashford and how it compares with the national objectives.

3.1.1 Automatic Monitoring Sites

There is no automatic monitoring being undertaken within the borough.

3.1.2 Non-Automatic Monitoring Sites

Ashford Borough Council undertook non-automatic (passive) monitoring of NO₂ at 21 sites during 2017. 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.

3.1.3 Individual Pollutants

The air quality monitoring results presented in this section are, where relevant, adjusted for bias, “annualisation” and distance correction. Further details on the adjustments applied are provided in Appendix C.

3.1.4 Nitrogen Dioxide (NO₂)

Table A.2 in Appendix A compares the annualised and bias adjusted monitored NO₂ annual mean concentrations for the past 5 years with the air quality objective of 40 µg/m³. The full 2017 dataset of monthly mean values is provided in Table B.1 in Appendix B.

The measured concentrations are below the annual mean air quality objective at all monitoring sites in 2017. As the concentrations are also below 60 µg/m³, this indicates that an exceedance of the 1-hour mean objective is also unlikely at these sites.

Measured annual mean concentrations for the past 5 years are presented in Table A.2. There are no clear trends in recent years, as shown in Figure 3.1 below.

The highest concentrations have been measured at Lees Road (AS15) although they have remained below the objective.

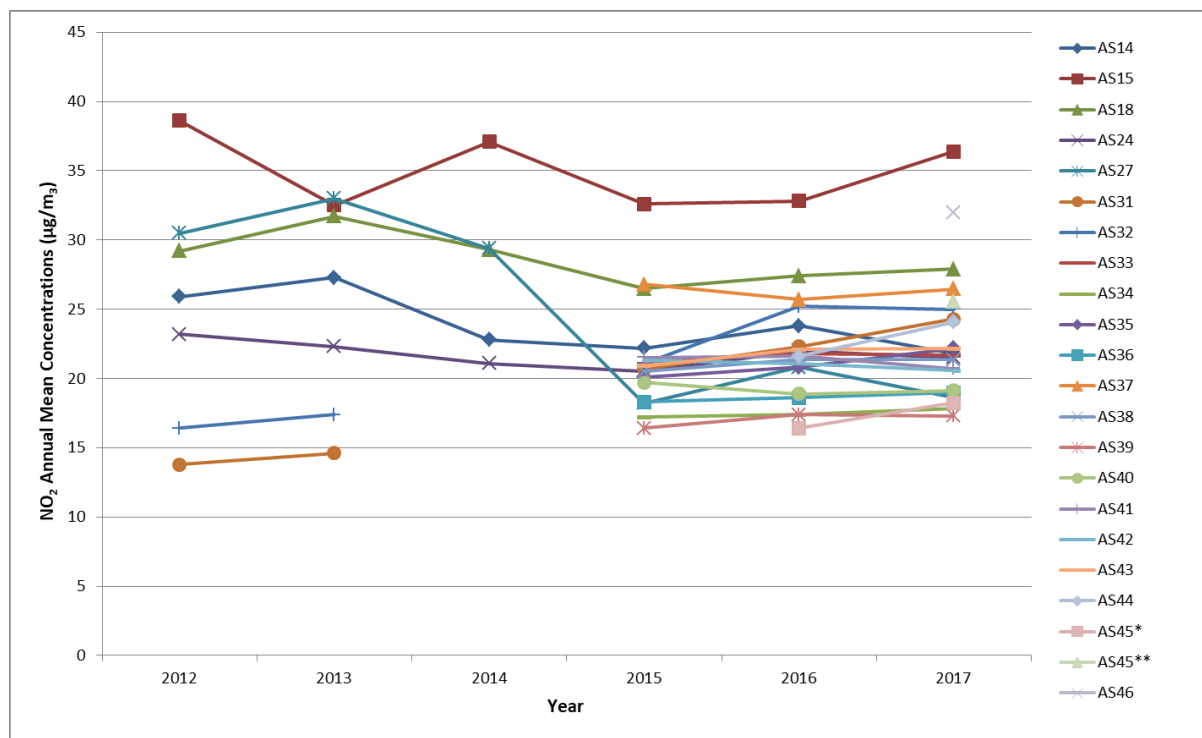


Figure 3.1: Trends in Annual Mean Nitrogen Dioxide Concentrations Measured at the Diffusion Tube Monitoring Sites

Appendix A: Monitoring Results

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

Site ID	Site Name	Site Type	X OS Grid Ref	Y OS Grid Ref	Pollutants Monitored	In AQMA?	Distance to Relevant Exposure (m) ^(a)	Distance to kerb of nearest road (m)	Tube collocated with a Continuous Analyser?	Height (m) ^(b)
AS14	Nutley Close	Roadside	601460	143509	NO2	N	4	3.0	N	3.0
AS15/AS16/ AS17 ^c	Lees Road	Other (Motorway)	603393	142073	NO2	N	0	33.0	N	3.0
AS18/AS19/ AS20 ^c	Heathfield Residential Home, Canterbury Road	Suburban	601321	143568	NO2	N	0	17.3	N	3.0
AS24	New Street	Roadside	600778	142910	NO2	N	0	7.4	N	2.0
AS27	Victoria Road Primary School, Victoria Road	Roadside	600794	142320	NO2	N	1	2.1	N	2.1
AS31	42 Newtown Green	Roadside	601828	141461	NO2	N	0	3.8	N	N/A
AS32	2A Hollington Place	Roadside	600973	143027	NO2	N	0	5.0	N	2.0
AS33	East Lodge, Chart Road	Urban	599826	143084	NO2	N	0	12.7	N	1.8
AS34	13 Thornlea	Urban Background	599458	142968	NO2	N	0	45.7	N	1.8
AS35	102 Brookfield Road	Urban	599513	142110	NO2	N	0	14.3	N	1.8
AS36	99 Beaver Lane	Urban	600023	141445	NO2	N	0	11.6	N	1.8

Site ID	Site Name	Site Type	X OS Grid Ref	Y OS Grid Ref	Pollutants Monitored	In AQMA?	Distance to Relevant Exposure (m) ^(a)	Distance to kerb of nearest road (m)	Tube collocated with a Continuous Analyser?	Height (m) ^(b)
AS37	30 Kingsnorth Road	Urban	600488	141277	NO2	N	0	7.0	N	1.8
AS38	22 Magazine Road	Urban	600701	143168	NO2	N	0	7.3	N	1.8
AS39	Lime Court, Kennington	Urban	601736	145328	NO2	N	0	9.0	N	2.0
AS40	4 Blackwall Road North	Urban	603229	142795	NO2	N	0	14.0	N	1.8
AS41	408 Hythe Road	Suburban	603160	141971	NO2	N	0	14.0	N	2.0
AS42	Sunnyside, Elwick Road	Urban	601020	142434	NO2	N	0	13.7	N	1.9
AS43	60 Godinton Road	Urban	600665	142703	NO2	N	0	8.8	N	1.9
AS44	Dovecote House, 73 The Street, Willesborough	Urban Background	603800	141792	NO2	N	0	22.2	N	1.8
AS45*	Warren Lodge, Hythe Road, Willesborough	Urban Background	604211	141457	NO2	N	0	21.0	N	1.8
AS45**	1 Highfield Court, Hythe Road	Urban Background	604207	141387	NO2	N	0	18.0	N	1.8
AS46	8 Winslade Way	Other (Motorway)	603311	142192	NO2	N	0	21.0	N	2.1

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.

* 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	Site Type	Monitoring Type	Valid Data Capture for Monitoring Period (%) ^(a)	Valid Data Capture 2017 (%) ^(b)	NO ₂ Annual Mean Concentration (µg/m ³) ^(c)				
					2013	2014	2015	2016	2017
AS14	Roadside	Diffusion Tube	100	100	27.3	22.8	22.2	23.8	21.8
AS15/AS16/AS17 ^d	Other (Motorway)	Diffusion Tube	100	100	32.5	37.1	32.6	32.8	36.4
AS18/AS19/AS20 ^d	Suburban	Diffusion Tube	100	100	31.7	29.3	26.5	27.4	27.9
AS24	Roadside	Diffusion Tube	100	100	22.3	21.1	20.5	22.0	21.5
AS27	Roadside	Diffusion Tube	100	100	33.0	29.4	18.2	20.8	18.6
AS31	Roadside	Diffusion Tube	100	100	14.6	-	20.7	22.3	24.3
AS32	Roadside	Diffusion Tube	100	100	17.4	-	21.1	25.2	25.0
AS33	Urban	Diffusion Tube	100	100	-	-	21.2	21.8	21.7
AS34	Urban Background	Diffusion Tube	100	100	-	-	17.2	17.4	17.8
AS35	Urban	Diffusion Tube	100	100	-	-	20.1	20.8	22.2
AS36	Urban	Diffusion Tube	100	100	-	-	18.3	18.6	19.0
AS37	Urban	Diffusion Tube	83.3	83.3	-	-	26.8	25.7	26.5
AS38	Urban	Diffusion Tube	100	100	-	-	20.5	21.4	21.4
AS39	Urban	Diffusion Tube	91.7	91.7	-	-	16.4	17.4	17.3
AS40	Urban	Diffusion Tube	100	100	-	-	19.7	18.9	19.1
AS41	Suburban	Diffusion Tube	100	100	-	-	21.5	21.6	20.7
AS42	Urban	Diffusion Tube	100	100	-	-	21.3	21.1	20.6

Site ID	Site Type	Monitoring Type	Valid Data Capture for Monitoring Period (%) ^(a)	Valid Data Capture 2017 (%) ^(b)	NO ₂ Annual Mean Concentration (µg/m ³) ^(c)				
					2013	2014	2015	2016	2017
AS43	Urban	Diffusion Tube	100	100	-	-	20.9	22.1	22.1
AS44	Urban Background	Diffusion Tube	100	100	-	-	-	21.6	24.1
AS45*	Urban Background	Diffusion Tube	100	41.7	-	-	-	16.4	18.3
AS45**	Urban Background	Diffusion Tube	100	50.0	-	-	-	-	25.6
AS46	Other (Motorway)	Diffusion Tube	87.5	58.3	-	-	-	-	32.0

☒ 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.

* 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 2017

Table B.1 – NO₂ Monthly Diffusion Tube Results - 2017

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 (0.77) and Annualised ^(a)	Distance Corrected to Nearest Exposure ^(b)
AS14	43.5	34.4	28.1	33.8	33.3	22.3	19.2	22.3	25.6	24.4	35.9	28.1	29.2	22.5	21.8
AS15/AS16/AS17 ^c	53.9	54.2	47.2	50.3	40.9	43.0	42.5	45.3	42.6	50.6	48.1	49.1	47.3	36.4	-
AS18/AS19/AS20 ^c	52.9	35.9	37.0	38.3	35.6	25.0	25.4	30.5	34.8	33.2	45.8	40.7	36.3	27.9	-
AS24	44.0	32.7	29.6	27.1	23.4	16.6	18.3	23.3	24.4	26.9	37.7	31.5	28.0	21.5	-
AS27	41.9	30.7	24.4	22.6	23.5	18.3	16.5	21.1	21.0	22.0	28.2	27.5	24.8	19.1	18.6
AS31	46.0	32.8	34.0	28.9	25.1	23.4	21.1	26.8	27.5	33.0	41.3	38.7	31.6	24.3	-
AS32	54.9	38.6	32.8	32.8	28.7	22.8	21.2	26.2	27.8	31.4	43.7	28.5	32.5	25.0	-
AS33	42.2	32.6	32.2	22.8	25.3	25.1	21.3	26.7	25.0	28.6	29.5	26.3	28.1	21.7	-
AS34	45.9	27.2	23.7	20.2	20.4	14.9	19.2	19.4	17.5	19.4	26.4	23.8	23.2	17.8	-
AS35	41.0	34.3	30.2	28.7	22.5	20.8	18.4	22.9	25.9	29.5	37.1	34.6	28.8	22.2	-
AS36	35.4	29.6	26.3	23.8	21.6	18.4	15.3	19.5	23.1	23	32.6	27.3	24.7	19.0	-
AS37	45.0	35.5	38.1	35.4	34.5	30.2	26.1	-	29.7	34.9	-	34.2	34.4	26.5	-
AS38	44.3	31.1	28	25.6	24.3	20.3	18.7	24.2	23.4	28.1	34.4	30.5	27.7	21.4	-
AS39	38.0	26.3	22.0	21.2	18.5	14.0	-	15.6	19.5	22.7	27.3	22.0	22.5	17.3	-

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 (0.77) and Annualised ^(a)	Distance Corrected to Nearest Exposure ^(b)
AS40	38.2	31.4	28.7	25.3	21.8	18.3	12.7	15.0	20.5	27.6	29.7	28.9	24.8	19.1	-
AS41	42.7	32.6	28.5	27.0	28.7	18.6	17.1	22.3	23.0	22.8	30.8	28.8	26.9	20.7	-
AS42	37.2	30.4	32.2	24.3	25.5	22.6	19.1	22.8	23.1	25.6	28.1	29.5	26.7	20.6	-
AS43	46.8	32.1	29.2	26.1	25.8	19.5	20.4	22.7	26.7	27.4	37.7	30.7	28.8	22.1	-
AS44	43.2	36.2	35.9	33.8	22.5	24.0	21.5	26.2	28.3	30.3	36.9	36.6	31.3	24.1	-
AS45*	35.0	26.8	26.6	21.2	17.9	-	-	-	-	-	-	-	25.5	18.3	-
AS45**	-	-	-	-	-	-	22.2	25.5	30.3	30.5	39.2	35.2	30.5	25.6	-
AS46	-	-	-	-	33.5	-	32.8	36.1	33.7	41.5	40.3	46.5	37.8	32.0	-

☐ Local bias adjustment factor used

☒ National bias adjustment factor used

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

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.

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

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 2017, Socotec UK was 100% satisfactory in all AIR PT/WASP trials.

Diffusion Tube Bias Adjustment Factors

Ashford Borough Council does not undertake any automatic monitoring and therefore 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 2017 of 0.77 (based on 27 studies). The spreadsheet is shown below in Figure C.1. The bias adjustment factors for previous years were 0.81 in 2013, 0.81 in 2014, 0.79 in 2015 and 0.77 in 2016.

National Diffusion Tube Bias Adjustment Factor Spreadsheet						Spreadsheet Version Number: 03/18					
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										This spreadsheet will be updated at the end of June 2018	
Whenever presenting adjusted data, you should state the adjustment factor used and the version of the spreadsheet										LAQM Helpdesk Website	
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. Where there is more than one study, use the overall factor ² shown in blue at the foot of the final column.					
If a laboratory is not chosen, we have no data for this laboratory.		If a preparation method is not chosen, we have no data for this method or this laboratory.		If a year is not chosen, we have no data.		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 see your selection, click on the 'M' from the pop-up list</small>		Year <small>To see your selection, click on the 'Y'</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)	
11											
2261	ESG Didcot	50% TEA in acetone	2017	R	Suffolk Coastal DC	12	45	37	21.7%	G	0.82
2262	ESG Didcot	50% TEA in acetone	2017	R	Dumfries and Galloway Council	12	36	29	23.3%	G	0.81
2264	ESG Didcot	50% TEA in acetone	2017	K5	Marleybone Road Intercomparison	12	106	79	34.3%	G	0.74
2277	ESG Didcot	50% TEA in acetone	2017	R	Vale of White Horse District Council	11	31	25	26.0%	G	0.79
2283	ESG Didcot	50% TEA in acetone	2017	UB	Cardiff City Council	10	29	21	35.1%	G	0.74
2285	ESG Didcot	50% TEA in acetone	2017	R	Cambridge City Council	12	45	33	37.7%	G	0.73
2287	ESG Didcot	50% TEA in acetone	2017	R	Wrexham County Borough Council	12	20	17	14.5%	G	0.87
2288	ESG Didcot	50% TEA in acetone	2017	UI	North Lincolnshire Council	12	22	16	40.7%	G	0.71
2296	ESG Didcot	50% TEA in acetone	2017	K5	Caerphilly CBC	12	37	32	15.8%	G	0.86
2297	ESG Didcot	50% TEA in acetone	2017	R	Caerphilly CBC	11	44	29	51.2%	G	0.66
2298	ESG Didcot	50% TEA in acetone	2017	UB	City of York Council	12	23	15	53.4%	G	0.65
2299	ESG Didcot	50% TEA in acetone	2017	R	City of York Council	10	37	28	30.8%	G	0.76
2300	ESG Didcot	50% TEA in acetone	2017	R	City of York Council	11	32	23	41.0%	G	0.71
2301	ESG Didcot	50% TEA in acetone	2017	R	City of York Council	12	40	25	58.6%	G	0.63
2305	ESG Didcot	50% TEA in acetone	2017	R	Hambleton District Council	10	21	20	4.0%	G	0.96
2306	ESG Didcot	50% TEA in acetone	2017	R	Horsham District Council	11	35	29	18.1%	G	0.85
2307	ESG Didcot	50% TEA in acetone	2017	R	Horsham District Council	12	31	26	21.3%	G	0.82
2308	ESG Didcot	50% TEA in acetone	2017	R	Horsham District Council	11	33	23	41.1%	G	0.71
2315	ESG Didcot	50% TEA in acetone	2017	UC	Leeds City Council 1	12	41	32	28.5%	G	0.78
2316	ESG Didcot	50% TEA in acetone	2017	R	Leeds City Council 10	11	48	38	25.1%	S	0.80
2317	ESG Didcot	50% TEA in acetone	2017	R	Leeds City Council 2	12	47	35	34.4%	S	0.74
2318	ESG Didcot	50% TEA in acetone	2017	R	Leeds City Council 4	11	56	43	29.1%	S	0.77
2319	ESG Didcot	50% TEA in acetone	2017	R	Leeds City Council 7	11	38	27	33.6%	S	0.72
2332	ESG Didcot	50% TEA in acetone	2017	R	Slough Borough Council	12	45	35	26.4%	G	0.79
2333	ESG Didcot	50% TEA in acetone	2017	UB	Slough Borough Council	12	32	25	28.6%	G	0.78
2334	ESG Didcot	50% TEA in acetone	2017	UB	Slough Borough Council	11	39	33	19.2%	G	0.84
2338	ESG Didcot	50% TEA in acetone	2017	R	Tunbridge Wells	12	56	40	38.2%	G	0.72
2633	ESG Didcot	50% TEA in acetone	2017		Overall Factor ² (27 studies)				Use		0.77

Figure C.1: National bias adjustment factor spreadsheet

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

Annualisation: Short-term to Long-term Data Adjustment

For diffusion tube monitoring where data capture for the year was less than 75%, data have been annualised using a ratio factor derived from measured NO₂ concentrations at AURN urban background automatic monitoring stations located at Canterbury, Eastbourne, Thurrock and Southend-on-Sea. In 2017, all stations had data capture over 97%; the annual and associated period mean concentrations for each of the monitoring stations are outlined in Table C.1 below. The ratio factor applied has then been determined from the average of the ratios from all four monitoring stations.

An annualisation factor of 0.93 was used to scale the NO₂ concentrations at diffusion tube AS45* (valid data capture for 2017 of 41.7%). For diffusion tube AS45** (valid data capture for 2017 of 50.0%) an annualisation factor of 1.09 was used, and for diffusion tube AS46 (valid data capture for 2017 of 58.3%) an annualisation factor of 1.10 was used.

Table C.2 – Determination of Annualisation Factors

Site	Annual Mean (A_m)	Annual Mean Data Capture (%)	For diffusion tube AS45*			For diffusion tube AS45**			For diffusion tube AS46		
			Period Mean (P_m)	Period Data Capture (%)	Ratio Factor (A_m/P_m)	Period Mean (P_m)	Period Data Capture (%)	Ratio Factor (A_m/P_m)	Period Mean (P_m)	Period Data Capture (%)	Ratio Factor (A_m/P_m)
Canterbury	14.90	98.9	16.23	98.9	0.92	13.64	98.9	1.09	13.57	98.9	1.10
Eastbourne	12.34	99.3	14.44	99.3	0.85	10.33	99.3	1.19	10.48	99.2	1.18
Thurrock	28.19	97.7	28.35	99.0	0.99	28.03	96.4	1.01	27.16	96.9	1.04
Southend-on-Sea	20.17	97.8	21.31	98.9	0.95	19.06	96.8	1.06	18.66	97.2	1.08
Average					0.93	Average		1.09	Average		1.10

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

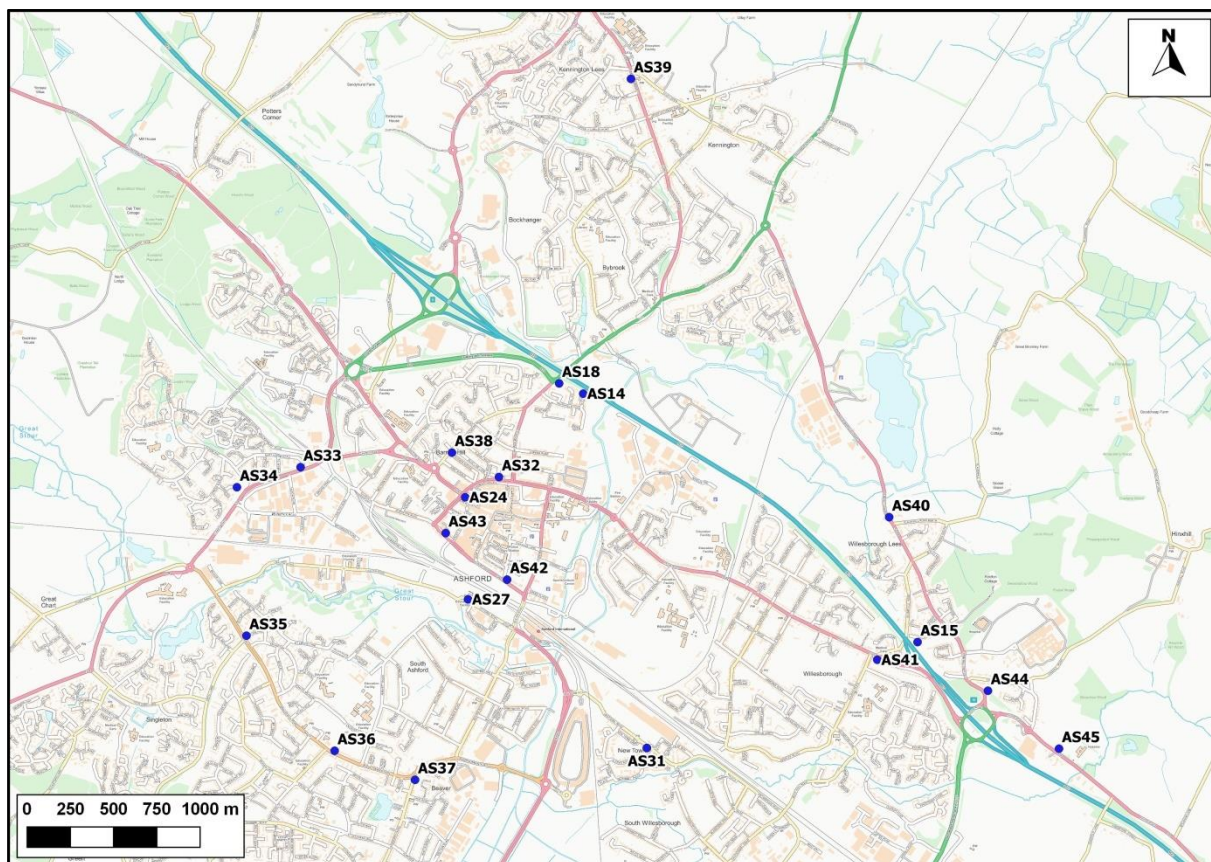


Figure D.1: Map of Non-Automatic Monitoring Locations

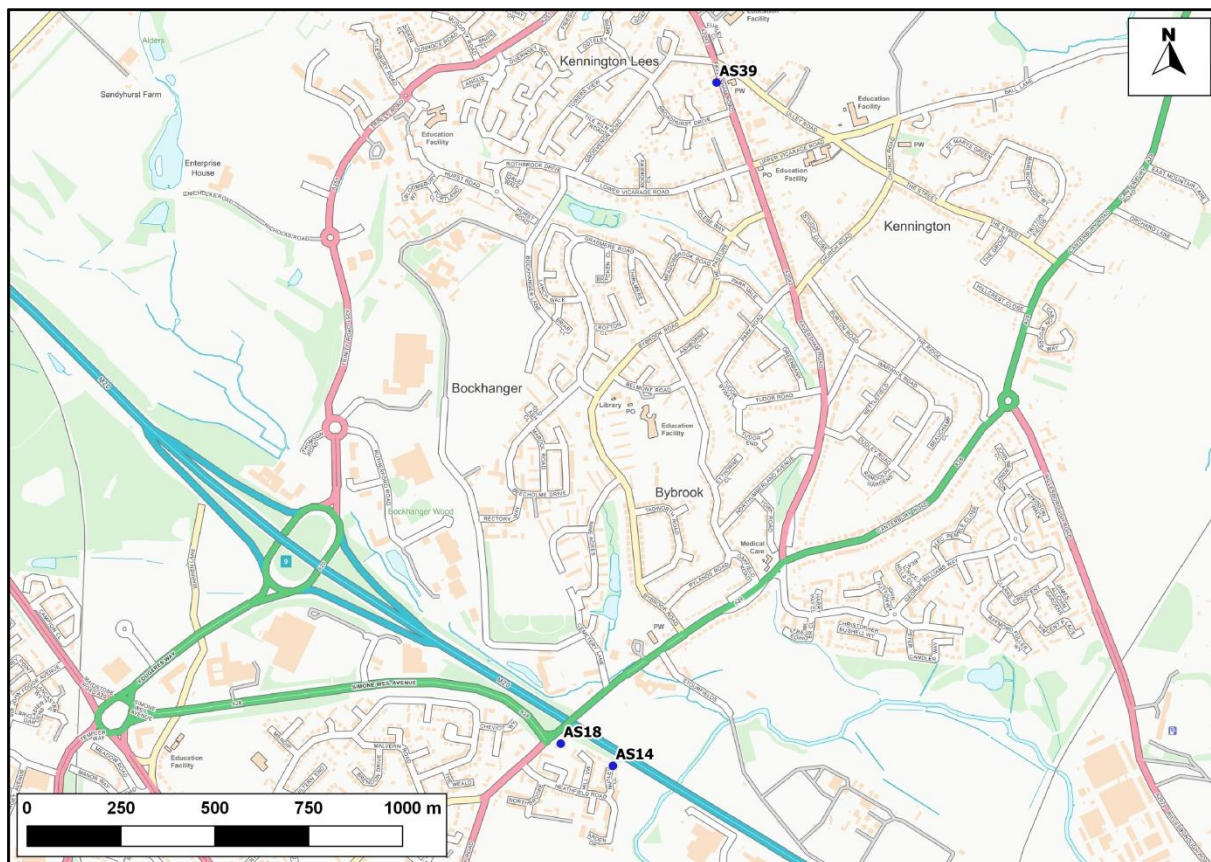


Figure D.2: Diffusion Tubes North of Ashford

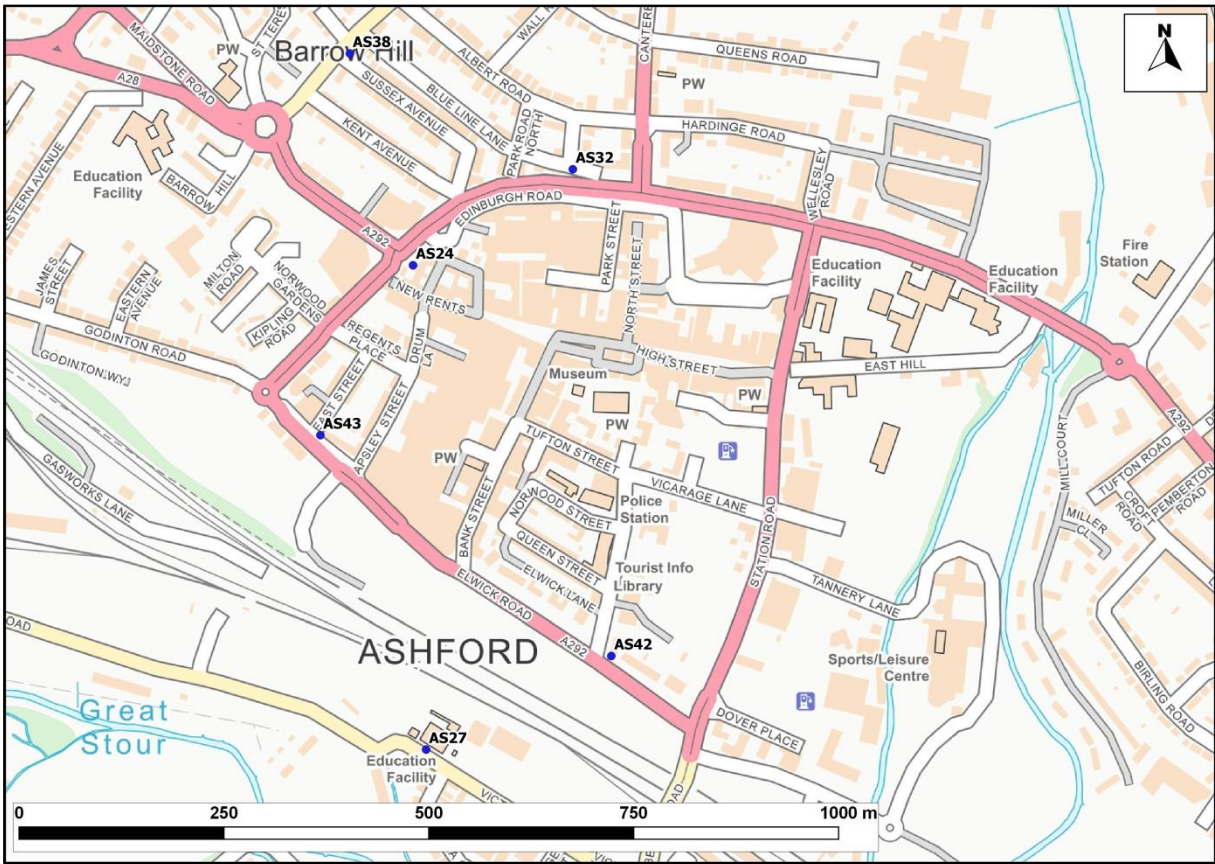


Figure D.3: Diffusion Tubes Centre of Ashford

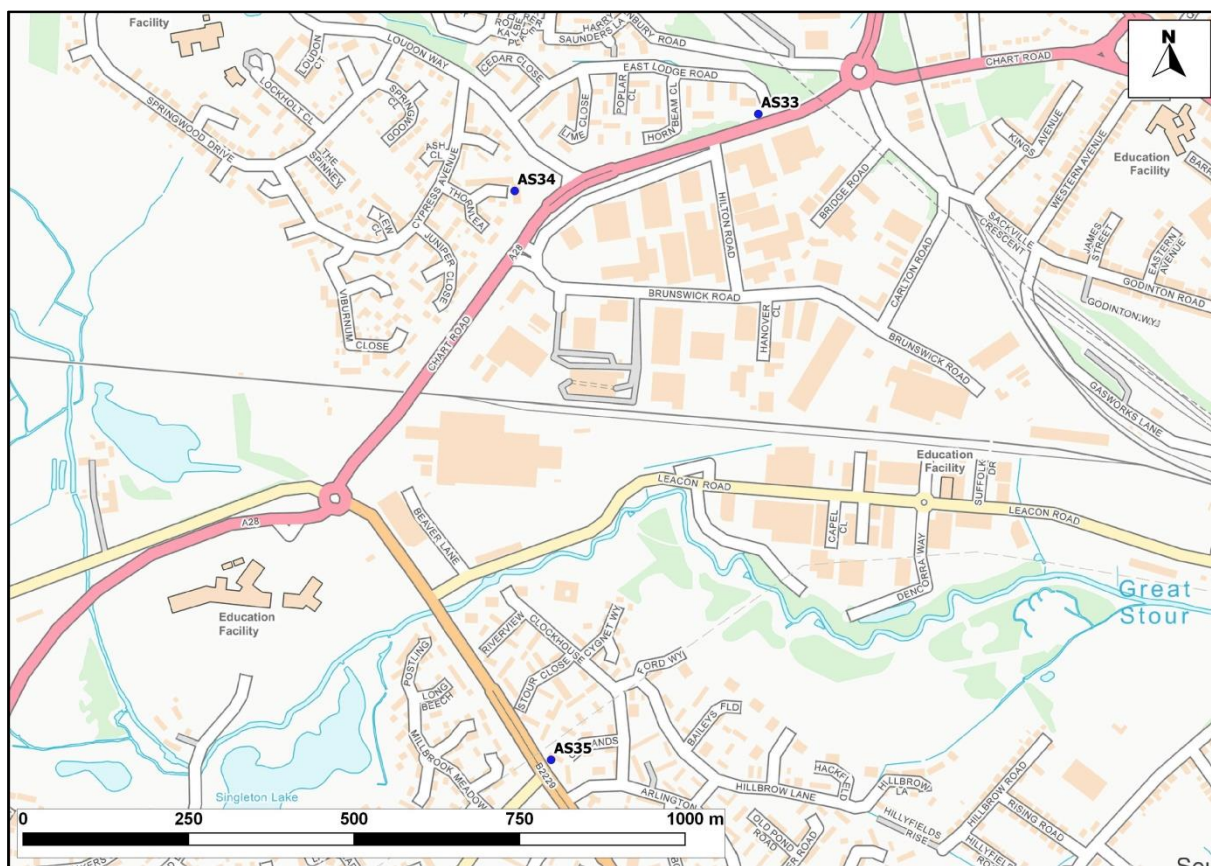


Figure D.4: Diffusion Tubes West of Ashford

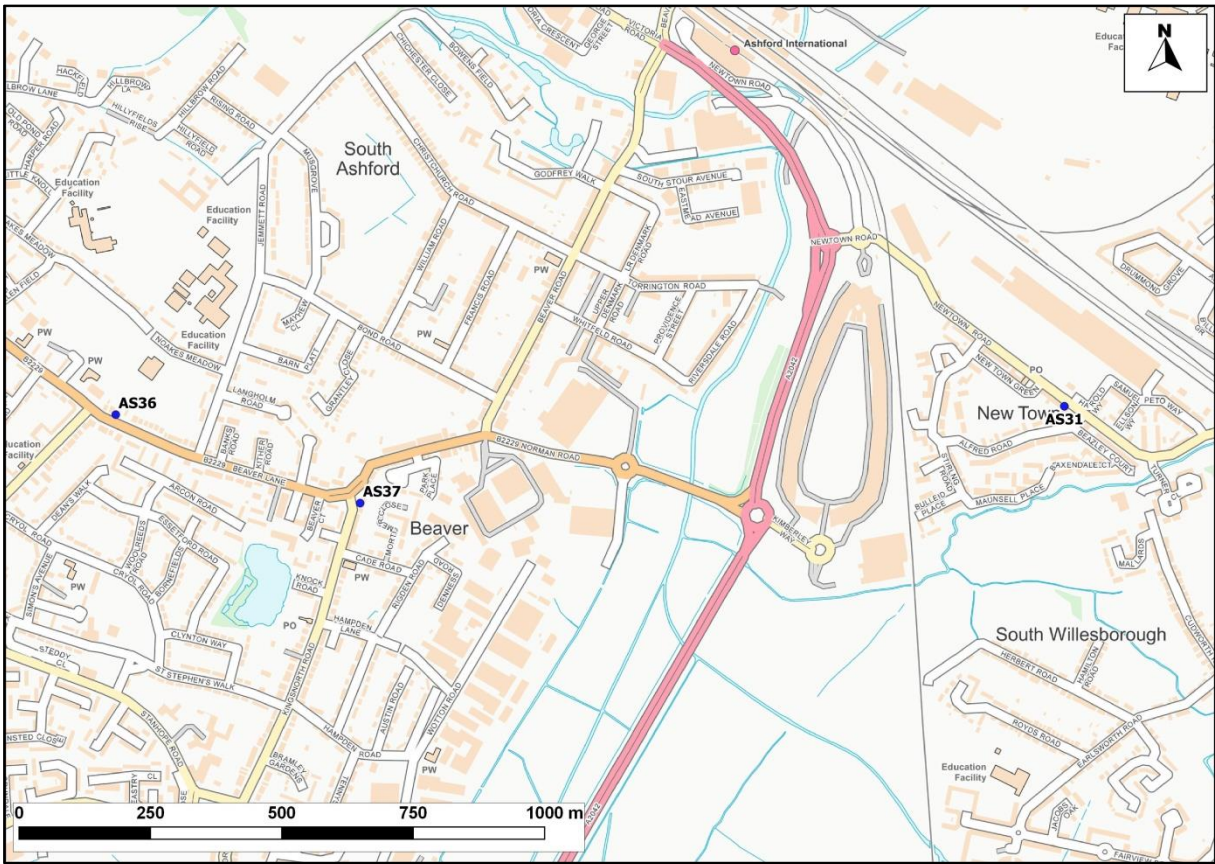


Figure D.5: Diffusion Tubes South of Ashford

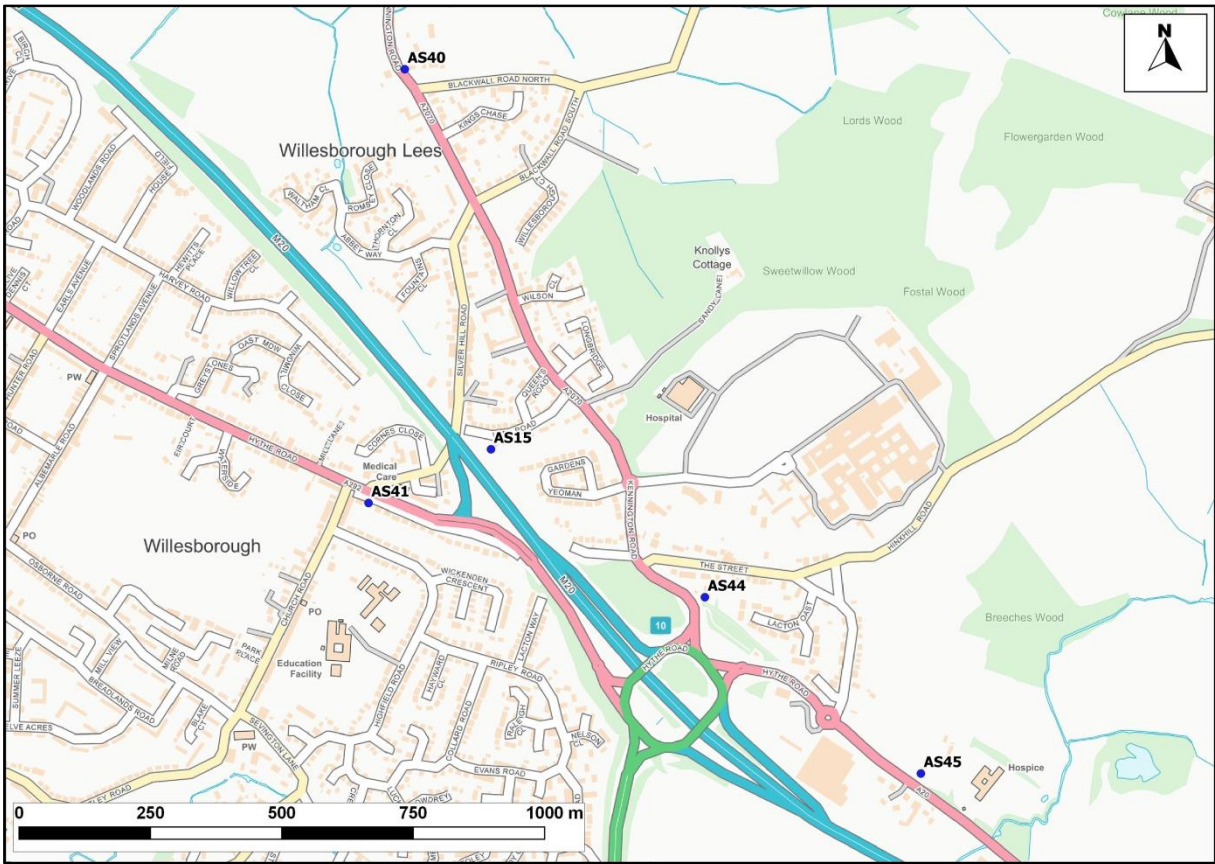


Figure D.6: Diffusion Tubes East of Ashford

Appendix E: Summary of Air Quality Objectives in England

Table E.1 – Air Quality Objectives in England

Pollutant	Air Quality Objective ⁶	
	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

⁶ The units are in microgrammes of pollutant per cubic metre of air (µg/m³).

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
$\mu\text{g}/\text{m}^3$	Microgrammes per cubic metre
NO_2	Nitrogen Dioxide
NO_x	Nitrogen Oxides
PM_{10}	Airborne particulate matter with an aerodynamic diameter of $10\mu\text{m}$ (micrometres or microns) or less
$\text{PM}_{2.5}$	Airborne particulate matter with an aerodynamic diameter of $2.5\mu\text{m}$ 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*.