Tendring District Council

2021 Air Quality Annual Status Report (ASR)

In fulfilment of Part IV of the Environment Act 1995

Local Air Quality Management

June 2021

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Executive Summary: Air Quality in Our Area

Air Quality in Tendring

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

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

Within Tendring air quality is generally good. Road traffic emissions and port activities are the most significant source of air pollution in Tendring. Levels of NO_2 concentrations remain low at the majority of monitoring locations within Tendring.

A number of additional monitoring locations have been implemented within Tendring in 2020. New potential sources of pollution have been identified due to increased congestion and a raise in new residential developments being built across the district.

The global outbreak of coronavirus in 2019 affected every single one of us and made 2020 a year like no other. Due to movement restrictions and a significant slowdown of social and economic activities, air quality has improved in many authorities including Tendring. The substantial reduction in road traffic across Tendring resulted in levels of NO_2 plummeting in April and through to August. The levels of NO_2 increased in line with restrictions easing within September and November.

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

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

[3] Defra. Air quality appraisal: damage cost guidance, July 2020

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

The monitoring undertaken shows no exceedances of the air quality objectives, with the exception of Wellesley Road and Valley Road, Clacton on Sea and Clacton Road, St Osyth recording high levels of NO_2 in January and November 2020.

Actions to Improve Air Quality

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

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

Tendring are continuing to take steps to improve the monitoring network across the district. In 2020, twelve new monitoring locations for NO_2 were added across the district where new sources of potential pollution were identified. Further additional monitoring has also already been implemented for 2021.

Tendring's Environmental Protection team continue to provide advice to the Planning Team regarding proposed development in an attempt to minimise air pollution impacts and maintain the good levels of air quality in Tendring.

In 2019 Tendring District Council declared a climate emergency with an aim to reduce emissions from its own business activities to net zero by 2030. In 2020 an action plan was published in support of this ambition. Clearly the burning of fossil fuels either through heating homes or road transport are the main contributors to emissions as a whole in the district. The Council will where possible promote a reduction in fossil fuel burning in the district as part of a wider community engagement strategy around climate change. The

[5] Defra. Clean Air Strategy, 2019

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

Council recognises the implications of a warming climate on air quality, in particular increased pollen levels and triggers for allergy sufferers.

Conclusions and Priorities

In conclusion there have been no exceedances in the air quality objectives for concentrations of NO_2 and SO_2 within Tendring.

A few high concentrations of NO_2 were recorded on Wellesley Road and Valley Road, Clacton on Sea and Clacton Road, St Osyth in 2020.

Tendring will prioritise interventions to ensure air quality is maintained at the current low levels.

No significant pollution sources have been identified from proposed residential or industrial developments within Tendring in 2020.

Essex County Council have proposed a new Link Road which will connect two major roads within Tendring, the A120 and the A133, and a new Rapid Transit System. The proposed road will enable people to access the A120 and A12 reducing the need to travel directly through Colchester, which plans to help manage congestion on local roads. The new road will form part of the Tendring Colchester Garden Community. The Council will continue to review the development of the Garden Community and the impact it may have on the local air quality. Tendring have added a NO_2 monitoring location at Colchester Road in Elmstead which is nearby the proposed new road.

More information can be found online: A120 to A133 Link Road | Essex County Council (essexhighways.org)

Planning has been submitted via Essex County Council for a proposed extension to Martells Quarry for the extraction, processing, sale and distribution of silica sand and gravel, and subsequent restoration using inert materials along with the creation of a new access. It is considered that the risk of exceeding the relevant Air Quality Objectives for PM_{10} is low.

Proposed planning was submitted for the erection of two poultry rearing units and associated infrastructure at Oakley Road, Wix with the total capacity of the site housing 100,000 birds. It is considered that the risk of exceeding the relevant Air Quality Objectives for PM_{10} is unlikely.

Local Engagement and How to get involved

The number of queries and requests for information on local air quality has increased in throughout 2020. Members of the public and actions groups are increasingly recognising the impacts of poor air quality and querying pollution levels within their area.

The public can help improve air quality in Tendring by:

- Reduce your number of car journeys, try walking or cycling instead
- Combine your trips. If going further away consider public transport such as bus or train
- Give car-sharing a go
- Consider switching energy suppliers to companies who use renewable energy sources
- Avoid burning at home, open fires and wood-burning stoves have a significant impact on air pollution
- Plant more trees, plants can help clean the air around them by consuming CO2

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1 Local Air Quality Management

This report provides an overview of air quality in Tendring during 2020. 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 Tendring to improve air quality and any progress that has been made.

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

2 Actions to Improve Air Quality

2.1 Air Quality Management Areas

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

There are no declared AQMAs within Tendring.

2.2 Progress and Impact of Measures to address Air Quality in Tendring

Defra's appraisal of last year's ASR concluded:

'The Local Authority has no AQMAs across the district.'

'The latest monitoring highlights that there are no current exceedances of any air quality objectives within district for any pollutant.'

'Annual NO_2 concentrations have generally decreased since 2017 and steadily over the past 5 years except DT12, DT13, DT21, DT22 and DT16 which have slightly increased. The council could add more diffusion tubes to these areas to isolate a reasoning for this increase.'

In response to DEFRA's appraisal, Tendring have added more diffusion tubes in areas where NO_2 has increased over the last 5 years and has increased its monitoring network. In total 12 new monitoring locations have been added across the district for 2020.

Tendring has taken forward a number of direct measures during the current reporting year of 2020 in pursuit of improving local air quality. Details of all measures completed, in progress or planned are set out in Table 2..

Table 2.2 – Progress on Measures to Improve Air Quality

Measure No.	Measure	Category	Classification	Year Measure Introduced	Estimated / Actual Completion Year	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Barriers to Implementation
1	Identify traffic 'bottlenecks'	Traffic Management	Other	2018	Ongoing	TDC	N/A	No	N/A	N/A	Ongoing implementation	Not quantifiable	N/A	Implementation on-going	12 new monitoring locations added in 2020
2	Company Vehicle Procurement	Promoting Low Emission Transport	Company Vehicle Procurement - Prioritising uptake of low emission vehicles	2018	Ongoing	TDC	TDC	No	N/A	£2,565,000	Implementation	Preventable emissions	Number of LEV	Implementation on-going	TDC have one electric van in the fleet
3	Responding to planning consultations consider air quality impacts	Policy Guidance and Development Control	Air Quality and Planning Guidance	2018	Ongoing	TDC	N/A	No	N/A	N/A	Ongoing implementation	Preventable emissions	Respond to planning consultations within timescale	Environmental Protection team responded to 342 planning consultation in 2020	
4	Encourage good practice regarding control of PM	Environmental Permits	Other	Ongoing	Ongoing	TDC	N/A	No	N/A	N/A	Ongoing implementation	Not quantifiable	Number of complaints	No complaints in 2020	
5	The Essex Pollution Group shares knowledge and best practices	Policy Guidance and Development Control	Regional group co-ordinating	Ongoing	Ongoing	TDC and other Essex authorities	N/A	No	N/A	N/A	Ongoing implementation	Not quantifiable	N/A	Implementation on-going	
6	Home working policy	Policy Guidance and Development Control	Reduction in vehicle use	2018	2019	TDC	N/A	No	N/A	N/A	Completed	Reduced vehicle emissions	Number of officers working from home	TDC Remote Working Policy implemented in Jan 2019	Home working numbers at TDC significantly increased in 2020 due to COVID lockdown restrictions
7	Update council's Air Quality page	Promoting Air Quality and awareness	Other	2018	2020	TDC	N/A	No	N/A	N/A	Completed	Not quantifiable	N/A	Completed	Delayed due to resource
8	Member of Essex Air	Policy Guidance and Development Control	Regional Groups Co-ordinating programmes to develop Area wide Strategies to reduce emissions and improve air quality	Ongoing	Ongoing	Essex Air TDC	N/A	No	N/A	N/A	Ongoing implementation	Not quantifiable	N/A	Implementation on-going	TDC to submit ASR to Essex Air
9	Climate Change Emergency Declaration	Policy Guidance and Development Control	Air Quality and Planning Guidance	2019	2030	TDC	TDC	No	N/A	£7.3million	Implementation	Reduced vehicle emissions	Reduction in carbon emissions	Energy Audits carried out on council office buildings. Climate Change Action Plan complete	Implementation on-going
10	Installation of EV charging points	Promoting Low Emission Transport	Procuring alternative refuelling infrastructure to promote Low Emission Vehicles, EV recharging	2019	Ongoing	TDC	TDC	No	N/A	N/A	Implementation	Preventable emissions	Number of charging points	Implementation on-going	EV charging points installed in two TDC carparks 2019

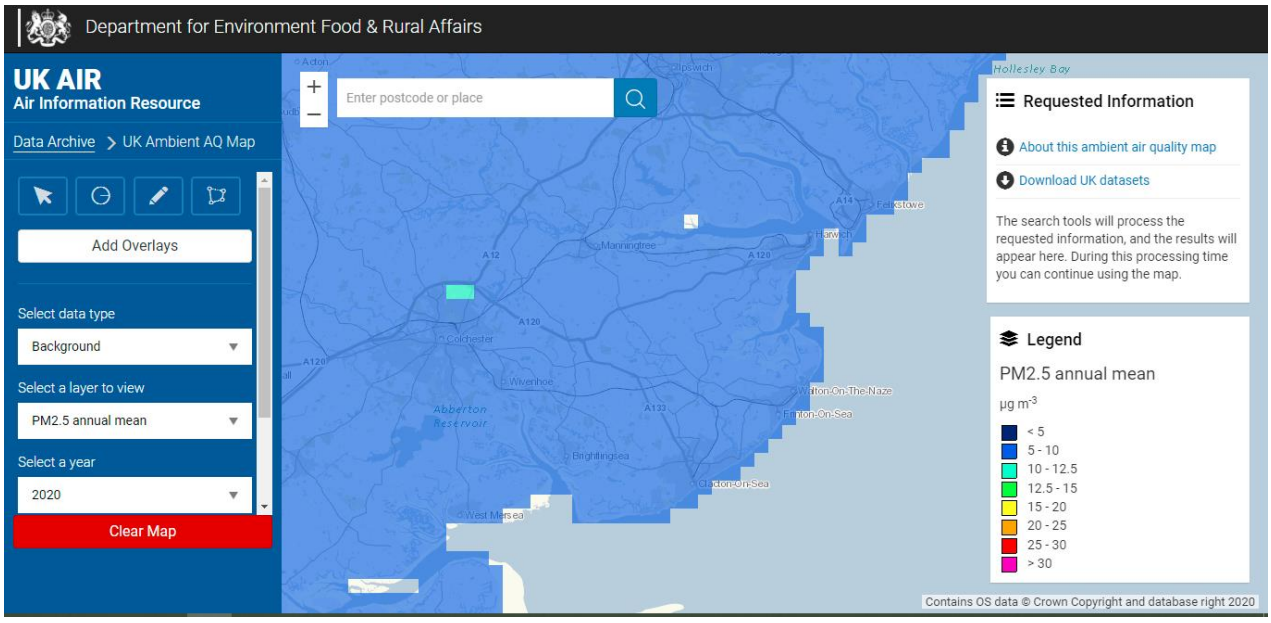
2.3 $PM_{2.5}$ – Local Authority Approach to Reducing Emissions and/or Concentrations

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

Tendring have not identified any areas of $PM_{2.5}$ hotspots in 2020 and do not monitor $PM_{2.5}$.

Tendring is taking the following measures to address $PM_{2.5}$:

- In the absence of $PM_{2.5}$ monitoring, Tendring review the Defra background mapping resource.



[UK Ambient Air Quality Interactive Map (defra.gov.uk)]

- The Environmental Protection team ensure where necessary $PM_{2.5}$ air quality assessments are submitted in support of planning applications.
- The Environmental Protection team undertake regular inspections of permitted industry where combustion and non-combustion processes could lead to anthropogenic emissions of $PM_{2.5}$.
- The Essex Air twitter account is encouraging the reporting of excessively smoky vehicle exhaust emissions through the DVSA reporting service. It is possible to report either heavy goods vehicles or public service vehicles (buses).

The Public Health Indicators for $PM_{2.5}$ provide a useful indication as to the burden associated with concentrations of $PM_{2.5}$ within the local authority area. The latest available data (2019) shows the fraction of mortality attributable to particulate air pollution in Tendring is 5.1%.

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

This section sets out the monitoring undertaken within 2020 by Tendring and how it compares with the relevant air quality objectives. In addition, monitoring results are presented for a five-year period between 2016 and 2020 to allow monitoring trends to be identified and discussed.

3.1 Summary of Monitoring Undertaken

3.1.1 Automatic Monitoring Sites

There is one automatic (continuous) monitoring site within Tendring. The site is part of the Automatic Urban and Rural Network (AURN). Table A.1 in Appendix A shows the details of the automatic monitoring sites.

Defra's UK-Air website page presents automatic monitoring results for the site at St Osyth, Tending.

Maps showing the location of the monitoring sites are provided in Appendix D. Further details on how the monitors are calibrated and how the data has been adjusted are included in Appendix C.

3.1.2 Non-Automatic Monitoring Sites

Tendring undertook non- automatic (i.e. passive) monitoring of NO_2 at 19 sites and monitoring of SO_2 at five sites during 2020. Table A.2 in Appendix A presents the details of the non-automatic sites.

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

3.2 Individual Pollutants

The air quality monitoring results presented in this section are, where relevant, adjusted for bias, annualisation (where the annual mean data capture is below 75% and greater

than 25%), and distance correction. Further details on adjustments are provided in Appendix C.

3.2.1 Nitrogen Dioxide (NO_2)

Table A.3 and Table A.4 in Appendix A compare the ratified and adjusted monitored NO_2 annual mean concentrations for the past five years with the air quality objective of 40µg/m^3. Note that the concentration data presented represents the concentration at the location of the monitoring site, following the application of bias adjustment and annualisation, as required (i.e. the values are exclusive of any consideration to fall-off with distance adjustment).

For diffusion tubes, the full 2020 dataset of monthly mean values is provided in Appendix B. Note that the concentration data presented in Table B.1 includes distance corrected values, only where relevant.

Table A.4 in Appendix A compares the ratified continuous monitored NO_2 hourly mean concentrations for the past five years with the air quality objective of 200µg/m^3, not to be exceeded more than 18 times per year.

The monitoring results show that there have been no exceedances in the air quality objectives for concentrations of NO_2. The majority of monitoring locations recorded low levels of NO_2 and show that concentrations have reduced this year in comparison to previous years.

DT14 is the monitoring location for the A133 Clacton, which is the main commuter route connecting Clacton to Colchester. Despite COVID restrictions, the levels of NO_2 concentrations remained stable, suggesting road traffic levels remained high during lockdown.

DT21 is the monitoring location for Harwich town centre. Despite COVID restrictions, concentrations remained stable within Harwich town centre, this is likely to be because nearby supermarkets, pharmacies and banks remained open during lockdown. Levels of NO_2 have continued to increase at DT21 over the last five years, Tendring will add more diffusion tubes in this area to isolate a reasoning for this increase.

High concentrations of NO_2 exceeding the air quality objective of 40 µg/m^3 were recorded at three sites throughout the monitoring year.

DT22 recorded exceedances of 49.9 µg/m^3 in January and 44.2 µg/m^3 in November 2020. The concentrations of NO_2 have continue to increase at this site over the last five years.

DT22 is the monitoring location for Wellesley Road which is one of the main roads into Clacton, leading to the town centre and seafront. It is a busy road and can be heavily congested by road traffic during rush hour. The main source of the pollution is from the queueing traffic at the junction for Oxford Road and mini roundabout to Station Road, Clacton on Sea. Tendring has extended its monitoring network along Wellesley Road for 2021.

DT31 is one of the new monitoring locations implemented in 2020 at Valley Road, Clacton on Sea and recorded NO_2 exceedances of 44.2µg/m^3 in January and 42.3µg/m^3 in November 2020. It is a busy road and gets particularly congested at the mini roundabout which leads into ASDA supermarket and industrial premises on Oxford Road. The main source of the pollution is from the road traffic. Tendring has extended its monitoring network along Valley Road for 2021.

DT40 is another new monitoring location for 2020 at Clacton Road, St Osyth. The monitoring location is positioned at the busy cross road junction where traffic queues throughout the day. In January 2020 the site recorded an exceedance of 40.4 µg/m^3. The main source of the pollution is from the traffic flow and congestion caused by the junction. Tendring has increased monitoring in this area for 2021.

Tendring noted that high concentrations of NO_2 were recorded at DT30 with 36.1 µg/m^3, DT33 with 37.5 µg/m^3 and DT37 35.5 µg/m^3 in January 2020. Tendring will continue to monitor at these locations and look to increase monitoring within these areas.

Tendring has extended its monitoring network to cover the Manningtree and Lawford area in 2020. Recently two large residential developments have been built on land off Cox's Hill and Long Road. Further residential development is also proposed off Long Road. The monitoring location DT36 at Cox's Hill measures the traffic flow and congestion from the train station under pass. The monitoring location DT37 at Long Road, Lawford measures the traffic flow from the busy main road. The roads are also the main commuter roads into Colchester and Ipswich. No exceedances have been recorded in these locations however monitoring will continue.

3.2.2 Sulphur Dioxide (SO_2)

Table A.5 in Appendix A compares the ratified continuous monitored SO_2 concentrations for 2020 with the air quality objectives for SO_2.

Tendring monitors SO_2 due to Harwich International Port and Harwich Haven Authority located in the North of the district. Tendring undertook SO_2 monitoring at five sites during 2020 using diffusion tubes which were representative of public exposure. There have been no exceedances of the air quality objectives for SO_2 and levels remain very low. The full dataset of SO_2 concentrations for monitoring year 2020 can be found in Table B.2. The trends in Annual Mean SO_2 concentrations can be found in Figure A.3

Like many ports authorities across the UK, including nearby at Felixstowe Port, there has been a significant reduction in SO_2 pollution from port activities over the last 10 years. This is due to changes made in January 2010, where all ships using fuel at berth in EU ports for significant periods were required to use exclusively low-sulphur fuel (0.1%), and from 1 July 2010, within Sulphur Emission Control Areas (SECAs) defined in the North Sea, English Channel and Baltic Sea, all ships were required to use fuel with sulphur content not exceeding 1.0%.

In January and February 2019 concentrations of SO_2 exceeded at the Bathside Bay, Harwich (DT18) with concentrations of 619.6 µg/m^3 and 125.3 µg/m^3. As seen in Figure A.3. There is no clear evidence to suggest the reasons behind the abnormally high results. SO_2 concentrations for the reminder of the year stabilised and remained low.

Due to ongoing low concentrations this year and over the past five years, it is no longer necessary for Tendring to monitor SO_2. Tendring will replace some of the SO_2 monitoring stations in Harwich with NO_2 monitoring.

Appendix A: Monitoring Results

Table A.1 – Details of Automatic Monitoring Sites

Site ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Monitoring Technique	Distance to Relevant Exposure (m) (1)	Distance to kerb of nearest road (m) (2)	Inlet Height (m)
CM1	St Osyth	Rural	610431	213210	NO2; O3	NO	Chemiluminescent	750	2.1	4

Notes:

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

(2) N/A if not applicable

Table A.2 – Details of Non-Automatic Monitoring Sites

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) (1)	Distance to kerb of nearest road (m) (2)	Tube Co-located with a Continuous Analyser?	Tube Height (m)
DT9	Harwich Hospital	Roadside	624294	231258	NO_2	NO	14	4	No	2.5
DT11	Town Hall Clacton	Urban Background	617272	215021	NO_2	NO	N(29)	9	No	2.5
DT14	A133 Clacton	Roadside	616163	218287	NO_2	NO	N(11)	2.8	No	3
DT20	A120 Hempstalls Farm	Roadside	612619	227395	NO_2	NO	N(243)	1	No	2.5
DT21	High Street, Dovercourt	Urban centre	625600	231601	NO_2	NO	0	2.2	No	2.5
DT22	Wellesley Road, Clacton	Roadside	617451	215385	NO_2	NO	4.7	2.3	No	2.5
DT23	Walton Road, Walton	Roadside	625163	221687	NO_2	NO	N(20)	1.5	No	2.5
DT24	Wellington Road Carpark	Roadside	626191	232588	SO_2	NO	9.6	3.5	No	2.5
DT25	The Quay	Roadside	625977	232866	SO_2	NO	N(25)	7	No	2.5
DT26	Bathside Bay	Roadside	625639	231960	SO_2	NO	N(115)	N/A	No	2.5
DT27	Harwich International	Industrial	623978	231633	SO_2	NO	N(365)	N/A	No	2.5
DT28	Foster Road	Roadside	623386	232248	SO_2	NO	5.4	2.5	No	2.5
DT29	Clacton Town Centre	Urban centre	617397	214882	NO_2	NO	0	N/A	No	2.5
DT30	Clacton Hospital / sea front	Roadside	617232	214219	NO_2	NO	7	2.8	No	2.5
DT31	Valley Road, Clacton	Roadside	617888	216298	NO_2	NO	5.3	3.4	No	2.5
DT32	London Road, Clacton	Roadside	617139	216407	NO_2	NO	8	5	No	2.5
DT33	High Street, Thorpe	Roadside	617887	222370	NO_2	NO	0	2.3	No	2.5
DT34	Connaught Avenue	Roadside	623643	220058	NO_2	NO	0	3.4	No	2.5

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) (1)	Distance to kerb of nearest road (m) (2)	Tube Co-located with a Continuous Analyser?	Tube Height (m)
DT35	High Street, Manningtree	Roadside	610596	231858	NO_2	No	0	2	No	2.5
DT36	Cox's Hill, Manningtree	Roadside	609595	232190	NO_2	No	5.3	2.6	No	2.5
DT37	Long Road, Manningtree	Roadside	609537	231036	NO_2	No	4	2.5	No	2.5
DT38	A133 Elmstead Market	Roadside	606168	224553	NO_2	No	3.5	3	No	2.5
DT39	Church Road Brightlingsea	Roadside	608285	217741	NO_2	No	10	1.8	No	2.5
DT40	Clacton Road, St Osyth	Kerbside	612328	215659	NO_2	No	0.5	1.3	No	2.5

Notes:

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

(2) N/A if not applicable.

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

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2020 (%) (2)	2016	2017	2018	2019	2020
CM1	610431	213210	Rural	95	95	13	15	13	13	8

Notes:

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

Exceedances of the NO_2 annual mean objective of 40µg/m^3 are shown in **bold**.

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

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

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

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

Table A.4 – Annual Mean NO_2 Monitoring Results: Non-Automatic Monitoring (µg/m^3)

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) [1]	Valid Data Capture 2020 (%) [2]	2016	2017	2018	2019	2020
DT9	624294	231258	Roadside	100	100	16.7	18.7	17.4	17.5	15.6
DT11	617272	215021	Urban background	100	100	14.2	17	13.7	14	11.0
DT14	616163	218287	Roadside	100	100	34.2	**42.7**	32.8	31.5	20.6
DT20	612619	227395	Roadside	91.6	91.6	21.9	24.2	20.3	20.7	15.8
DT21	625600	231601	Roadside	100	100	19.8	22.6	20.3	20	18.4
DT22	617451	215385	Roadside	100	100	20.1	22.6	20.1	19	25.6
DT23	625163	221687	Roadside	91.6	91.6	18.9	20.6	20.1	19	15.0
DT29	617397	214882	Urban Centre	100	100	-	-	-	-	16.4
DT30	617232	214219	Roadside	100	100	-	-	-	-	16.8
DT31	617888	216298	Roadside	100	100	-	-	-	-	24.0
DT32	617139	216407	Roadside	91.6	91.6	-	-	-	-	16.0
DT33	617887	222370	Roadside	100	100	-	-	-	-	17.3
DT34	623643	220058	Roadside	100	100	-	-	-	-	15.2
DT35	610596	231858	Roadside	100	100	-	-	-	-	18.2
DT36	609595	232190	Roadside	100	100	-	-	-	-	15.4
DT37	609537	231036	Roadside	100	100	-	-	-	-	17.9
DT38	606168	224553	Roadside	91.6	91.6	-	-	-	-	17.4
DT39	608285	217741	Roadside	100	100	-	-	-	-	15.0
DT40	612328	215659	Kerbside	100	100	-	-	-	-	22.6

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

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

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

Notes:

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

Exceedances of the NO_2 annual mean objective of 40µg/m^3 are shown in **bold**.

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

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

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

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

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

Figure A.1 – Trends in Annual Mean NO_2 Concentrations

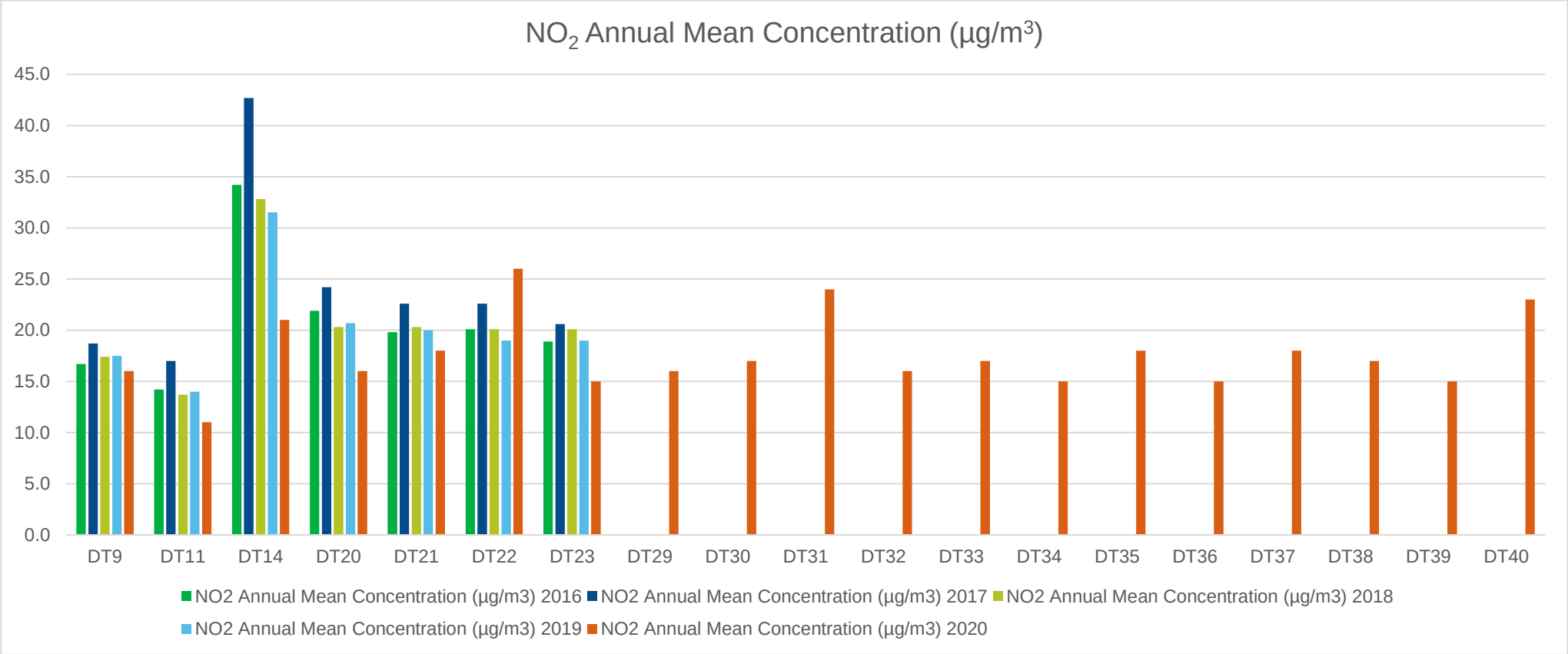


Figure A.2 – Trends in 2020 NO_2 Concentrations

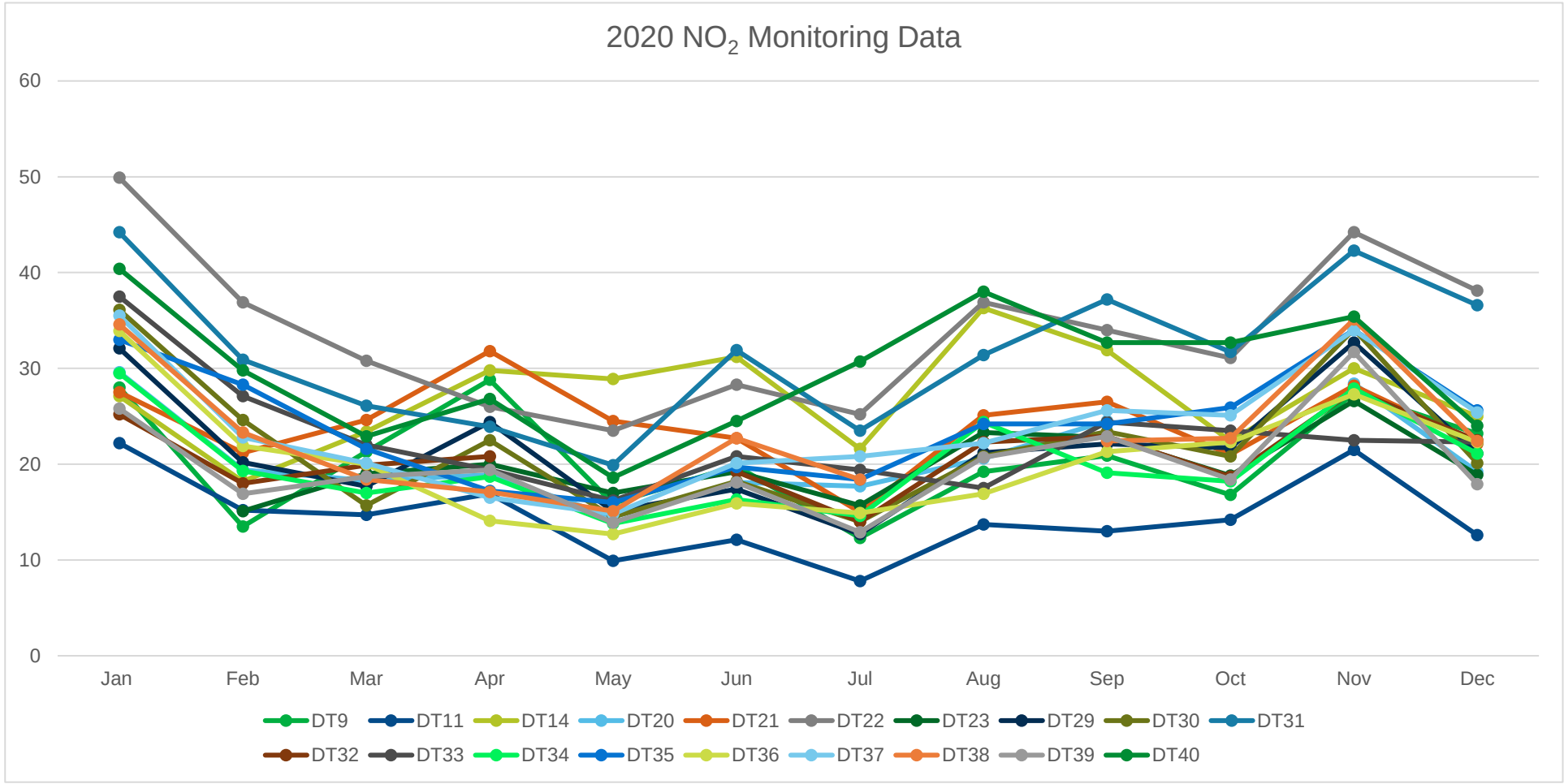


Table A.5 – SO_2 2020 Monitoring Results, Number of Relevant Instances

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2020 (%) (2)	Number of 15-minute Means > 266µg/m^3	Number of 1-hour Means > 350µg/m^3	Number of 24-hour Means > 125µg/m^3	Annual Mean
DT24	626191	232588	Roadside	-	-	-	-	-	5.8
DT25	625977	232866	Roadside	-	-	-	-	-	5.2
DT26	625639	231960	Roadside	-	-	-	-	-	6.2
DT27	623978	231633	Industrial	-	-	-	-	-	6.5
DT28	623386	232248	Roadside	-	-	-	-	-	5.1

Notes:

Results are presented as the number of instances where monitored concentrations are greater than the objective concentration.

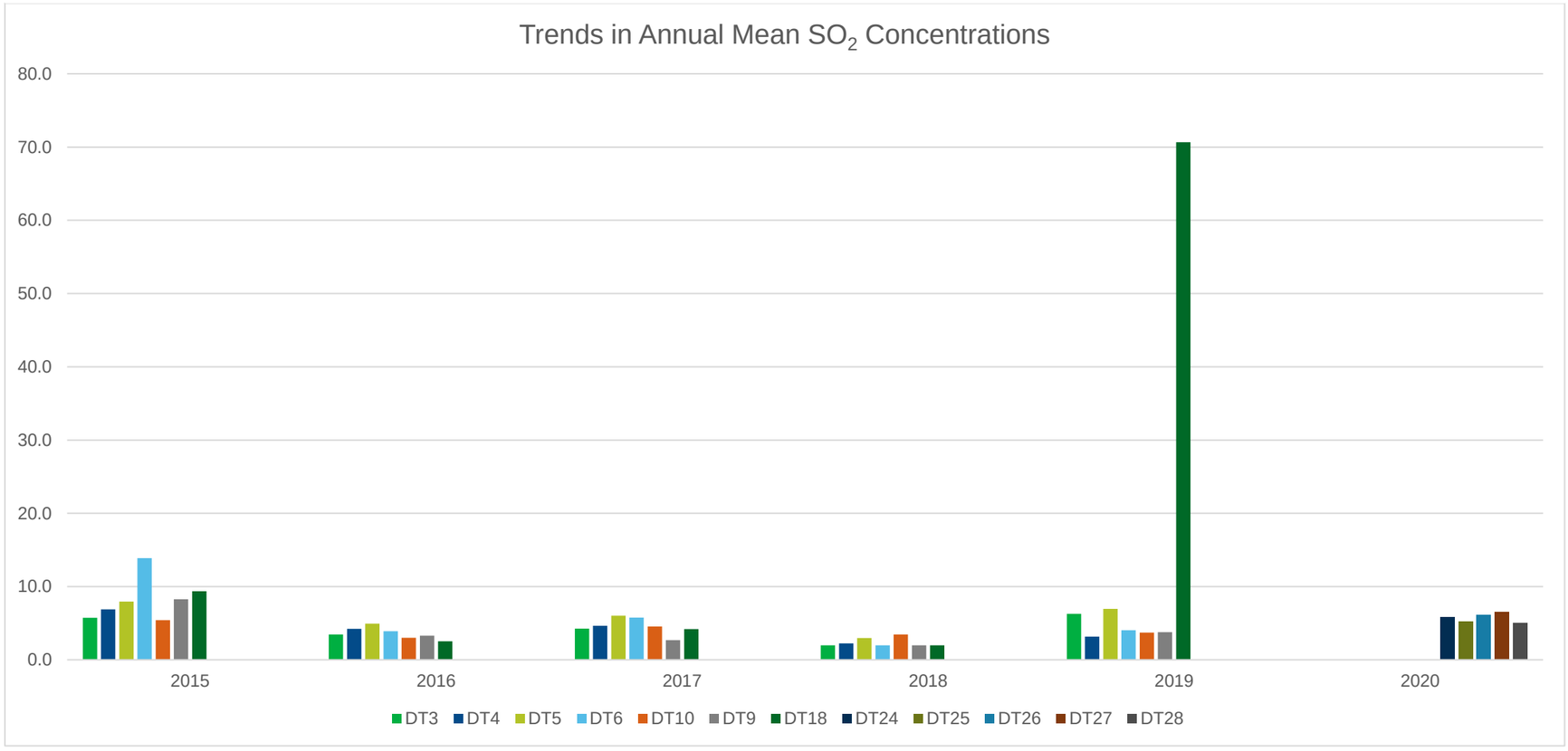
Exceedances of the SO_2 objectives are shown in **bold** (15-min mean = 35 allowed a year, 1-hour mean = 24 allowed a year, 24-hour mean = 3 allowed a year).

If the period of valid data is less than 85%, the relevant percentiles are provided in brackets.

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

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

Figure A.3 - Trends in Annual Mean SO_2 Concentrations



Appendix B: Full Monthly Diffusion Tube Results for 2020

Table B.1 – NO_2 2020 Diffusion Tube Results ($\mu g/m^3$)

DT ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Easting)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean: Raw Data	Annual Mean: Annualised and Bias Adjusted (0.76)	Annual Mean: Distance Corrected to Nearest Exposure	Comment
DT9	624294	231258	28	13.5	21.3	28.8	15.9	19.8	12.3	19.2	20.9	16.8	27.4	23.2	20.6	15.6	-	
DT11	617272	215021	22.2	15.2	14.7	16.9	9.9	12.1	7.8	13.7	13	14.2	21.5	12.6	14.5	11.0	-	
DT14	616163	218287	27.1	18.2	23.4	29.8	28.9	31.2	21.6	36.3	31.9	22.4	30	25	27.2	20.6	-	
DT20	612619	227395	29.6	19.4	18.3	18.9	14.5	18.1	17.7	20.6	24.5	missing	28.4	19.2	20.8	15.8	-	
DT21	625600	231601	27.5	21.2	24.6	31.8	24.5	22.7	15	25.1	26.5	21	28.2	22.1	24.2	18.4	-	
DT22	617451	215385	**49.9**	36.9	30.8	26	23.5	28.3	25.2	36.9	34	31.1	**44.2**	38.1	33.7	25.6	-	
DT23	625163	221687	missing	15.1	19	20	17	19.2	15.7	23.3	22.8	18.8	26.6	18.9	19.7	15.0	-	
DT29	617397	214882	32.1	20.2	17.7	24.4	15.1	17.4	12.7	21.2	22.1	21.7	32.7	21.1	21.5	16.4	-	New site
DT30	617232	214219	36.1	24.6	15.7	22.5	14.5	18.2	14	20.8	23.4	20.8	34.1	20.1	22.1	16.8	-	New site
DT31	617888	216298	**44.2**	30.9	26.1	23.9	19.9	31.9	23.5	31.4	37.2	31.7	**42.3**	36.6	31.6	24.0	-	New site
DT32	617139	216407	25.2	18	19.9	20.8	missing	19.2	14	22.3	22.9	18.7	27.7	22.5	21.0	16.0	-	New site
DT33	617887	222370	37.5	27.1	22	19.4	16.2	20.8	19.4	17.5	24.4	23.5	22.5	22.3	22.7	17.3	-	New site
DT34	623643	220058	29.5	19.3	17	18.7	13.8	16.3	14.6	24.4	19.1	18.2	27.9	21.1	20.0	15.2	-	New site
DT35	610596	231858	33	28.3	21.6	17.2	16	19.7	18.4	24.2	24.2	25.9	34	25.6	24.0	18.2	-	New site
DT36	609595	232190	33.9	21.9	20	14.1	12.7	15.9	14.9	16.9	21.3	22.3	27.3	22.3	20.3	15.4	-	New site
DT37	609537	231036	35.5	22.8	20.1	16.5	14.8	20.1	20.8	22.2	25.6	25.1	34	25.4	23.6	17.9	-	New site
DT38	606168	224553	34.6	23.3	18.4	17.1	15.1	22.7	18.4	missing	22.4	22.7	35.1	22.4	22.9	17.4	-	New site
DT39	608285	217741	25.8	16.9	18.7	19.4	13.9	18.1	12.9	20.7	22.9	18.4	31.7	17.9	19.8	15.0	-	New site
DT40	612328	215659	**40.4**	29.8	22.9	26.8	18.6	24.5	30.7	38	32.7	32.7	35.4	24	29.7	22.6	-	New site

☐ **All erroneous data has been removed from the NO_2 diffusion tube dataset presented in Table B.1.**

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

☒ **Local bias adjustment factor used.**

☒ **National bias adjustment factor used.**

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

☒ **Tendring confirm that all 2020 diffusion tube data has been uploaded to the Diffusion Tube Data Entry System**.

Notes:

Exceedances of the NO_2 annual mean objective of 40µg/m^3 are shown in **bold**.

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

See Appendix C for details on bias adjustment and annualisation.

Table B.2 - SO_2 2020 Diffusion Tube Results (µg/m3)

DT ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Easting)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean: Raw Data
DT24	626191	232588	3.3	26.1	5.4	2.7	3.5	4.3	4.3	3.5	2.7	2.2	7.6	4.3	5.8
DT25	625977	232866	10.9	2.7	6.5	3.3	3.5	3.3	2.7	7	missing	4.3	6.5	7	5.2
DT26	625639	231960	4.3	2.7	3.3	3.3	4.3	9.8	5.4	4.3	5.4	12.2	8.7	10.4	6.2
DT27	623978	231633	12	2.7	5.4	4.3	4.3	7.6	4.3	6.1	15.2	3.5	7.6	5.2	6.5
DT28	623386	232248	7.6	2.7	4.3	2.7	7	6.5	2.7	6.1	4.3	2.2	8.7	6.1	5.1

☒ **All erroneous data has been removed from the SO_2 diffusion tube dataset presented in Table B.2.**

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

☐ **Local bias adjustment factor used.**

☐ **National bias adjustment factor used.**

☐ **Where applicable, data has been distance corrected for relevant exposure in the final column.**

Notes:

Exceedances of the SO_2 objectives are shown in **bold**.

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

New or Changed Sources Identified Within Tendring During 2020

A number of additional and changes to monitoring locations have been made within Tendring in 2020.

Following a detailed review of Tendring, due to increased congestion and high traffic flow, monitoring of NO_2 was undertaken at the following new locations in 2020:

- Cox's Hill, Manningtree
- Long Road, Manningtree – new large residential development
- Colchester Road, Elmstead
- Valley Road, Clacton – new junction at Asda, Bush Hill Road
- St Johns Road, Clacton
- Church Road, Brightlingsea – high flow of HGVs

Due to increased traffic flow within areas which are narrow and congested with properties close to the kerb, monitoring of NO_2 was undertaken at the following new locations in 2020:

- High Street, Thorpe le Soken
- High Street, Manningtree
- Connaught Avenue, Frinton
- Clacton Road, St Osyth

Due to evidence of potential exceedances at Clacton Hospital following a press release in 2019 from the British Heart Foundation, monitoring of NO_2 is now undertaken at Clacton Hospital on Marine Parade West. The research by British Heart Foundation found residents in Tendring have an increased risk of death equivalent to smoking 116 cigarettes every year. The monitoring will determine the NO_2 concentrations in this area which also includes the Clacton sea front which is popular with a large number of visitors during the summer months.

The Essex town where breathing polluted air is like smoking 138 cigarettes a year - Essex Live

Furthermore, it has been identified the need for more representative NO_2 monitoring within the main Clacton Town Centre. Tendring have added more diffusion tubes in Clacton Town Centre.

Concentrations of NO_2 exceeding the annual mean objective have been recorded in previous years at the A133 (DT14) which have not been representative of a relevant exposure. In 2020 the diffusion tube was re-located to the nearest residential property.

Due to ongoing low concentrations of NO_2 monitoring has ceased at Bathside Bay.

Results from 2020 show low concentrations of SO_2 within Harwich. Tendring will no longer be monitoring SO_2 due to the ongoing low concentrations noted this year and in the previous five years.

Additional Air Quality Works Undertaken by Tendring During 2020

Tendring has not completed any additional works within the reporting year of 2020.

QA/QC of Diffusion Tube Monitoring

Tendring District Council undertook monitoring of Nitrogen Dioxide and Sulphur Dioxide using diffusion tubes that were supplied and analysed by Socotec. The preparation method was 50% triethanolamine (TEA) in Acetone.

The diffusion tube monitoring was completed in adherence with the 2020 Diffusion Tube Monitoring Calendar.

The additional subsections should be used to provide QA/QC details of the data processing methodologies applied to diffusion tube monitoring data, specifically in relation to annualisation, bias adjustment and fall-off-with-distance calculations.

Diffusion Tube Annualisation

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

Diffusion Tube Bias Adjustment Factors

The diffusion tube data presented within the 2020 ASR have been corrected for bias using an adjustment factor. Bias represents the overall tendency of the diffusion tubes to under or over-read relative to the reference chemiluminescence analyser. LAQM.TG16 provides guidance with regard to the application of a bias adjustment factor to correct diffusion tube monitoring. Triplicate co-location studies can be used to determine a local bias factor based on the comparison of diffusion tube results with data taken from NO_x/NO_2 continuous analysers. Alternatively, the national database of diffusion tube co-location surveys provides bias factors for the relevant laboratory and preparation method.

Tendring have applied a national bias adjustment factor of 0.76 to the 2020 monitoring data. This was derived from orthogonal regression analysis of 24 studies.

A summary of bias adjustment factors used by Tendring over the past five years is presented in Table C.1.

Table C.1 – Bias Adjustment Factor

Year	Local or National	If National, Version of National Spreadsheet	Adjustment Factor
2020	National	09/21	0.76
2019	National	09/19	0.75
2018	National	09/18	0.77
2017	National	09/17	0.77
2016	National	09/16	0.77

NO_2 Fall-off with Distance from the Road

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

No diffusion tube NO_2 monitoring locations within Tendring required distance correction during 2020.

QA/QC of Automatic Monitoring

There is one automatic (continuous) monitoring site within Tendring. The site is part of the Automatic Urban and Rural Network (AURN) and is operated by Bureau Veritas. Details of calibration, auditing and serving of the automatic monitoring site is not known by the local authority.

Automatic Monitoring Annualisation

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

NO_2 Fall-off with Distance from the Road

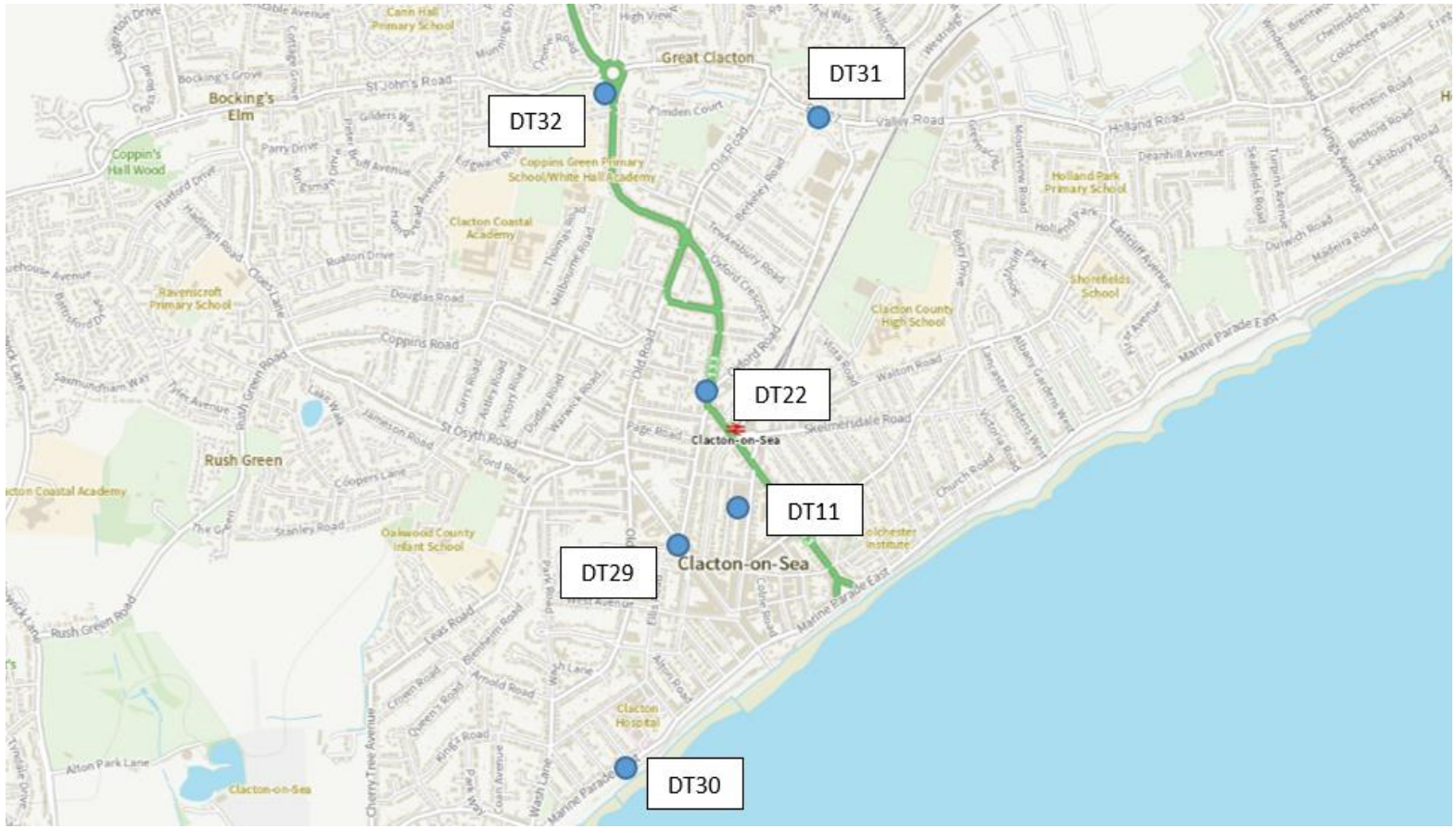
Wherever possible, local authorities should ensure that monitoring locations are representative of exposure. However, where this is not possible, the NO_2 concentration at the nearest location relevant for exposure should be estimated using the NO_2 fall-off with distance calculator available on the LAQM Support website. Where appropriate, non-automatic annual mean NO_2 concentrations corrected for distance are presented in Table B.1.

No automatic NO_2 monitoring locations within Tendring required distance correction during 2020.

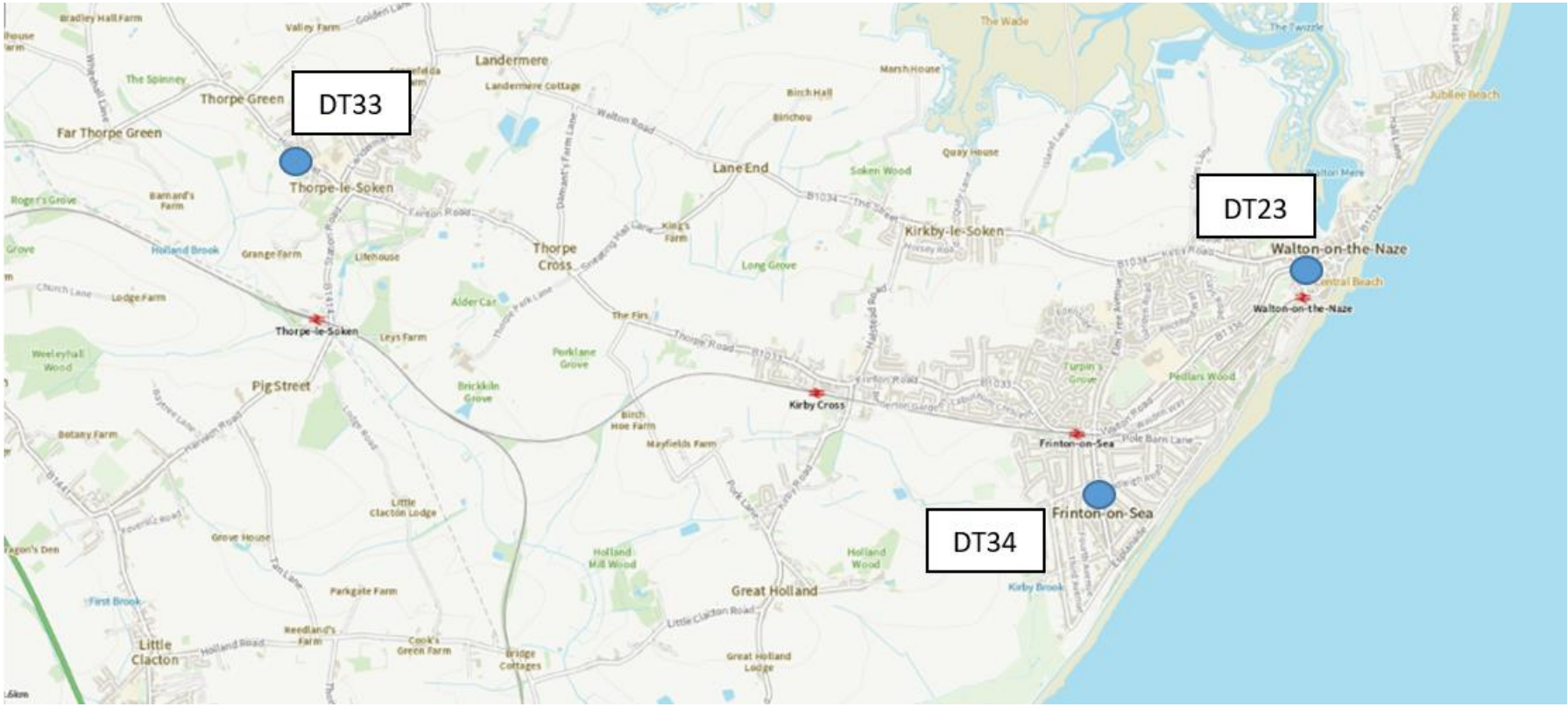
Appendix D: Maps of Monitoring Locations

Figure D.4 - Map of Non-Automatic Monitoring Sites

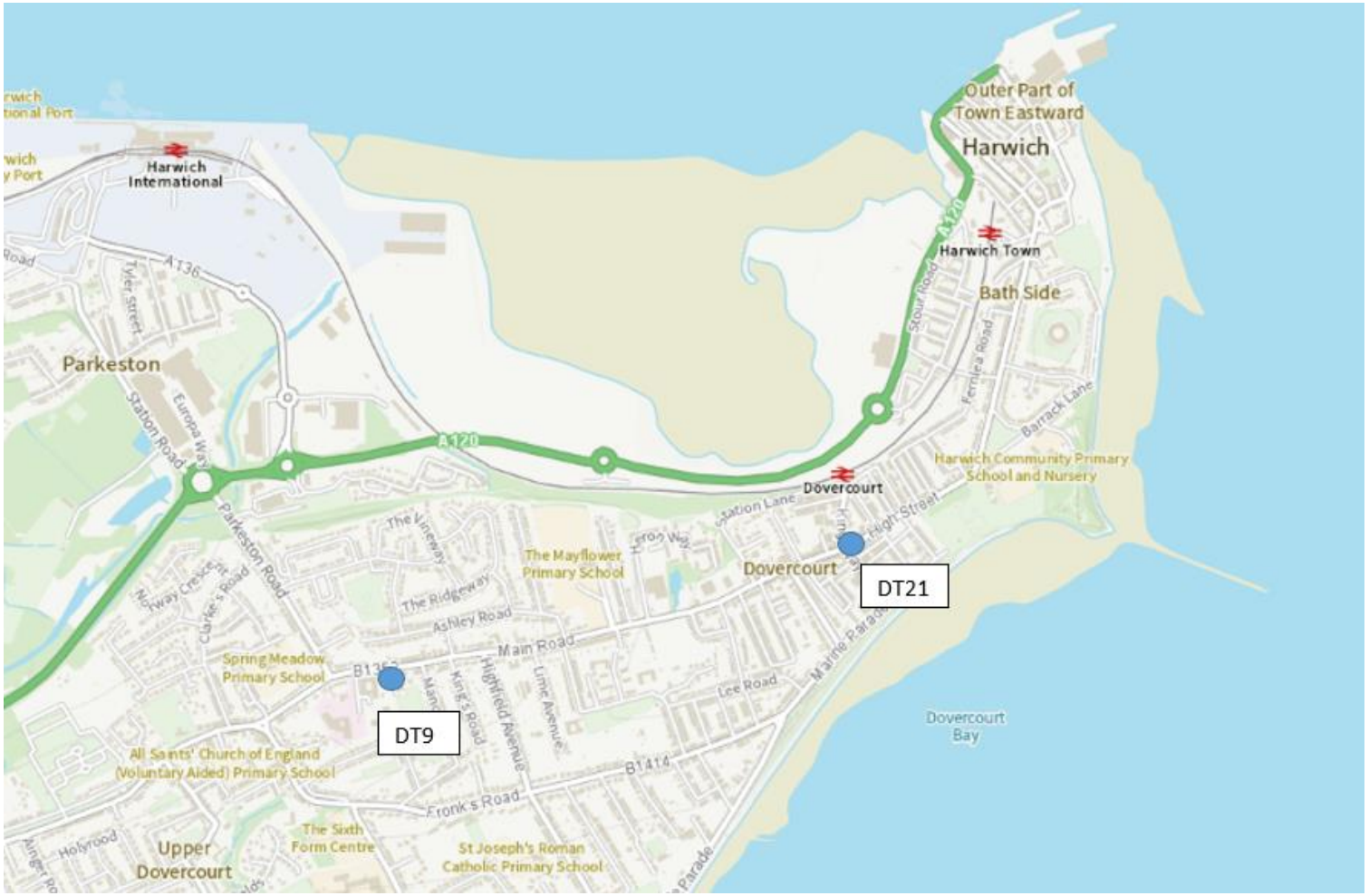
Clacton on Sea NO_2 Monitoring Locations



Thorpe le Soken, Frinton and Walton NO_2 Monitoring Locations

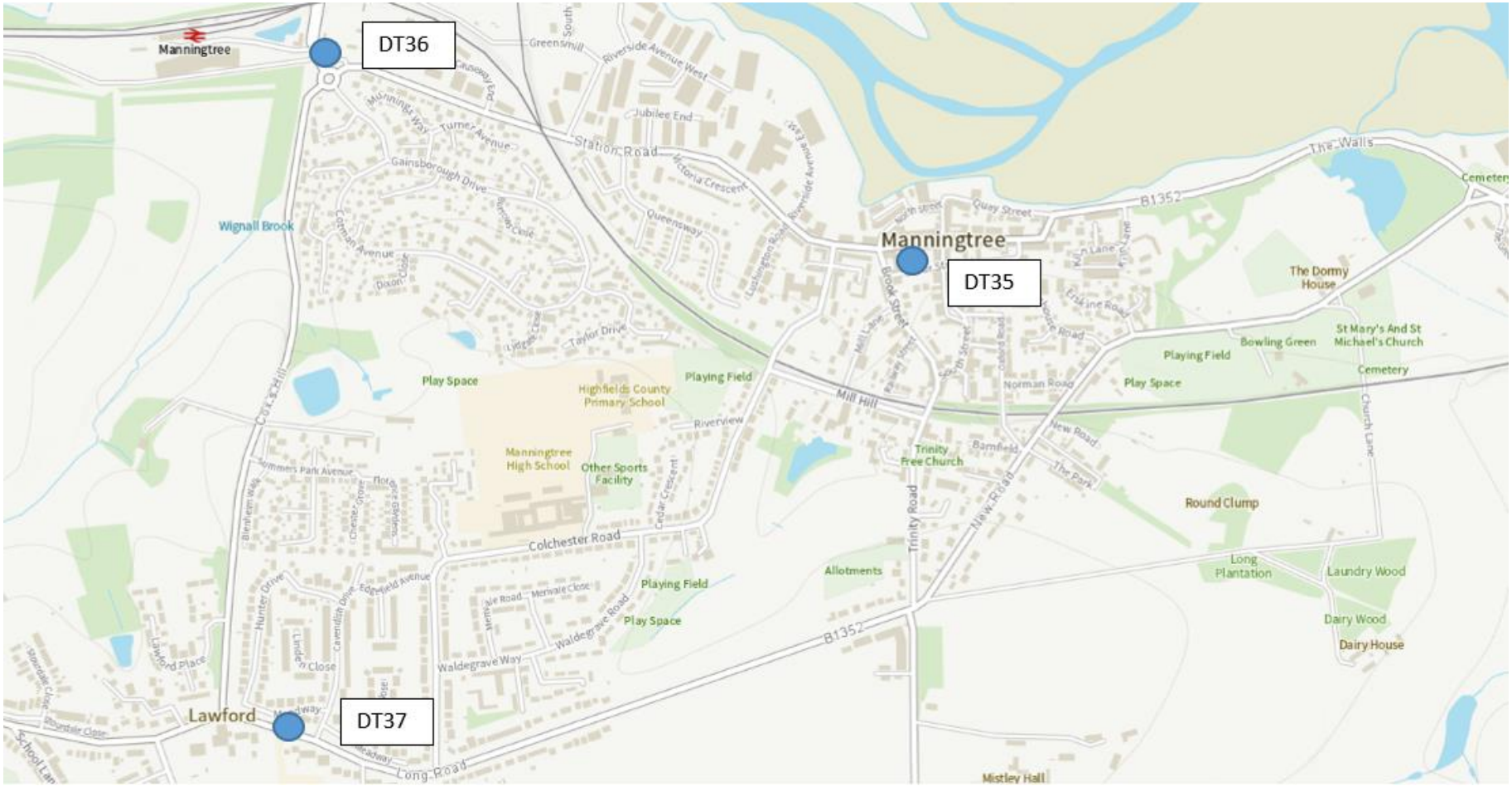


Harwich NO_2 Monitoring Locations

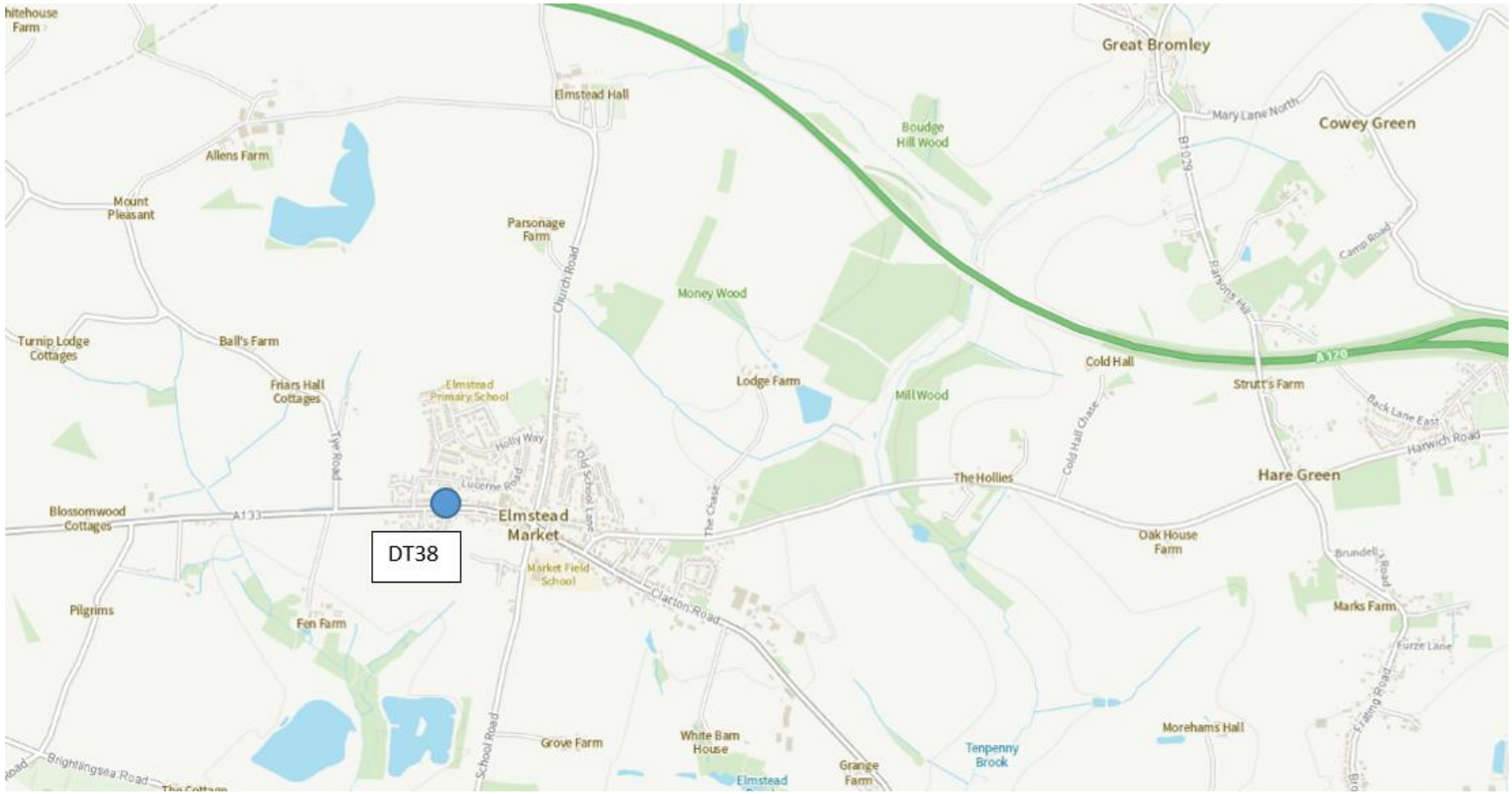


Harwich SO_2 Monitoring Locations

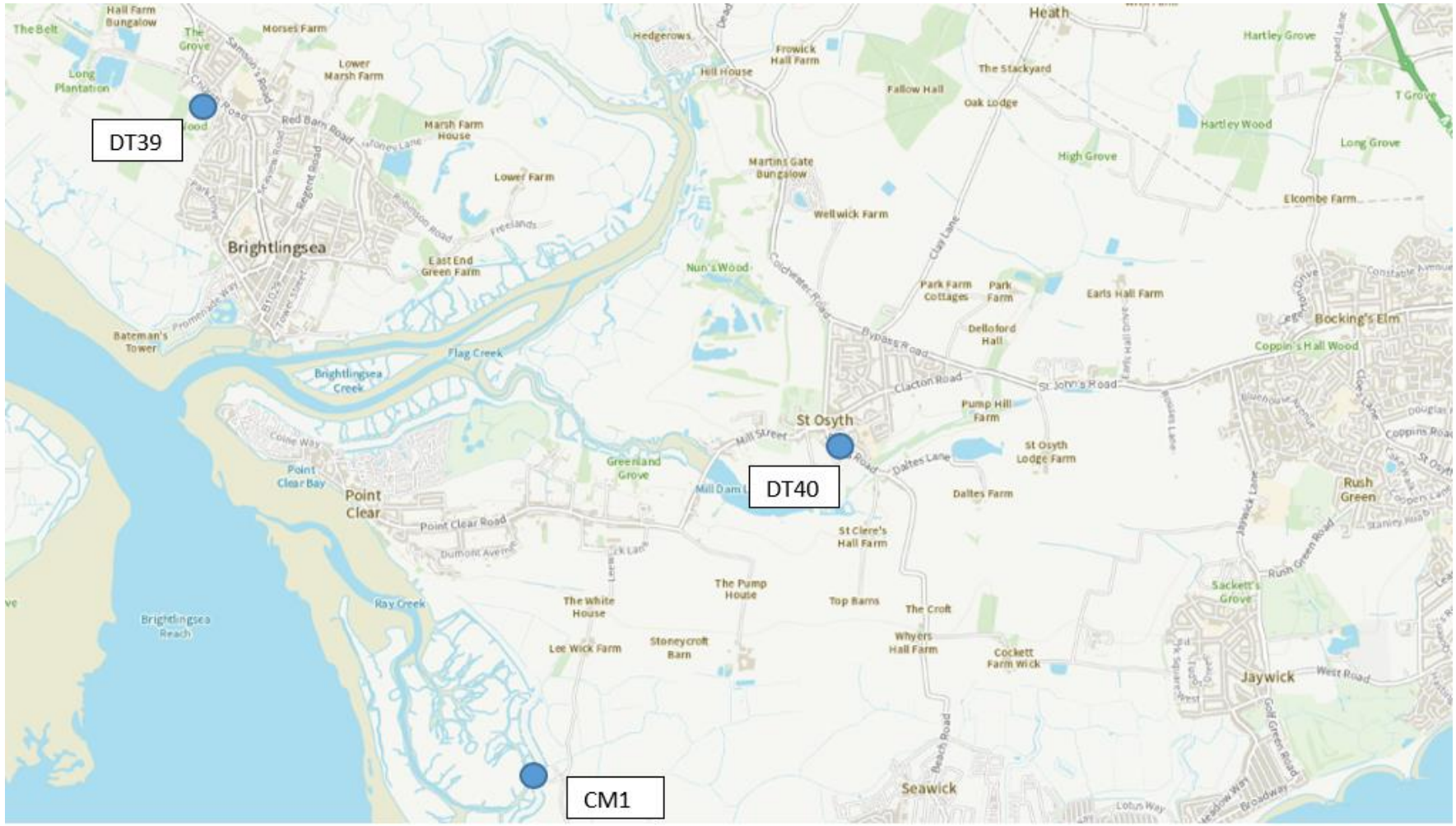
Manningtree and Lawford NO_2 Monitoring Locations



Elmstead NO_2 Monitoring Locations



Brightlingsea and St Osyth Monitoring Locations


DT39
DT40
CM1
Brightlingsea
Point Clear
St Osyth
Heath
Seawick
Jaywick
Rush Green
Bocking's Elm
Hall Farm Bungalow
The Belt
The Grove
Morses Farm
Lower Marsh Farm
Long Plantation
Marsh Farm House
Lower Farm
East End Green Farm
Hedgerows
Frowick Hall Farm
Hill House
Fallow Hall
The Stackyard
Oak Lodge
Hartley Grove
Hartley Wood
Long Grove
High Grove
Elcombe Farm
Martins Gate Bungalow
Wellwick Farm
Nun's Wood
Park Farm Cottages
Park Farm
Earls Hall Farm
Delloford Hall
Coppin's Hall Wood
Bateman's Tower
Flag Creek
Brightlingsea Creek
Pump Hill Farm
St Osyth Lodge Farm
Dalles Farm
Greenland Grove
Point Clear Bay
Point Clear Road
St Clere's Hall Farm
The White House
The Pump House
Top Barns
The Croft
Whyers Hall Farm
Cockett Farm Wick
Lee Wick Farm
Stoneycroft Barn
Ray Creek
Brightlingsea Reach
Sackett's Grove
West Road
Rush Green Road
Golf Green Road
Broadway
Clacton Road
St John's Road
Bypass Road
Colchester Road
Clay Lane
Mill Street
Dalles Lane
Jaywick Lane
Reach Road

Appendix E: Summary of Air Quality Objectives in England

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

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

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

Appendix F: Impact of COVID-19 upon LAQM

COVID-19 has had a significant impact on society. Inevitably, COVID-19 has also had an impact on the environment, with implications to air quality at local, regional and national scales.

COVID-19 has presented various challenges for Local Authorities with respect to undertaking their statutory LAQM duties in the 2021 reporting year. Recognising this, Defra provided various advice updates throughout 2020 to English authorities, particularly concerning the potential disruption to air quality monitoring programmes, implementation of Air Quality Action Plans (AQAPs) and LAQM statutory reporting requirements. Defra has also issued supplementary guidance for LAQM reporting in 2021 to assist local authorities in preparing their 2021 ASR. Where applicable, this advice has been followed.

Despite the challenges that the pandemic has given rise to, the events of 2020 have also provided Local Authorities with an opportunity to quantify the air quality impacts associated with wide-scale and extreme intervention, most notably in relation to emissions of air pollutants arising from road traffic. The vast majority (>95%) of AQMAs declared within the UK are related to road traffic emissions, where attainment of the annual mean objective for nitrogen dioxide (NO_2) is considered unlikely. On 23rd March 2020, the UK Government released official guidance advising all members of public to stay at home, with work-related travel only permitted when absolutely necessary. During this initial national lockdown (and to a lesser extent other national and regional lockdowns that followed), marked reductions in vehicle traffic were observed; Department for Transport (DfT) data[8] suggests reductions in vehicle traffic of up to 70% were experienced across the UK by mid-April, relative to pre COVID-19 levels.

This reduction in travel in turn gave rise to a change of air pollutant emissions associated with road traffic, i.e. nitrous oxides (NO_x), and exhaust and non-exhaust particulates (PM). The Air Quality Expert Group (AQEG)[9] has estimated that during the initial lockdown period in 2020, within urbanised areas of the UK reductions in NO_2 annual mean concentrations were between 20 and 30% relative to pre-pandemic levels, which

[8] Prime Minister's Office, COVID-19 briefing on the 31st of May 2020

[9] Air Quality Expert Group, Estimation of changes in air pollution emissions, concentrations and exposure during the COVID-19 outbreak in the UK, June 2020

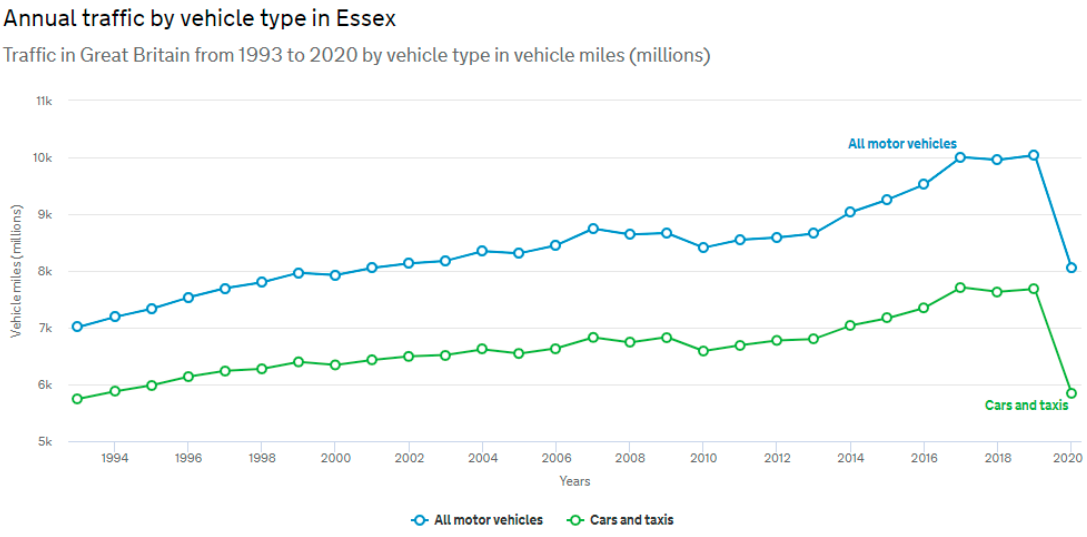
represents an absolute reduction of between 10 to 20µg/m^3 if expressed relative to annual mean averages. During this period, changes in $PM_{2.5}$ concentrations were less marked than those of NO_2. $PM_{2.5}$ concentrations are affected by both local sources and the transport of pollution from wider regions, often from well beyond the UK. Through analysis of AURN monitoring data for 2018-2020, AQEG have detailed that $PM_{2.5}$ concentrations during the initial lockdown period are of the order 2 to 5µg/m^3 lower relative to those that would be expected under business-as-usual conditions.

As restrictions are gradually lifted, the challenge is to understand how these air quality improvements can benefit the long-term health of the population.

Impacts of COVID-19 on Air Quality within Tendring

There was a significant reduction in road traffic numbers across Tendring due to COVID-19 restrictions. In Essex, road traffic numbers for all motors vehicles fell by approximately 20% from 2019 to 2020. The sharp decrease in road traffic levels in 2020 has resulted in traffic estimates that are lower than the 2002 levels.

8.06 billion vehicle miles were travelled on roads in Essex in 2020.



Road traffic statistics - Local authority: Essex (dft.gov.uk)

The majority of NO_2 monitoring sites in Tendring had reductions of 20% between April and June 2020.

The most significant reductions of NO_2 by 50% were experienced at the monitoring locations at Wellesley Road, Clacton (DT22), Valley Road, Clacton (DT31), Manningtree High Street (DT35) and Clacton Road, St Osyth (DT40).

There were no identifiable impacts as a consequence of COVID-19 upon air quality at Clacton's urban background site (DT11), A133 (DT14), High Street, Harwich (DT21) and St Johns Road, Clacton (DT32).

All monitoring sites in Tendring are considered to have returned to 'normal' NO_2 levels at the end of the monitoring year 2020.

Opportunities Presented by COVID-19 upon LAQM within Tendring

No LAQM related opportunities have arisen as a consequence of COVID-19 within Tendring.

Challenges and Constraints Imposed by COVID-19 upon LAQM within Tendring

No challenges or constraints relating to LAQM have arisen during 2020 as a consequence of COVID-19 within Tendring.

Table F 1 – Impact Matrix

Category	Impact Rating: None	Impact Rating: Small	Impact Rating: Medium	Impact Rating: Large
Automatic Monitoring – Data Capture (%)	More than 75% data capture	50 to 75% data capture	25 to 50% data capture	Less than 25% data capture
Automatic Monitoring – QA/QC Regime	Adherence to requirements as defined in LAQM.TG16	Routine calibrations taken place frequently but not to normal regime. Audits undertaken alongside service and maintenance programmes	Routine calibrations taken place infrequently and service and maintenance regimes adhered to. No audit achieved	Routine calibrations not undertaken within extended period (e.g. 3 to 4 months). Interruption to service and maintenance regime and no audit achieved
Passive Monitoring – Data Capture (%)	More than 75% data capture	50 to 75% data capture	25 to 50% data capture	Less than 25% data capture
Passive Monitoring – Bias Adjustment Factor	Bias adjustment undertaken as normal	<25% impact on normal number of available bias adjustment colocation studies (2020 vs 2019)	25-50% impact on normal number of available bias adjustment studies (2020 vs 2019)	>50% impact on normal number of available bias adjustment studies (2020 vs 2019) and/or applied bias adjustment factor studies not considered representative of local regime
Passive Monitoring – Adherence to Changeover Dates	Defra diffusion tube exposure calendar adhered to	Tubes left out for two exposure periods	Tubes left out for three exposure periods	Tubes left out for more than three exposure periods
Passive Monitoring – Storage of Tubes	Tubes stored in accordance with laboratory guidance and analysed promptly.	Tubes stored for longer than normal but adhering to laboratory guidance	Tubes unable to be stored according to be laboratory guidance but analysed prior to expiry date	Tubes stored for so long that they were unable to be analysed prior to expiry date. Data unable to be used
AQAP – Measure Implementation	Unaffected	Short delay (<6 months) in development of a new AQAP, but is on-going	Long delay (>6 months) in development of a new AQAP, but is on-going	No progression in development of a new AQAP
AQAP – New AQAP Development	Unaffected	Short delay (<6 months) in development of a new AQAP, but is on-going	Long delay (>6 months) in development of a new AQAP, but is on-going	No progression in development of a new AQAP

Glossary of Terms

Abbreviation	Description
AQAP	Air Quality Action Plan - A detailed description of measures, outcomes, achievement dates and implementation methods, showing how the local authority intends to achieve air quality limit values'
AQMA	Air Quality Management Area – An area where air pollutant concentrations exceed / are likely to exceed the relevant air quality objectives. AQMAs are declared for specific pollutants and objectives
ASR	Annual Status Report
Defra	Department for Environment, Food and Rural Affairs
DMRB	Design Manual for Roads and Bridges – Air quality screening tool produced by Highways England
EU	European Union
FDMS	Filter Dynamics Measurement System
LAQM	Local Air Quality Management
NO_2	Nitrogen Dioxide
NO_x	Nitrogen Oxides
PM_{10}	Airborne particulate matter with an aerodynamic diameter of 10µm or less
$PM_{2.5}$	Airborne particulate matter with an aerodynamic diameter of 2.5µm or less
QA/QC	Quality Assurance and Quality Control
SO_2	Sulphur Dioxide

References

- Local Air Quality Management Technical Guidance LAQM.TG16. April 2021. Published by Defra in partnership with the Scottish Government, Welsh Assembly Government and Department of the Environment Northern Ireland.
- Local Air Quality Management Policy Guidance LAQM.PG16. May 2016. Published by Defra in partnership with the Scottish Government, Welsh Assembly Government and Department of the Environment Northern Ireland.