Dorset Council

2020 Air Quality Annual Status Report (ASR)

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

December 2020

Local Authority Officer	Coralie McGown
Department	Environmental Protection
Address	Dorset Council South Walks House South Walks Road Dorchester Dorset DT1 1TU
Telephone	01305 251010
E-mail	Envhealthteamb@dorsetcouncil.gov.uk
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Executive Summary: Air Quality in Our Area

Air Quality in Dorset Council

Air pollution is associated with a number of adverse health impacts. It is recognised as a contributing factor in the onset of heart disease and cancer. Additionally, air pollution particularly affects the most vulnerable in society: children 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 billion[3].

Air quality throughout Dorset Council has been assessed and has been found to be broadly very good, due to the predominantly rural environment. However, in certain locations – parts of Chideock and Weymouth, air quality has been found to be close to, or exceeding the objective level for nitrogen dioxide (NO_2), the main source of pollution being form road traffic. This is due to vehicle emissions and other factors including type and number of vehicles, their speed, congestion and local topographical circumstances. As a results of this, an Air Quality management Area was declared in Chideock in 2007, and High East Street, Dorchester in 2009. (https://www.dorsetcouncil.gov.uk/environmental-health/documents/air-quality-management-order-2007-chideock.pdf https://www.dorsetcouncil.gov.uk/environmental-health/documents/air-quality-management-order-2009-dorchester.pdf)

In February 2018, Government approved plans to create two new unitary councils in Dorset. On 1st April 2019, the former borough, county and district councils ceased to exist and were replaced by two unitary authorities. One covers Bournemouth, Christchurch and Poole and is called Bournemouth, Christchurch and Poole Council, the other covers the rest of Dorset and is called Dorset Council.

[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

This Annual Status Report is the first to incorporate the former local authority areas of East Dorset District Council, North Dorset District Council, Purbeck District Council, West Dorset District Council and Weymouth and Portland Borough Council.

Conclusions and Priorities

Monitoring throughout 2019 has shown that sites continue to exceed the annual objective for nitrogen dioxide in Chideock. There are no other area of the former West Dorset areas that exceed the annual objective for nitrogen dioxide.

At the time of submitting the 2020 ASR, it is unfortunate that Dorset Council have not progressed in improving the existing out of date Action Plan for the Chideock Air Quality Management Area. Work on this continued during 2019, involving work by Highways England, and collaboration with the residents of Chideock, through engagement with Chideock Parish Council. It was intended that the new AQAP would be submitted in tandem with this ASR, however it will be submitted separately in 2021. Defra were informed and a query asked as to whether a partial AQAP submitted as an appendix to this ASR would be sufficient. Defra suggested *"Local Authorities are welcomed to include information in their ASRs surrounding the work and measures being undertaken, to address feedback submitted by Defra and/or other stakeholders. However, to avoid any confusion, it may be worth providing an overview of the works undertaken (commenting on motives, progression etc.) within the relevant sections of the ASR template, rather than submitting a partial document".* A Draft AQAP has been produced for Dorset Council by Air Quality Consultants, this was due to be updated once further evaluation of specific measures had been completed by Highways England. A Working group will be formed in 2021 to continue this AQAP.

There has never been an AQMA declared in Bridport. Following a Detailed Assessment of nitrogen dioxide in Bridport in 2011, the then West Dorset District Council resolved not to declare an AQMA but continue monitoring to check future levels of NO_2 here. Annual mean concentrations of NO2 are decreasing, the monitoring within Bridport area will continue for 2020:

Location	2015	2016	2017	2018	2019
East Road 1 (717)	**42.7**	**47.6**	**44.2**	**42.7**	**37.6**
East Road 2 (730	**53**	**51.5**	**46.4**	**40.52**	**39.8**
East Road (731)	33.2	31.5	28.8	26.44	23.8
Askers Mead (732)	35.1	34	32	30.69	26.1
East Road 14(734)	32.5	32.3	27.9	29.13	28.3

Figure 1: Annual Mean concentration of NO_2 in Bridport

Results for 2019 in Dorchester show the annual mean for NO_2 was met at all monitoring locations both within and outside of the AQMA. The air quality objectives are now just within 10% of the annual mean objective of 40µg/m^3 which indicate that the AQMA could be revoked. Monitoring will continue during 2020.

Location	2014	2015	2016	2017	2018	2019
High East Street 2 (713)	34	32	33.5	31.4	27.64	24.8
High East Street 1 (714)	46.7	38.4	37.9	37	35.48	36.4
Tom Browns (741)				38.87	36.26	34.3

Figure 2: Annual Mean concentration of NO_2 within Dorchester AQMA

The council is working proactively with Development Control, the Environment Agency and local businesses by way of the permitting regime to ensure that air quality is continually reviewed. In addition, Public Health Dorset's pan-Dorset PM2.5 project continues.

Local Engagement and How to get Involved

Our Local Plan states "Everyone has a role to play in tackling climate change and in adapting to its impacts. Community based initiatives such as local car share schemes, village hall investments, biofuel utilisation, community emergency support and renewable energy part ownership will be supported by the Council. Neighbourhood plans may address the adaptation and mitigation of climate change at the community level as recognition that all neighbourhoods can contribute towards tackling climate change in a way which is appropriate to their local area."

The Dorset Council website https://www.dorsetcouncil.gov.uk/travel/travel.aspx includes measures the public can actively use to improve air quality within the area, these include matters such as interactive cycle maps, adult cycle training and walking routes and trails.

Table of Contents

List of Tables

List of Figures

1 Local Air Quality Management

This report provides an overview of air quality in Dorset Council during 2019. It fulfils the requirements of Local Air Quality Management (LAQM) as set out in Part IV of the Environment Act (1995) and the relevant Policy and Technical Guidance documents.

The LAQM process places an obligation on all local authorities to regularly review and assess air quality in their areas, and to determine whether or not the air quality objectives are likely to be achieved. Where an exceedance is considered likely the local authority must declare an Air Quality Management Area (AQMA) and prepare an Air Quality Action Plan (AQAP) setting out the measures it intends to put in place in pursuit of the objectives. This Annual Status Report (ASR) is an annual requirement showing the strategies employed by Dorset 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.

A summary of AQMAs declared by Dorset Council can be found in Table 2.1. Further information related to declared or revoked AQMAs, including maps of AQMA boundaries are available online at https://www.dorsetcouncil.gov.uk/environmental-health/pollution/air-quality.aspx Alternatively, see

Appendix D: Map(s) of Monitoring Locations and **AQMAs**, which provides for a map of air quality monitoring locations in relation to the AQMA(s).

Dorset Council has seen an improvement of the NO_2 within the Dorchester AQMA, but 2018 results did not show a consistent level of below 10% of the objective, so there was no intention to look to revoke the AQMA until after the 2019 monitoring programme was completed. Unfortunately 2019 results do not provide the supporting information to revoke that AQMA still:

Chideock AQMA Specific Overview.

Sadly there has not been an AQAP produced this year. Under Section 84 of the Environment Act 1995, a Local Authority may from time to time revise and action plan. The AQAP applicable to Chideock has been in place since 2008 with no revisions. This is not acceptable and Chideock Parish Council work to ensure that we at Dorset Council move this on.

The AQMA is along the A35, falling as part of the strategic road network. Highways England have continued with a significant amount of supporting work by actively investigating a number of measures that could possibly be put in place at Chideock, these are listed below, but have been discounted:

- Platooning traffic with alternative direction single lane traffic. Modelling undertaken to investigate the feasibility of this scheme showed that this

proposed change would lead to unacceptable levels of congestion. Average queue lengths were estimated to be over 4km in both the eastbound and westbound directions with associated increases in travel times of 467% in the eastbound and 373% in the westbound direction;

- There have been calls for a bypass in Chideock for many years. This measure would need to be a Government decision through the Road Investment Strategy. Also, because it is unlikely that it could be implemented in a time frame which would bring forward achievement of the objectives this option has not been considered further at this time;

- Charging zones have also been investigated. Highways England has not been given an option to implement charging zones on the Strategic Road Network and as such this measure has been discounted at this stage.

- Eco barriers (green screens etc.) have also been considered, but properties are too close to the road for them to be physically able to fit them in on the pavement.

Because of the nature of the road, the proximity of houses to the carriageway and the gradient at this location, the air quality issues at Chideock are not easy to resolve.

However, Highways England's review of possible measures has resulted in them implementing a trial of a speed reduction scheme. This will extend the 30 mph section (in order to try and reduce acceleration between different speed limit areas), The purpose of the scheme is to smooth traffic flow and reduce stop-start traffic particularly on the gradient section of the A35

To support the above, further monitoring was commissioned in order that a before and after study undertaken (this is in addition to the existing monitoring which is being undertaken on both sides of the roads at relevant receptors); 8 Diffusion Tubes have been installed within the AQMA

These are the data, adjusted for bias using the national bias adjustment factor of 0.87:

2019	H1	H2	H3	H4	H5	H6	H7	H8
Jan								
Feb	29.50	39.51	43.04	59.27	54.73	82.20	38.68	59.53
Mar	31.08	35.59	41.32	51.92	54.91	93.24	47.60	51.37
Apr	30.92	38.90	43.43	60.34	57.51	97.79	41.73	60.38
May	7.40	36.82	39.36	58.49	55.40	104.31	40.11	56.69
Jun	27.46	39.23	38.90	50.41	57.82	88.29	65.33	52.52
Jul			44.32	65.70	68.14	108.07	72.78	60.61
Aug	31.04	47.26	46.91	64.66	66.26	104.54	82.10	61.63
Sept	27.97	36.65	38.90	51.90	53.79	90.42	65.64	49.47
Oct	27.40	32.73	33.91	42.75	41.24	69.14	55.99	42.72
Nov	30.04	32.19	30.00	38.57	37.82	55.32	47.38	41.93
Dec	18.02	31.78	30.76	39.10	37.48	62.42	50.56	43.83
Average	26.08	37.07	39.17	53.01	53.19	86.89	55.26	52.79
Bias Adjust	22.69	32.25	34.08	**46.12**	**46.28**	**75.59**	**48.08**	**45.93**

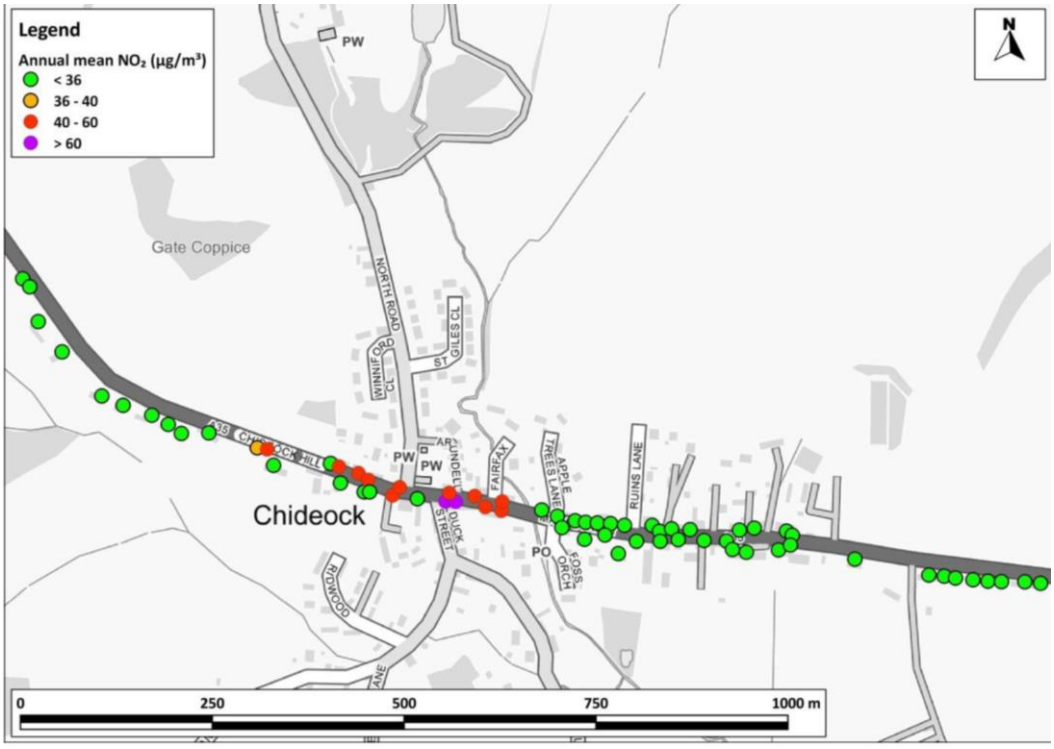
Figure 3: Bias Adjusted Highways England Diffusion Tube Results 2019

Dorset Council await Highways England results of the trial. Diffusion tube monitoring continues.

Figure 4: Approximate locations of Highways England Diffusion Tubes

There are a number of initiatives which Dorset Council is working on in relation to model shift away from private vehicle use. These measures which include sustainable travel marketing campaigns, Business Travel Grant Funding etc, should help in reducing traffic on this section of the A35, but are unlikely to resolve the issue.

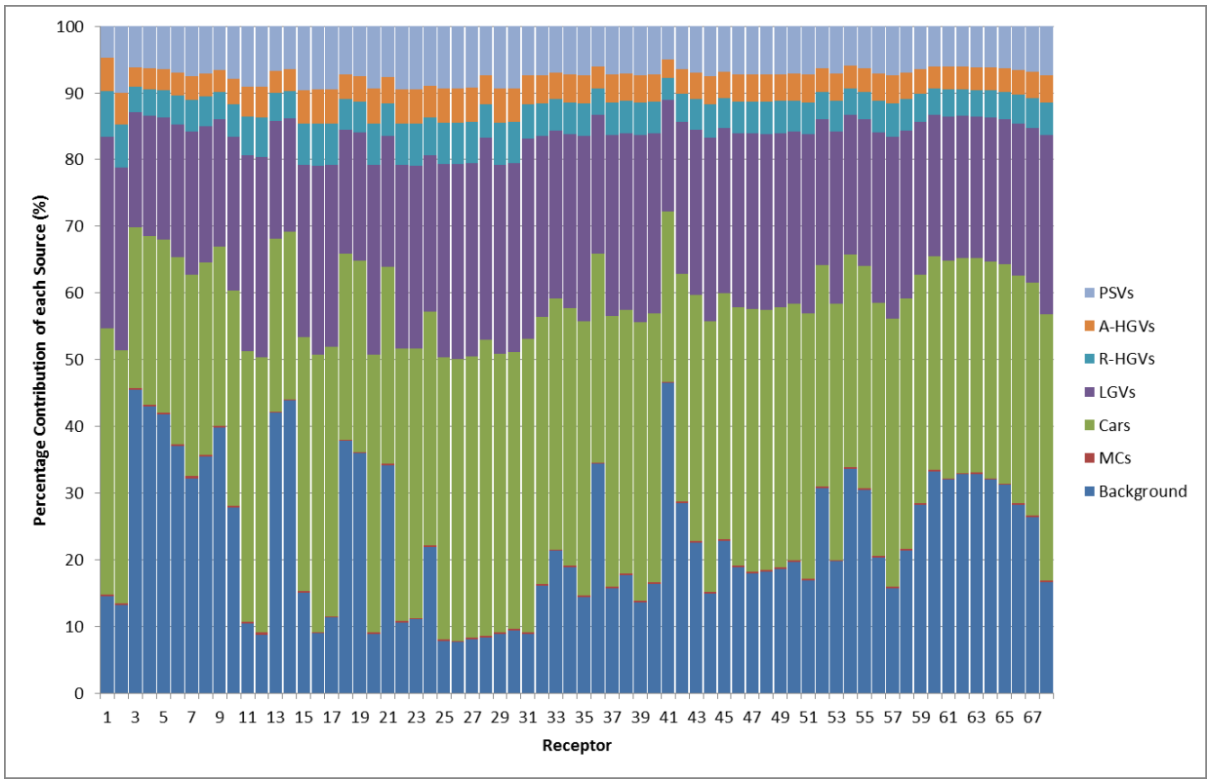
Alongside HE's work, further technical modelling work was undertaken by Air Quality Consultants (AQC) on behalf of the council. This concluded that the annual mean nitrogen dioxide objective is being exceeded at approximately 25 out of the 67 properties modelled alongside the A35 in Chideock.



Source: Assessment of Air Quality along the A35 in Chideock, West Dorset. January 2019. Air Quality Consultants

Figure 5: Annual Mean Nitrogen Dioxide Concentrations (µg/m3) in 2017 at Ground-Floor Level

Further, there are 2 locations where exceedances of the 1-hour objective are likely. Air Quality Consultants' evaluation of source apportionment of the local traffic emissions shows that in the majority of cases, emissions from cars continue to be the largest proportion of local emissions, with emissions from LGVs also contributing a significant proportion.



Source: Assessment of Air Quality along the A35 in Chideock, West Dorset. January 2019. Air Quality Consultants

Figure 6: Percentage Contributions of Different Sources to Total Predicted Annual Mean Nitrogen Dioxide Concentrations (µg/m^3) at Each Receptor in 2017

Reductions in vehicle emissions from local traffic of up to 44.4% (based on 2017 modelling) would be required to achieve the annual mean nitrogen dioxide objective where the highest concentrations are predicted to occur.

Table 2.1 – Declared Air Quality Management Areas

AQMA Name	Date of Declaration	Pollutants and Air Quality Objectives	City / Town	One Line Description	Is air quality in the AQMA influenced by roads controlled by Highways England?	Level of Exceedance (maximum monitored/modelled concentration at a location of relevant exposure)		Action Plan		
						At Declaration	Now	Name	Date of Publication	Link
AQMA Chideock	Declared May 2007, Amended March 2012	NO2 Annual Mean	Chideock	Properties along the A35 in Chideock. The AQMA was amended in 2012	YES	45.5 µg/m3	52.5 µg/m3	Chideock Air Quality Action Plan	Dec-08	https://www.dorsetcouncil.gov.uk/environmental-health/documents/air-quality-management-order-2007-chideock.pdf
AQMA Dorchester	Declared May 2009	NO2 Annual Mean	Dorchester	Residential properties along High East Street, Dorchester	NO	43 µg/m3	36.4 µg/m3	Air Quality Action Plan Dorchester	Apr-11	https://www.dorsetcouncil.gov.uk/environmental-health/documents/air-quality-management-order-2009-dorchester.pdf

☒ **Dorset Council confirm the information on UK-Air regarding their AQMA(s) is up to date**

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

Low Carbon Dorset Programme

The programme is run by the council and the Dorset Area of Outstanding Natural Beauty (AONB). It aims to help improve energy efficiency, increase the use of renewable energy, and aid the development of new low carbon products. Dorset based businesses, public sector and community organisations can access free support and a fund pot of over £2.15m to help improve energy efficiency and develop renewable energy projects. https://www.lowcarbondorset.org.uk/

Climate Strategy and Ecological Action Plan

Dorset Council declared a Climate and Ecological Emergency in 2019 and established an Executive Advisory Panel to strategically guide the Councils response. A draft Climate and Ecological Emergency Strategy was produced in July 2020 which presented 8 key areas for action to ensure that Dorset Council becomes Carbon Neutral by 2040 and the Dorset Council Area by 2050

https://www.dorsetcouncil.gov.uk/climate- -emergency

Measures within the Action Plan will positively affect air quality throughout the Dorset Council area, and include:

- Ensure access to sustainable transport is considered in planning applications
- Indirect Investigate potential for small scale park & ride hubs with electric vehicle charging point availability
- Encourage decarbonisation of road transport through development of public EV charging network & promotion of ultra low emissions vehicles
- Expand cycle training and independent travel training programmes, and
- Explore introduction of a bike share scheme in larger settlements

Dorset Council Local Plan

Currently, Dorset Council are working on the Local Plan to shape society, economy and the environment over a 15 year period. Consultation on tis commences early 2021, in readiness for its adoption in 2023.

The plan will:

- Protect and enhance Dorset's natural environment and biodiversity
- Deliver suitable housing to Dorset's needs
- Work to provide residents with a good quality of life with high quality and well designed developments
- Provide cycle ways and access to the countryside

Information can be found via www.dorsetcouncil.gov.ukuk/dorset-local-plan

Planning Applications

The Environmental Protection Team review all validated planning applications for their air quality impact. Relevant guidance is followed when reviewing these applications, i.e. Land-Use Planning and Development Control: Planning for Air Quality, January 2017 (EPUK and IAQM). Where there is a potential adverse impact, or the development introduces new sensitive receptors within an AQMA, an air quality impact assessment is required. Where this identifies a significant adverse impact on air quality or human health then mitigation measures are required.

Local Transport Plan 3 2011 – 2026

The Local Transport Plan 3 (LTP3) is a statutory document which sets out a strategy for the management, maintenance and development of the County's transport system. It sets out a way forward to deliver transport needs through short, medium and long term transport solutions and how transport can improve safety and health, support the local economy, protect the environment and reduce carbon emissions and pollution. The LTP3 came into effect in April 2011 and has been produced for the whole of Bournemouth, Poole and Dorset. It covers the period from 2011 to 2026 and is based on a longer term strategy (2011 – 2026) and shorter term implementation plan(s) (3 years). Further information can be found at https://www.dorsetcouncil.gov.uk/roads-highways-maintenance/transport-planning/local-transport-plan/local-transport-plan-3.aspx

Travel choice

This is a County-wide initiative to raise awareness about the impacts of travel behaviour and to encourage people to make informed decisions about journeys they make. For example information is provided on interactive cycle maps, adult cycle training and walking routes and trails. This initiative also promotes Car Share Dorset, an online tool to encourage and facilitate car sharing by matching journeys, run jointly by Dorset County Council and Bournemouth and Poole Borough Councils. More information can be found https://www.dorsetcouncil.gov.uk/travel/travel.aspx and https://liftshare.com/uk/community/dorset

Industrial Installations

Certain industrial processes and activities which have the potential to cause pollution are required to have an Environmental Permit to operate. The Environmental Permitting (England and Wales) Regulations 2016 were made under the Pollution Prevention and Control Act 1999 and prescribe those processes and activities which require a permit. These processes are split into three categories: Part A (1), Part A(2) and Part B and are regulated by the Environment Agency and local authorities. A list of Permitted Processes in the Dorset Council area is provided in Appendix C.

Details of all measures completed, in progress or planned are set out in Table 2.2.

Whilst the measures in Table 2.2 will help to contribute towards compliance, Dorset Council anticipates that further additional measures not yet prescribed will be required in subsequent years to achieve compliance and enable the revocation of Chideock AQMA.

Table 2.2 – Progress on Measures to Improve Air Quality

Measure No.	Measure	EU Category	EU Classification	Date Measure Introduced	Organisations involved	Funding Source	Key Performance Indicator	Reduction in Pollutant / Emission from Measure	Progress to Date	Estimated / Actual Completion Date
1	Dorset Highways asset managemen t plan (HAMP)	Transport Planning and Infrastructure	Public transport improvements-interchanges stations and services	Oct-18	DC	Capital	facilitating safe travel,managing asset condition, improving accessibility to businesses and communities, promote economic and social benefit, and reduce congestion. Deliver 'Keeping Dorset Moving'.		HAMP	
2	Efficiency saving	Vehicle Fleet Efficiency	Fleet efficiency and recognition schemes		DC			increase of driver efficiency from 24 miles per gallon to 31		ongoing
3	Encourage take up of School Travel Plans	Promoting Travel Alternatives	School Travel Plans	2011	DC		Promoting sustainable travel to and from schoolPromoting a healthy lifestyle for the school community 3. To encourage road safety awareness for pupils 4. Reducing the school travel carbon footprint	80% of schools have STPs		ongoing
4	Cycling Strategy	Promoting Travel Alternatives	Promotion of cycling	2011	DC/BCP		Create a cycle friendly culture where residents and visitors of varying ages and abilites cycle regularly as the obvious choise for shorter dstance journeys	Cycle 4 miles per day = save equivalent of 7% if ave UK carbon footprint by switching to cycling		ongoing
5	Health Strategy	Promoting Travel Alternatives	Other	2011	DC /BCP					
6	Low Carbon Travel Strategy	Promoting Low Emission Transport	Other	2011	DC/BCP		break the links bewteen mobility and carbon emissions by securing a low carbon transport network which is increasingly less			2026

							dependent on oil, resilient to the impacts of climate change and supports sustainable communities and quality of life			
7	Promote and, as appropriate, implement road network improvements as identified through the Local Transport Plan and other related processes e.g. links to/from South West/Bristol /M4 e.g. A350/C13, road & rail links to/from Port of Poole and Weymouth/ Portland Port, links to/from Bournemouth Airport.	Freight and Delivery Management	Route Management Plans/ Strategic routing strategy for HGV's	2017	DC/BCP, DLEP, FQP, FTA, RHA, Highways England					ongoing
8	Sustainable Energy accross the Common Space (SEACS)	Promoting Low Emission Plant	Other measure for low emission fuels for stationary and mobile sources	2011	Devon County Council Wiltshire Council 2 Local Uthority Partners from Brittany	INTERREG IV	Sustainable energy and behaviour change in schools and community		Completed	2014
9	Dorset Solar Farm Community Benefits	Other	Other	2014	Community Energy Team					
10	Expand EV Charging Points & other ultra-low emission	Promoting Low Emission Transport	Procuring alternative Refuelling infrastructure to promote Low Emission	ongoing	DC		Encourage Zero emission vehicles		Ongoing & looking for input form resdients on future locations	

	fule alternatives		Vehicles, EV recharging, Gas fuel recharging							
11	Improve cycle infrastructure	Promoting Travel Alternatives	Promotion of cycling	2020	DC / BCP	Transforming Cities Fund	improve productivity and prosperity through investment in public and sustainable transport			
12	Highways Maintenance	Traffic Management	Strategic highway improvements, Re-prioritising road space away from cars, including Access management, Selective vehicle priority, bus priority, high vehicle occupancy lane			Capital				
13	Lobby Govt for rail improvements	Promoting Travel Alternatives	Intensive active travel campaign & infrastructure	2019	DC	Capital	Climate and Ecological Emergency Strategy	Focussed on CO2 reduction		
14	Respond to government calls and submit high quality grant applications	Promoting Travel Alternatives	Intensive active travel campaign & infrastructure	2019	DC		Climate and Ecological Emergency Strategy	Focussed on CO2 reduction		
15	Redirect investment from strategic road schemes to low carbon transport	Promoting Low Emission Transport	Other	2019	DC with STB & LEP		Climate and Ecological Emergency Strategy	Focussed on CO2 reduction		
16	Reinforce low carbon transport policies through statutory planning documents including refreshed LTP and new Local Plan	Promoting Low Emission Transport	Other	2019	DC		Climate and Ecological Emergency Strategy			
17	Ensure access to sustainable	Alternatives to private vehicle use	Other	2019	DC		Climate and Ecological Emergency Strategy			

	transport is considered in planning applications									
18	Investigate potential for small scale park & ride hubs with electric vehicle charging point availability	Alternatives to private vehicle use	Bus based Park & Ride	2019	DC		Climate and Ecological Emergency Strategy			
19	Encourage decarbonisation of road transport through development of public EV charging network & promotion of ultra low emissions vehicles, and including on-going management	Freight and Delivery Management	Delivery and Service plans	2019	DC		Climate and Ecological Emergency Strategy			2023
20	Encourage use of ultra low emission public transport vehicles (including taxis) – particularly smaller buses	Promoting Travel Alternatives	Intensive active travel campaign & infrastructure	2019	DC		Climate and Ecological Emergency Strategy			2023+
21	Working closely with Dorset Business Travel Network and Digital Dorset to promote the use of ICT to individuals and businesses	Promoting Travel Alternatives	Encourage / Facilitate home-working	2019	DC / Dorset Business Travel Network / Digital Dorset		Climate and Ecological Emergency Strategy			2021

	to avoid travel / encourage working from home									
22	Review & amend procurement procedures to prioritise carbon reduction for Transport Purchases & Leasing	Freight and Delivery Management	Freight Partnerships for city centre deliveries	2019	DC		Climate and Ecological Emergency Strategy			
23	To green the Council fleet	Vehicle Fleet Efficiency		2019	DC		Climate and Ecological Emergency Strategy			2025/26
24	Reduce the need for staff to travel to and for work through remote working and the use of digital	Promoting Travel Alternatives	Workplace Travel Planning	2019	DC		Climate and Ecological Emergency Strategy			2021

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.

Dorset Council continued supporting the Public Health Dorset's $PM_{2.5}$ Project by maintaining the 4 AQMesh within the network, (there are 2 more AQMesh, which sit within Bournemouth, Christchurch and Poole Council). This looks to establish what steps can be taken across the study area to reduce the impact of exposure to particulate matter on the population. To achieve this, the project is focussed on understanding population exposure to background levels of air pollution. The study area includes both rural and urban sites to provide broad geographical coverage and include vulnerable populations.

Monitoring locations can be found at https://public.tableau.com/profile/public.health.dorset#!/vizhome/ARUNandPHDnetwork/ARUNandPHDnetowrk

Defra's background modelling for the entire Dorset Council area provide annual means of a minimum of 5.6µg/m^3 and maximum of 8.4 µg/m^3 for 2019.

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

3.1 Summary of Monitoring Undertaken

3.1.1 Automatic Monitoring Sites

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

Dorset Council undertook automatic (continuous) monitoring at one site during 2019 Table A.1 in Appendix A shows the details of the sites. The data was ratified and scaled for Dorset Council by Air Monitors Ltd. This gave hourly NO_2 data that was not considered to be true – for example, the hourly average at 0100hours on the 1st January 2019 was 112.12 µg/m^3. The NO2 data has therefore been discounted for the 2019 report.

Dorset Council has difficulties in accessing and manipulating the data due to concerns of possible security breaches occurring should the ports be opened to enable that data to be read. We continue during 2020 to overcome this problem. Had this information been seen prior to asking Air Monitoring to help with the data, this may have been cleaned up, not as much data lost, and a local bias adjustment factor created for the 'WPBC' data.

Maps showing the location of the monitoring sites are provided in Appendix D.

3.1.2 Non-Automatic Monitoring Sites

Dorset Council undertook non- automatic (passive) monitoring of NO_2 at numerous locations during 2019. Table A.2 in Appendix A shows the details of the sites within the locations.

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[4], "annualisation" (where the data capture falls below 75%), and distance correction[5]. Further details on adjustments are provided in Appendix C.

3.2.1 Nitrogen Dioxide (NO_2)

The highlights from the 2019 monitoring are as follows:

- Monitoring throughout 2019 demonstrated that Dorset Council area generally has good air quality.
- 2019 generally saw a reduction in levels of Nitrogen dioxide See figures 7 to 11 below showing the 2018 and 2019 annual mean.
- There was a slight increase within the long-term area of concern of Boot Hill, Weymouth (former Weymouth and Portland Borough Council).
- Monitoring within the Chideock AQMA (former West Dorset District Council) does indicate a reduction in NO_2, however levels are still significantly over the AQO and work continues by the Highways England team on evaluating if there are any other possible measures available for this AQMA
- Dorchester AQMA continues to demonstrate compliance with the annual mean for NO_2
- Monitoring within Chideock AQMA still shows evidence of a breach of the hourly AQO (in addition to the annual mean)
- Two monitoring locations exceed the AQO (Chideock – Whitecroft and Chideock Hill House).
- Two monitoring locations are within 10% of the annual mean in Bridport – Bridport East Rd, and Bridport East Road 2
- a full review of all Dorset Council monitoring locations started in 2019, and will continue through 2020.

[4] https://laqm.defra.gov.uk/bias-adjustment-factors/bias-adjustment.html
[5] Fall-off with distance correction criteria is provided in paragraph 7.77, LAQM.TG(16)

- There have been changes in the monitoring locations during 2019, there will be further rationalising of the monitoring locations during 2020. Dorset Council now monitor in locations, where either there is an historic concern i.e. congestion due to HGV movements, or known significant residential development. Such as Wimborne or Gillingham, providing information for major outline planning application for 634 dwellings, a primary school, sports pitches, public open space, play facilities an associated access roads.

Former East Dorset District Council Area:

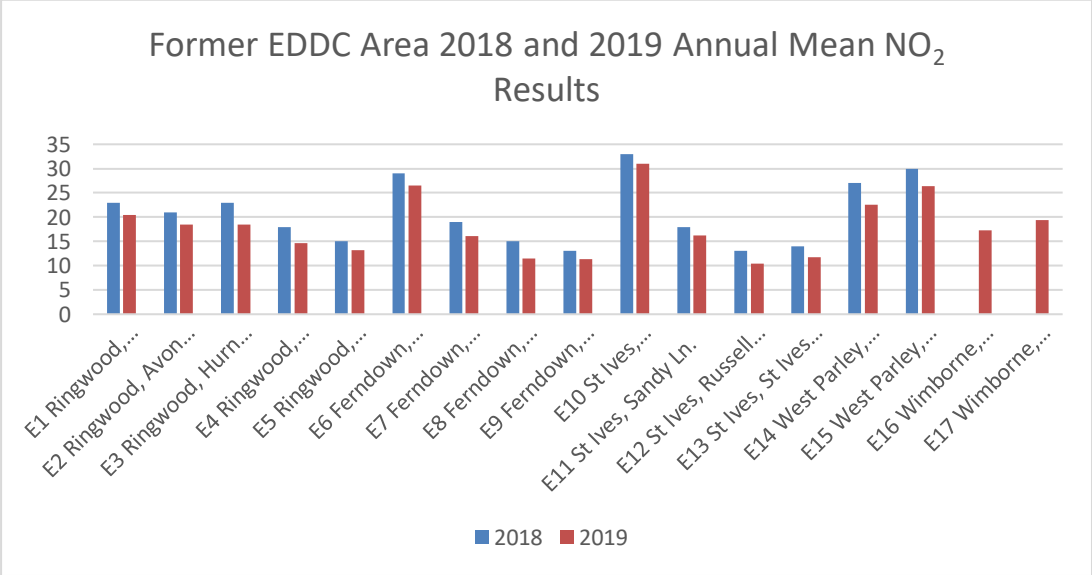


Figure 7: Former EDDC Area 2018 and 2019 Annual Mean NO2 Results

No exceedances of the AQO for NO_2. Dorset Council saw a reduction in NO_2 from 2018 at all locations. Two additional locations within Wimborne were added, to due significant residential development within that Town.

Former North Dorset District Council Area:

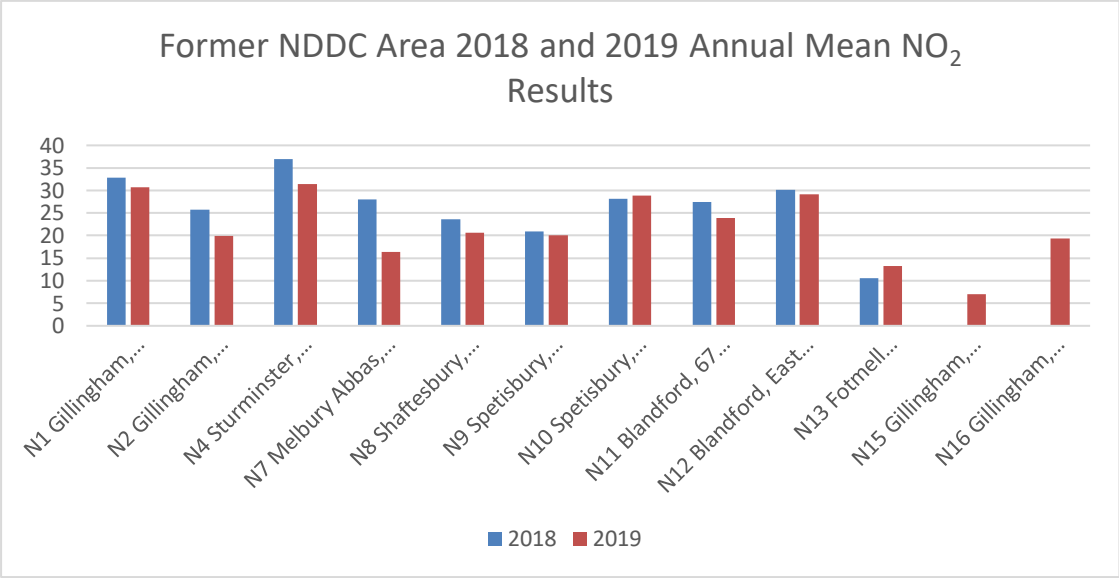


Figure 8: Former NDDC Area 2018 and 2019 Annual Mean NO2 Results

No exceedances of the AQO for NO_2 Dorset Council saw a reduction in NO_2 from 2018 at all locations. Two additional locations within Gillingham were added, to due significant residential development within that Town. In March 2019 N15 and N16 within Gillingham commenced and the following sites ceased:

N8 Christy's Lane, Shaftesbury

N9 Clockwork House, Spetisbury

N10Vine Cottage, Spetisbury

N11 Salisbury Street Blandford

N12 East Street Blandford

N13 Willow Cottage, Fontmell Magna

Melbury Abbas' data was considered not truly representative. There were significant road improvements to the C13 and A350 which resulted in the village being closed to through traffic for a large period of time. Again, this site will be reviewed at the end of 2020.

Sturminster Newton continues to be monitored as this is a street canyon. This site will be reviewed at the end of 2020.

Former Purbeck District Council Area:

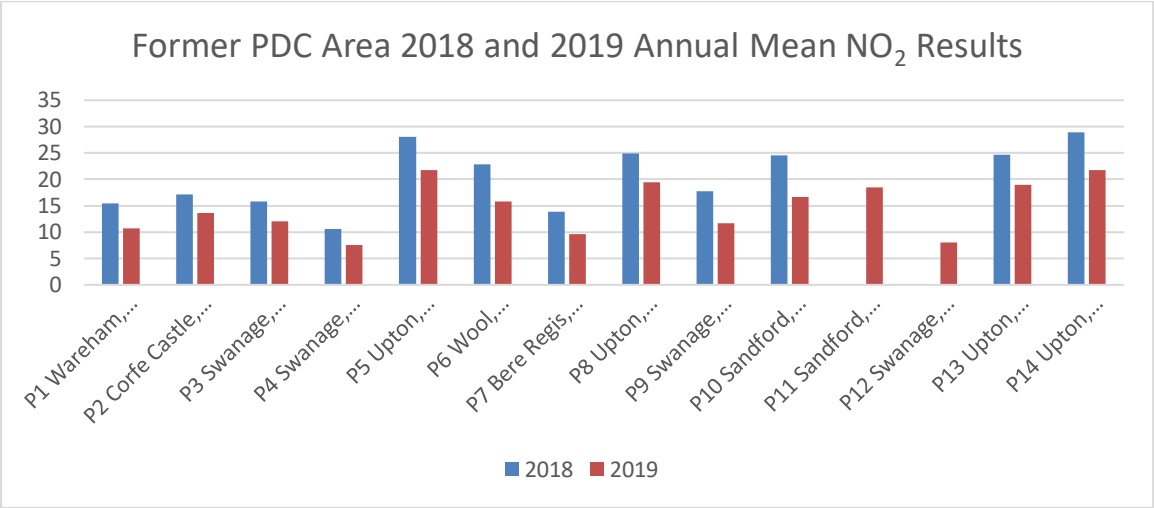


Figure 9: Former PDC Area 2018 and 2019 Annual Mean NO2 Results

No exceedances of the AQO for NO_2. Dorset Council saw a reduction in NO_2 from 2018 at all locations. Two additional locations within Sandford and Swanage were added, to due significant residential development within those areas.

Former West Dorset District Council Area:

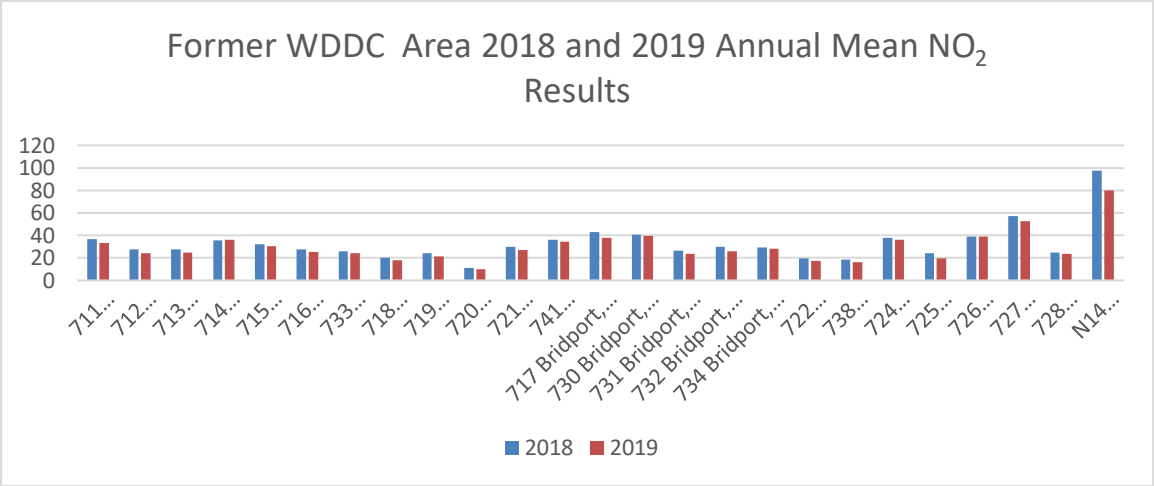


Figure10: Former WDDC Area 2018 and 2019 Annual Mean NO2 Results

Dorset Council saw a reduction in NO_2 from 2018 at all locations. No changes to the monitoring locations were seen in 2019.

Former Weymouth and Portland Borough Council Area:

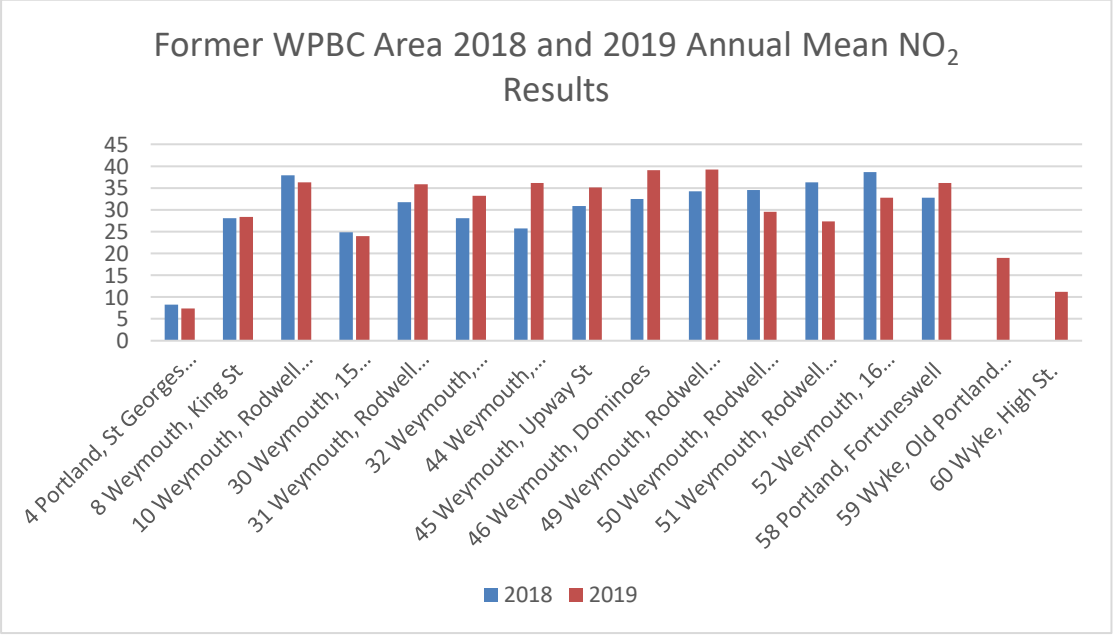


Figure 11:Former WPBC Area 2018 and 2019 Annual Mean NO2 Results

Two Tubes 59 Wyke Road and 60 Wyke High Street ceased in 2019.

Table A.3 in Appendix A compares the ratified and adjusted monitored NO_2 annual mean concentrations for the past 5 years with the air quality objective of 40µg/m^3. Note that the concentration data presented in Table A.3 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 2019 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 5 years with the air quality objective of 200µg/m^3, not to be exceeded more than 18 times per year.

3.2.2 Particulate Matter (PM_{10})

Table A.5 in Appendix A compares the ratified and adjusted monitored PM_{10} annual mean concentrations for the past 5 years with the air quality objective of 40µg/m^3.

Table A.6 in Appendix A compares the ratified continuous monitored PM_{10} daily mean concentrations for the past 5 years with the air quality objective of 50µg/m^3, not to be exceeded more than 35 times per year.

There continue to be no exceedances of the air quality objectives for PM_{10}.

3.2.3 Particulate Matter ($PM_{2.5}$)

Table in Appendix A presents the ratified and adjusted monitored $PM_{2.5}$ annual mean concentrations for the past 5 years.

The 4 AQMesh deployed within the Dorset Council area provided the following data for 2019.

Location	Annual Mean 2019

Beaminster	12.88
Blandford	12.06
Ferndown	5.29
Sandford	4.16

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?	Monitoring Technique	Distance to Relevant Exposure (m) (1)	Distance to kerb of nearest road (m) (2)	Inlet Height (m)
Boot Hill	Boot Hill	Roadside	367541	78471	NO_2	NO	Chemiluminescent	N/A	3.5	1.5
Boot Hill	Boot Hill	Roadside	367541	78471	PM_{10}	NO	TEOM FDMS	N?A	3.5	2

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

Site ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitoried	In AQMA?	Distance to Relevant Exposure (m) (1)	Distance to kerb of nearest road(m) (2)	Tube collocated with a Continuous Analyser	Height (m)
4	St Georges Estate Road	Urban Background	368779	71706	NO_2	NO	0	2	NO	2.5
8	King Street	Roadside	368003	79527	NO_2	NO	0	2	NO	2.5
10	Rodwell Road	Roadside	367542	78548	NO_2	NO	2.5	2.5	NO	3
30	15 Rodwell Road	Roadside	367545	78550	NO_2	NO	0	6	NO	2.5
31	Rodwell Roundabout I	Roadside	367540	78471	NO_2	NO	0	3.5	YES	3
32	To Portmore Gardens	Roadside	367528	78554	NO_2	NO	0	2	NO	3
44	Melcombe House	Roadside	367830	78595	NO_2	NO	0	3	NO	3
45	Upway Street	Roadside	367879	78567	NO_2	NO	0	1.5	NO	3
46	Dominoes	Roadside	367995	79528	NO_2	NO	0	2.5	NO	3
49	Rodwell Roundabout II	Roadside	367540	78471	NO_2	NO	0	3.5	YES	3
50	Rodwell Roundabout III	Roadside	367540	78471	NO_2	NO	0	3.5	YES	3
51	Rodwell Inn	Roadside	367550	78485	NO_2	NO	0	2	NO	3
52	16 Rodwell Road	Roadside	367533	78531	NO_2	NO	0	2	NO	3
58	Fortuneswell	Roadside	368540	73593	NO_2	NO	0.9	1.5	NO	2.5

59	Old Portland Road	Roadside	366268	77709	NO_2	NO	0	2	NO	2.5
60	High Street	Roadside	366091	77551	NO_2	NO	0	2	NO	2.5
711	711 Dorchester, High West St.	Roadside	369121	90739	NO_2	N	Y - on Façade	2m	N	2.5
712	712 Dorchester, Trinity St.	Roadside	369171	90711	NO_2	N	Y - on Façade	2m	N	2.5
713	713 Dorchester, High East St. 2	Roadside	369484	90759	NO_2	Y	Y – on façade	2m	N	2.5
714	714 Dorchester, High East St. 1	Roadside	369387	90742	NO_2	Y	Y – on façade	2m	N	2.5
715	715 Dorchester, The Grove	Roadside	368907	90739	NO_2	N	Y (2m)	2m	N	2.5
716	716 Dorchester, Maumbury Rd.	Roadside	368948	90089	NO_2	N	Y – on façade	2m	N	2.5
733	733 Dorchester, Great Western Rd.	Roadside	369002	90275	NO_2	N	Y – on façade	2m	N	2.5
718	718 Dorchester, Church St.	Roadside	369381	90698	NO_2	N	Y – on façade	2m	N	2.5
719	719 Dorchester, Bridport Rd.	Roadside	368815	90636	NO_2	N	Y (2m)	2m	N	2.5
720	720 Dorchester, Borough Gardens	Urban Background	368982	90453	NO_2	N	5m	N/A	N	2.5
721	721 Dorchester, High West St. 2	Roadside	368982	90706	NO_2	N	Y – on façade	3m	N	2.5
741	741 Dorchester, Tom Browns	Roadside	369468	90756	NO_2	Y	Y – on façade	2.5	N	2.5

717	717 Bridport, East Rd.	Roadside	347557	93023	NO_2	N	Y – Representative of public exposure	2m	N	2.5
730	730 Bridport, East Rd. 2	Roadside	347612	93050	NO_2	N	Y – Representative of public exposure	2m	N	2.5
731	731 Bridport, East Rd. 3	Roadside	347277	92867	NO_2	N	N – 14m	4m	N	2
732	732 Bridport, Askers Mead	Roadside	347262	92873	NO_2	N	Y (2m)	2m	N	2.5
734	734 Bridport, East Rd. 4	Roadside	347489	92989	NO_2	N	Y (1.5m)	2m	N	2.5
722	722 Chideock, Hope Cottage	Roadside	342364	92814	NO_2	N	Y (2m)	1.5m	N	2
738	738 Chideock, Greenhills	Roadside	342151	92869	NO_2	N	Y – Representative of public exposure	11.5	N	2
724	724 Chideock, Duck St	Roadside	342190	92840	NO_2	Y	Y – on façade	1m	N	2.5
725	725 Chideock, George Inn	Roadside	342486	92791	NO_2	N	Y – Representative of public exposure	0m	N	2

726	726 Chideock, Village Hall	Roadside	342015	92887	NO_2	Y	Y – Representative of public exposure	2m	N	2.5
727	727 Chideock, Whitecroft	Roadside	341946	92908	NO_2	Y	Y – on façade	1m	N	2
728	728 Chideock, Warren House	Roadside	342025	92894	NO_2	N	Y – Representative of public exposure	1.5m	N	2
N14	N14 Chideock, Hill House	Roadside	341320	93138	NO_2	Y	3.5m	1m	N	2.5
N1	N1 Gillingham, Lawrence Cottage	Roadside	381302	126181	NO_2	YES	4.1	1.5	NO	2.5
N2	N2 Gillingham, Wyke St.	Roadside	380511	126490	NO_2	NO	9.8	1.7	NO	2.5
N4	N4 Sturminster, Newton The Barbers	Kerbside	378606	114009	NO_2	NO	0	1.3	NO	2.5
N7	N7 Melbury Abbas, Spinney Cottage	Roadside	388206	120321	NO_2	NO	0	0.7	NO	2.5
N8	N8 Shaftesbury, Christy's Ln.	Roadside	387052	122740	NO_2	NO	9	2	NO	2.5
N9	N9 Spetisbury, Clockwork House	Roadside	391849	101888	NO_2	NO	0	3	NO	2.5
N10	N10 Spetisbury, Vine Cottage	Roadside	391114	102648	NO_2	NO	0	0.8	NO	2.5

N11	N11 Blandford, 67 Salisbury St.	Roadside	388524	106542	NO_2	NO	0	1.2	NO	2.5
N12	N12 Blandford, East St.	Roadside	388760	106383	NO_2	NO	0	2.1	NO	2.5
N13	N13 Fontmell Magna, Willow Cottage	Suburban	386673	117063	NO_2	NO	26	0	NO	2.5
N15	N15 Gillingham, Cerne Ave.	Urban Background	382041	125887	NO_2	NO	1.5	1.7	NO	2.5
N16	N16 Gillingham, New Rd	Roadside	381083	125868	NO_2	NO	4.2	2.3	NO	2.5
P1	P1 Wareham, Worgret Rd.	Kerbside	391790	87190	NO_2	NO	13	1		2.3
P2	P2 Corfe Castle, East St.	Roadside	396276	81699	NO_2	NO	1	1		2.2
P3	P3 Swanage, Kings Rd.	Roadside	402860	78830	NO_2	NO	14	1	NO	2.1
P4	P4 Swanage, Queens Rd.	Urban Background	402970	78410	NO_2	NO	17	1	NO	2.3
P5	P5 Upton, Blandford Rd. N	Roadside	397910	93425	NO_2	NO	19	2	NO	2.2
P6	P6 Wool, Dorchester Rd.	Roadside	384430	86880	NO_2	NO	30	2	NO	2.25
P7	P7 Bere Regis, West St.	Roadside	383901	95100	NO_2	NO	12	1	NO	2.2
P8	P8 Upton, Blandford Rd.	Roadside	398421	92644	NO_2	NO	16	1	NO	
P9	P9 Swanage, Gilbert Rd.	Urban Background	402790	78950	NO_2	NO	7	1	NO	2.3

P10	P10 Sandford, Sandford Rd.	Roadside	393223	89947	NO_2	NO	20	1	NO	2.2
P11	P11 Sandford, Primary School	Roadside	393334	90089	NO_2	NO	10	2	NO	2.3
P12	P12 Swanage, Queens Rd. II	Roadside	402965	78408	NO_2	NO	5	2	NO	2.3
P13	P13 Upton, Drascombe Dr.	Roadside	398330	93137	NO_2	NO	11.5	6	NO	2
P14	P14 Upton, Palmerston Rd.		398572	93137	NO_2	NO				
E1	E1 Ringwood, Horton Rd.	Roadside	413298	104528	NO_2	NO	0	40m (1.1m)*	NO	3
E2	E2 Ringwood, Avon Park	Roadside	413488	104543	NO_2	NO	0	50m (0.8m)*	NO	3
E3	E3 Ringwood, Hurn Rd.	Other	413686	104709	NO_2	NO	0	60m (0.5m)*	NO	3
E4	E4 Ringwood, Davids Ln.	Urban Background	413425	104429	NO_2	NO	7	0.5m	NO	3
E5	E5 Ringwood, Castlewood	Urban Background	413521	104368	NO_2	NO	2	0.9m	NO	3
E6	E6 Ferndown, Ringwood Rd.	Roadside	407785	100135	NO_2	NO	4	1.3m	NO	3
E7	E7 Ferndown, Dudsbury Ave.	Other	407668	99889	NO_2	NO	10	1.4m	NO	3
E8	E8 Ferndown, Fernlea Cl.	Urban Background	407804	100016	NO_2	NO	9	0.9m	NO	3
E9	E9 Ferndown, Melbury Cl.	Urban Background	407650	99763	NO_2	NO	12	0.4m	NO	3

E10	E10 St Ives, Ringwood Rd.	Roadside	412782	104118	NO_2	NO	26	1.3m	NO	3
E11	E11 St Ives, Sandy Ln.	Other	412747	104117	NO_2	NO	13	30m (1.2m)*	NO	3
E12	E12 St Ives, Russell Gdns.	Urban Background	412749	104262	NO_2	NO	20	0.8m	NO	3
E13	E13 St Ives, St Ives Wood	Urban Background	412978	104339	NO_2	NO	14	1.4m	NO	3
E14	E14 West Parley, Public WC, Christchurch Rd.	Roadside	408384	97986	NO_2	NO	8	1.0m	NO	3
E15	E15 West Parley, 235 Christchurch Rd.	Roadside	408468	98002	NO_2	NO	4	1.0m	NO	3
E16	E16 Wimborne, West St	Roadside	400833	100042	NO_2	NO	0	1.2	NO	2.5
E17	E17 Wimborne, West Borough	Roadside	400901	100149	NO_2	NO	0	3.6	NO	3

Table A.3 – Annual Mean NO_2 Monitoring Results

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Monitoring Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2019 (%) (2)	NO_2 Annual Mean Concentration (µg/m^3) (3) (4)				
							2015	2016	2017	2018	2019
4 Portland, St Georges Estate Rd.	368779	71706	Urban Background	Diffusion Tube		100	7.6	8.5	6.1	8.2	7.4
8 Weymouth, King St	368003	79527	Roadside	Diffusion Tube		92	31.4	34.9	27.1	28.0	28.4
10 Weymouth, Rodwell Rd.	367542	78548	Roadside	Diffusion Tube		100	35.9	37.6	27.9	37.9	31.0
30 Weymouth, 15 Rodwell Rd.	367545	78550	Roadside	Diffusion Tube		100	26.5	27.7	20.7	24.9	23.9
31 Weymouth, Rodwell Rndbt 1	367540	78471	Roadside	Diffusion Tube		100	37.1	37.1	38.5	31.7	35.9
32 Weymouth, Portmore Gdns.	367528	78554	Roadside	Diffusion Tube		100	35.4	35.4	38.4	28.1	33.2
44 Weymouth, Melcombe Hse.	367830	78595	Roadside	Diffusion Tube		42	26.9	30.3	24.1	25.7	36.2
45 Weymouth, Upway St	367879	78567	Roadside	Diffusion Tube		33	34.0	37.2	30.8	30.8	35.1

46 Weymouth, Dominoes	367995	79528	Roadside	Diffusion Tube		100	34.5	38.3	31.1	32.5	39.1
49 Weymouth, Rodwell Rndbt 2	367540	78471	Roadside	Diffusion Tube		100	36.5	38.4	31.4	34.2	39.2
50 Weymouth, Rodwell Rndbt 3	367540	78471	Roadside	Diffusion Tube		100	35.2	38.6	30.9	34.5	29.5
51 Weymouth, Rodwell Inn	367550	78485	Roadside	Diffusion Tube		58	38.2	**40.0**	32.3	36.3	27.3
52 Weymouth, 16 Rodwell Rd.	367533	78531	Roadside	Diffusion Tube		100	**43.8**	**46.4**	36.0	38.6	32.8
58 Portland, Fortuneswell	368540	73593	Roadside	Diffusion Tube		92			27.3	32.7	33.0
59 Wyke, Old Portland Rd.	366268	77709	Roadside	Diffusion Tube	100	58					19.0
60 Wyke, High St.	366091	77551	Roadside	Diffusion Tube	100	58					11.2
711 Dorchester, High West St.	369121	90739	Roadside	Diffusion Tube		83	34.4	34.2	36.6	36.8	33.0
712 Dorchester, Trinity St.	369171	90711	Roadside	Diffusion Tube		100	31.1	29.3	30.7	27.5	24.4
713 Dorchester, High East St. 2	369484	90759	Roadside	Diffusion Tube		100	32.0	33.5	31.4	27.6	24.8

714 Dorchester, High East St. 1	369387	90742	Roadside	Diffusion Tube		100	38.4	37.9	37.0	35.5	36.4
715 Dorchester, The Grove	368907	90739	Roadside	Diffusion Tube		100	34.7	33.9	32.8	32.2	30.2
716 Dorchester, Maumbury Rd.	368948	90089	Roadside	Diffusion Tube		75	27.5	29.0	27.5	27.4	25.1
733 Dorchester, Great Western Rd.	369002	90275	Roadside	Diffusion Tube		100	28.0	28.2	23.8	25.8	24.1
718 Dorchester, Church St.	369381	90698	Roadside	Diffusion Tube		92	18.8	20.5	19.3	20.1	18.2
719 Dorchester, Bridport Rd.	368815	90636	Roadside	Diffusion Tube		100	22.4	25.6	22.0	24.2	18.8
720 Dorchester, Borough Gardens	368982	90453	Urban Background	Diffusion Tube		83	11.3	11.4	14.6	11.2	10.1
721 Dorchester, High West St. 2	368982	90706	Roadside	Diffusion Tube		100	28.7	30.7	29.0	29.8	27.0
741 Dorchester, Tom Browns	369468	90756	Roadside	Diffusion Tube		83			38.9	36.3	34.3
717 Bridport, East Rd.	347557	93023	Roadside	Diffusion Tube		100	**42.7**	**47.6**	**44.2**	**42.7**	37.6

730 Bridport, East Rd. 2	347612	93050	Roadside	Diffusion Tube		100	**53.0**	**51.5**	**46.4**	**40.5**	39.8
731 Bridport, East Rd. 3	347277	92867	Roadside	Diffusion Tube		92	33.2	31.5	28.8	26.4	17.0
732 Bridport, Askers Mead	347262	92873	Roadside	Diffusion Tube		100	35.1	34.0	32.0	30.1	26.1
734 Bridport, East Rd. 4	347489	92989	Roadside	Diffusion Tube		92	32.5	32.3	27.9	29.1	28.3
722 Chideock, Hope Cottage	342364	92814	Roadside	Diffusion Tube		92	16.8	19.7	23.0	19.9	17.2
738 Chideock, Greenhills	342151	92869	Roadside	Diffusion Tube		100		20.5	17.9	18.4	19.0
724 Chideock, Duck St	342190	92840	Roadside	Diffusion Tube		92	36.7	**47.7**	**41.9**	38.0	36.4
725 Chideock, George Inn	342486	92791	Kerbside	Diffusion Tube		100	23.1	25.5	28.2	24.2	19.5
726 Chideock, Village Hall	342015	92887	Roadside	Diffusion Tube		100	39.2	**47.8**	**40.9**	39.2	38.7
727 Chideock, Whitecroft	341946	92908	Roadside	Diffusion Tube		100	**50.0**	**58.9**	**56.5**	**57.2**	**52.5**
728 Chideock, Warren House	342025	92894	Roadside	Diffusion Tube		100	23.4	27.0	26.7	24.8	23.8

N14 Chideock, Hill House	341320	93138	Roadside	Diffusion Tube		100				**97.7**	**80.2**
N1 Gillingham, Lawrence Cottage	381302	126181	Roadside	Diffusion Tube		92				32.9	27.0
N2 Gillingham, Wyke St.	380511	126490	Roadside	Diffusion Tube		92				25.8	16.3
N4 Sturminster, Newton The Barbers	378606	114009	Kerbside	Diffusion Tube		100				37.0	31.4
N7 Melbury Abbas, Spinney Cottage	388206	120321	Roadside	Diffusion Tube		92				28.0	16.4
N8 Shaftesbury, Christy's Ln.	387052	122740	Roadside	Diffusion Tube	100	25				23.6	17.4
N9 Spetisbury, Clockwork House	391849	101888	Roadside	Diffusion Tube	100	25				20.9	20.0
N10 Spetisbury, Vine Cottage	391114	102648	Roadside	Diffusion Tube	100	25				28.1	28.9
N11 Blandford, 67 Salisbury St.	388524	106542	Roadside	Diffusion Tube	100	25				27.4	23.9
N12 Blandford, East St.	388760	106383	Roadside	Diffusion Tube	100	25				30.2	29.2

N13 Fotmell Magna, Willow Cottage	386673	117063	Rural	Diffusion Tube	100	25				10.6	9.2
N15 Gillingham, Cerne Ave.	382041	125887	Roadside	Diffusion Tube	100	75					7.0
N16 Gillingham, New Rd	381083	125868	Roadside	Diffusion Tube	44	33					19.3
P1 Wareham, Wrogret Rd.	391790	87190	Roadside	Diffusion Tube		100	12.5	15.2	15.5	15.4	9.0
P2 Corfe Castle, East St.	396276	81699	Roadside	Diffusion Tube		100	16.9	21.7	19.9	17.1	14.0
P3 Swanage, Kings Rd.	402860	78830	Roadside	Diffusion Tube		83	17.2	18.0	17.4	15.8	10.0
P4 Swanage, Queens Rd.	402970	78410	Urban Background	Diffusion Tube		100	8.3	12.5	10.2	10.6	8.0
P5 Upton, Blandford Rd. N	397910	93425	Roadside	Diffusion Tube		100	24.1	25.5	28.7	28.1	15.0
P6 Wool, Dorchester Rd.	384430	86880	Roadside	Diffusion Tube		92	20.0	21.9	24.1	22.8	11.0
P7 Bere Regis, West St.	383901	95100	Roadside	Diffusion Tube		100	10.0	13.0	14.3	13.9	9.0
P8 Upton, Blandford Rd.	398421	92644	Roadside	Diffusion Tube		100	18.3	22.5	25.9	24.9	14.0
P9 Swanage, Gilbert Rd.	402790	78950	Roadside	Diffusion Tube		100	14.5	15.1	16.2	17.7	11.0

P10 Sandford, Sandford Rd.	393223	89947	Roadside	Diffusion Tube		100	22.2	21.9	20.9	24.6	12.0
P11 Sandford, Primary School	393334	90089	Roadside	Diffusion Tube		100					16.0
P12 Swanage, Queens Rd. II	402965	78408	Roadside	Diffusion Tube		100					9.0
P13 Upton, Drascombe Dr.	398330	93137	Roadside	Diffusion Tube		100				24.7	19.0
P14 Upton, Palmerston Rd.	398572	93137	Roadside	Diffusion Tube		92				28.9	17.6
E1 Ringwood, Horton Rd.	413298	104528	Roadside	Diffusion Tube		100	23.0	22.0	22.0	23.0	20.4
E2 Ringwood, Avon Park	413488	104543	Roadside	Diffusion Tube		100	21.0	22.0	21.0	21.0	18.5
E3 Ringwood, Hurn Rd.	413686	104709	Other	Diffusion Tube		100	22.0	22.0	25.0	23.0	18.5
E4 Ringwood, Davids Ln.	413425	104429	Urban Background	Diffusion Tube		100	16.0	17.0	17.0	18.0	11.0
E5 Ringwood, Castlewood	413521	104368	Urban Background	Diffusion Tube		100	17.0	15.0	16.0	15.0	13.2
E6 Ferndown, Ringwood Rd.	407785	100135	Roadside	Diffusion Tube		100	31.0	32.0	29.0	29.0	21.0

E7 Ferndown, Dudsbury Ave.	407668	99889	Other	Diffusion Tube		100	18.0	19.0	18.0	19.0	16.1
E8 Ferndown, Fernlea Cl.	407804	100016	Urban Background	Diffusion Tube		100	12.0	14.0	12.0	15.0	11.5
E9 Ferndown, Melbury Cl.	407650	99763	Urban Background	Diffusion Tube		100	12.0	13.0	12.0	13.0	11.4
E10 St Ives, Ringwood Rd.	412782	104118	Roadside	Diffusion Tube		100	32.0	31.0	32.0	33.0	16.0
E11 St Ives, Sandy Ln.	412747	104117	Other	Diffusion Tube		100	16.0	17.0	17.0	18.0	16.2
E12 St Ives, Russell Gdns.	412749	104262	Urban Background	Diffusion Tube		100	11.0	11.0	11.0	13.0	10.4
E13 St Ives, St Ives Wood	412978	104339	Urban Background	Diffusion Tube		100	12.0	13.0	12.0	14.0	11.7
E14 West Parley, Public WC, Christchurch Rd.	408384	97986	Roadside	Diffusion Tube		100	25.0	26.0	25.0	27.0	16.0
E15 West Parley, 235 Christchurch Rd.	408468	98002	Roadside	Diffusion Tube		100	28.0	30.0	31.0	30.0	20.0
E16 Wimborne, West St	400833	100042	Roadside	Diffusion Tube		100					17.3
E17 Wimborne, West Borough	400901	100149	Roadside	Diffusion Tube		100					19.4

Boot Hill	367541	78471	Roadside	Automatic		100		38.6	32.5	39.6	

☒ **Diffusion tube data has been bias corrected (confirm by selecting in box)**

☒ **Annualisation has been conducted where data capture is <75% (confirm by selecting in box)**

☒ **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 adjustment (confirm by selecting in box)**

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.**

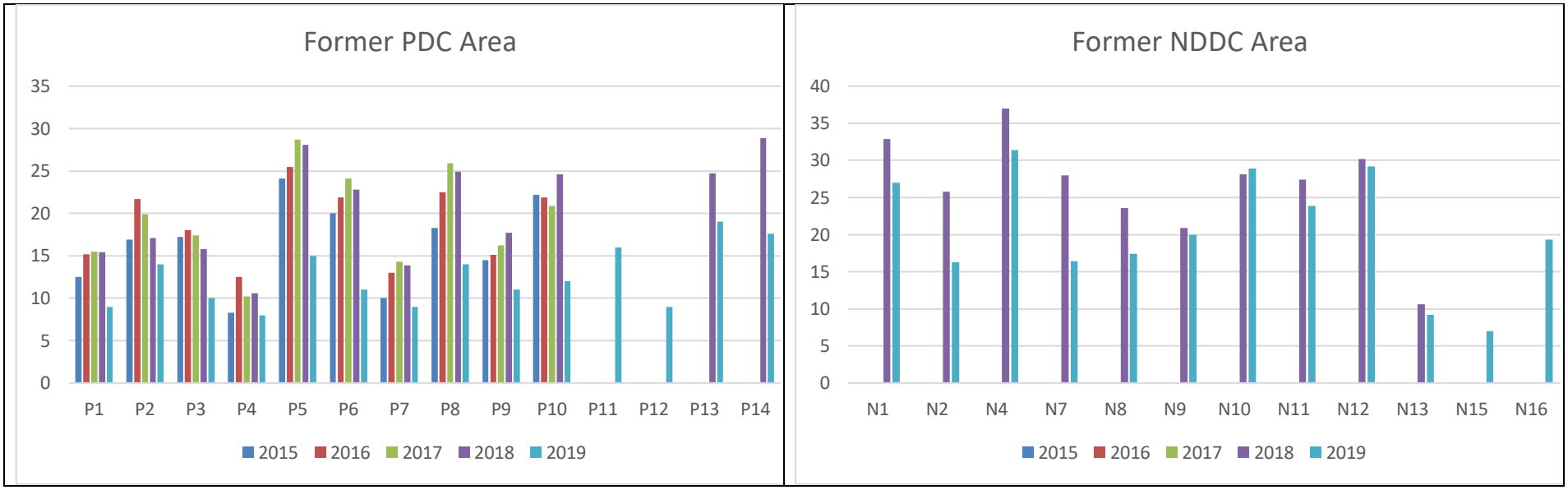
(1) Data capture for the monitoring period, in cases where monitoring was only carried out for part of the year.

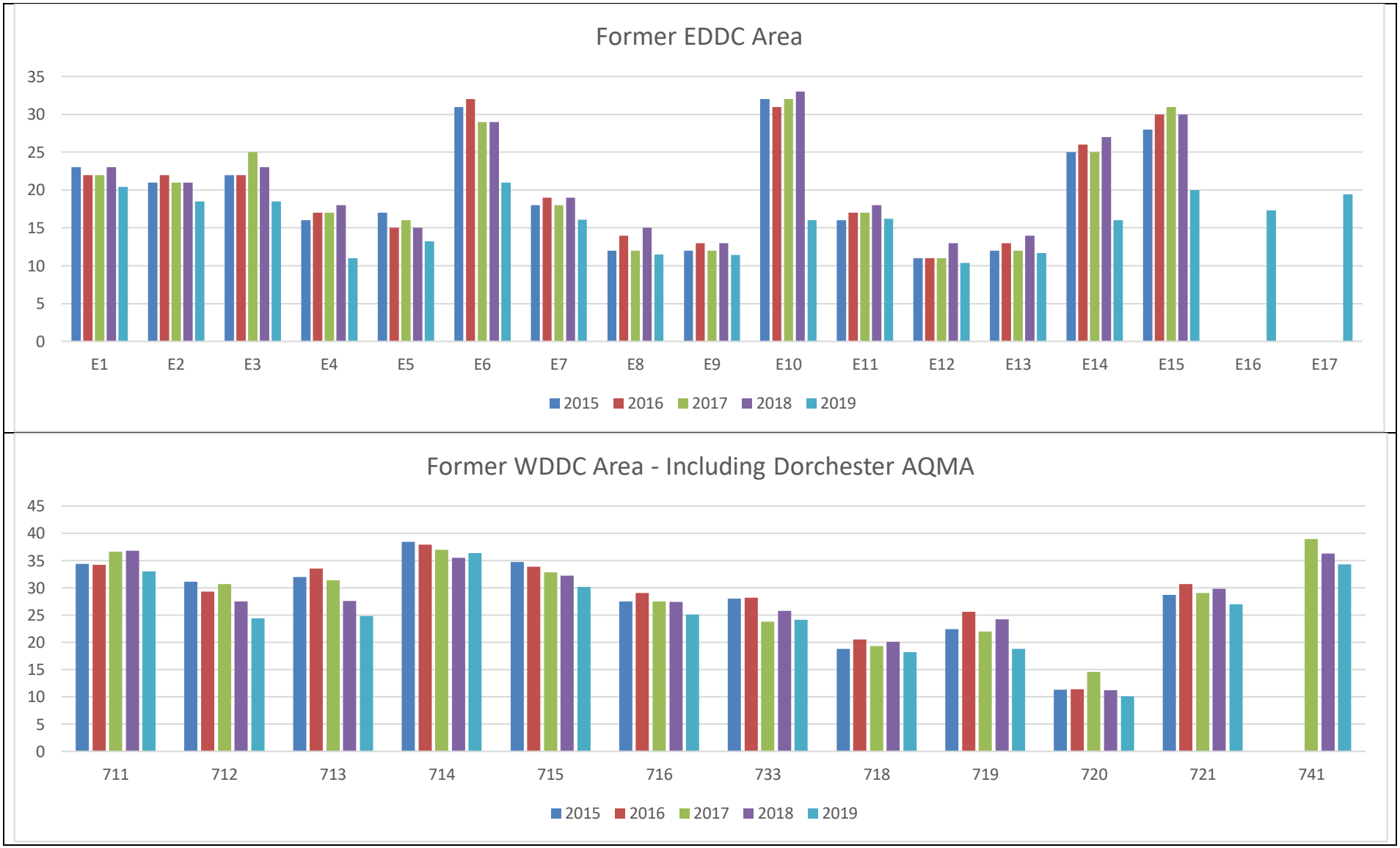
(2) Data capture for the full calendar year (e.g. if monitoring was carried out for 6 months, the maximum data capture for the full calendar year is 50%).

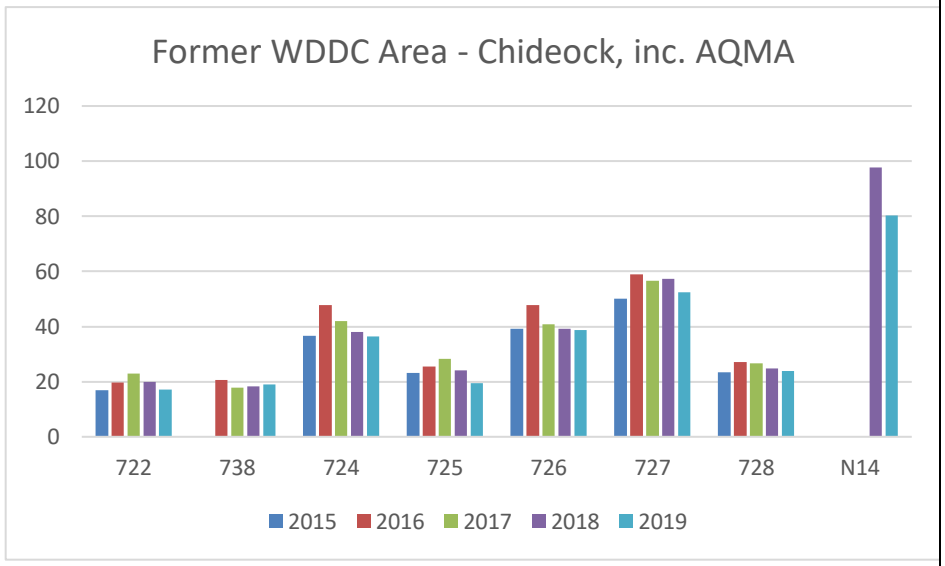
(3) Means for diffusion tubes have been corrected for bias. All means have been "annualised" as per Boxes 7.9 and 7.10 in LAQM.TG16 if valid data capture for the full calendar year is less than 75%. See Appendix C for details.

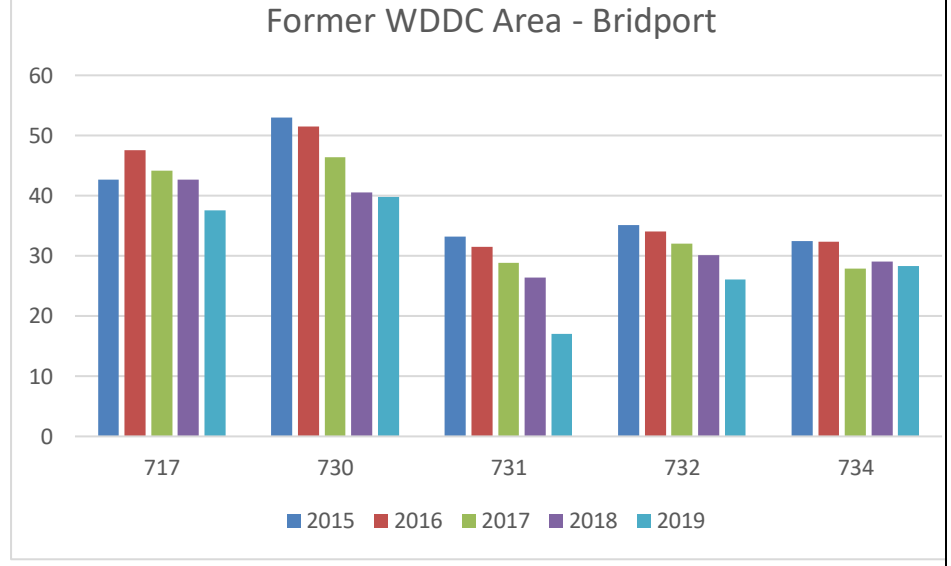
(4) Concentrations are those at the location of monitoring and not those following any fall-off with distance adjustment.

Figure A.1 – Trends in Annual Mean NO_2 Concentrations




Former EDDC Area
35
30
25
20
15
10
5
0
E1
E2
E3
E4
E5
E6
E7
E8
E9
E10
E11
E12
E13
E14
E15
E16
E17
2015
2016
2017
2018
2019
Former WDDC Area - Including Dorchester AQMA
45
40
35
30
25
20
15
10
5
0
711
712
713
714
715
716
733
718
719
720
721
741
2015
2016
2017
2018
2019


Former WDDC Area - Chideock, inc. AQMA
120
100
80
60
40
20
0
722
738
724
725
726
727
728
N14
2015
2016
2017
2018
2019


Former WDDC Area - Bridport
60
50
40
30
20
10
0
717
730
731
732
734
2015
2016
2017
2018
2019

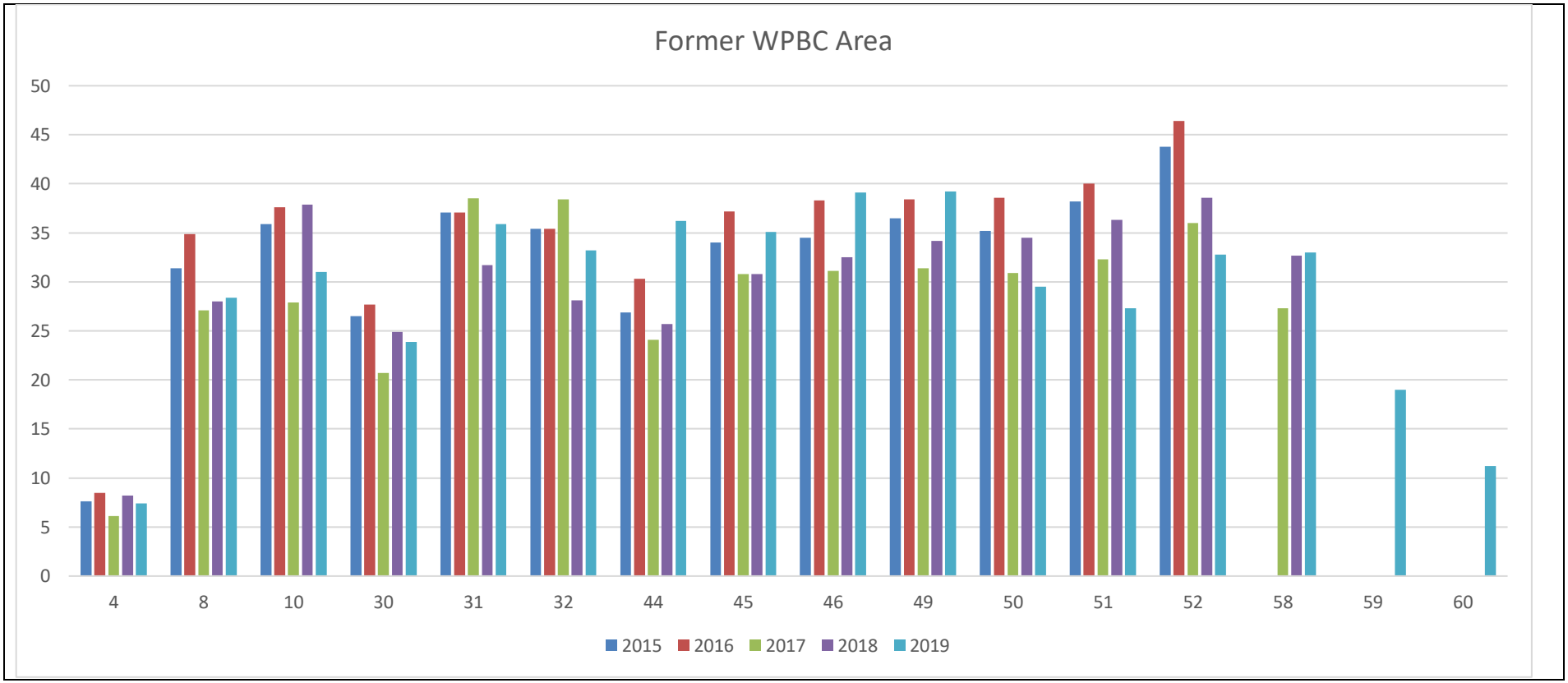

Former WPBC Area
50
45
40
35
30
25
20
15
10
5
0
4
8
10
30
31
32
44
45
46
49
50
51
52
58
59
60
2015
2016
2017
2018
2019

Table A.4 – 1-Hour Mean NO_2 Monitoring Results

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Monitoring Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2019 (%) (2)	NO_2 1-Hour Means > 200µg/m^3 (3)				
							2015	2016	2017	2018	2019
Boot Hill	367541	78471	Roadside	Automatic		99.94	-	0	0	0	n/a

Notes:

Exceedances of the NO_2 1-hour mean objective (200µg/m^3 not to be exceeded more than 18 times/year) are shown in **bold.**

(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%).

(3) If the period of valid data is less than 85%, the 99.8th percentile of 1-hour means is provided in brackets.

Table A.5 – Annual Mean PM_{10} Monitoring Results

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2019 (%) (2)	PM_{10} Annual Mean Concentration (µg/m³) (3)				
						2015	2016	2017	2018	2019
Boot Hill	367541	78471	Roadside		89.88	-	18.87	17.41	21.17	19.76

Notes:

Exceedances of the PM_{10} annual mean objective of 40µg/m³ are shown in **bold.**

(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%).

(3) All means have been "annualised" as per Boxes 7.9 and 7.10 in LAQM.TG16, valid data capture for the full calendar year is less than 75%. See Appendix C for details.

Figure A.2 – Trends in Annual Mean PM_{10} Concentrations

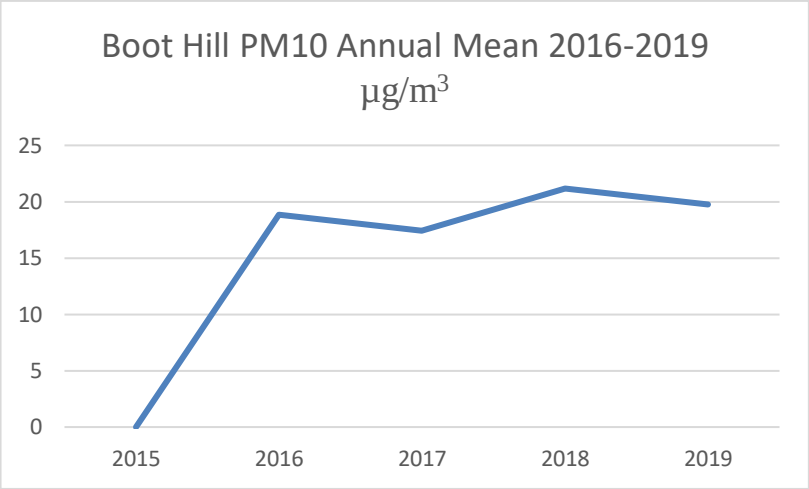


Table A.6 – 24-Hour Mean PM_{10} Monitoring Results

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2019 (%) (2)	PM_{10} 24-Hour Means > 50µg/m^3 (3)				
						2015	2016	2017	2018	2019
Boot Hill	367541	78471	Roadside		89.88	-	0	0	0	0

Notes:

Exceedances of the PM_{10} 24-hour mean objective (50µg/m^3 not to be exceeded more than 35 times/year) are shown in **bold.**

(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%).

(3) If the period of valid data is less than 85%, the 90.4th percentile of 24-hour means is provided in brackets.

Appendix B: Full Monthly Diffusion Tube Results for 2019

Table B.1 - NO_2 Monthly Diffusion Tube Results – 2019

Please note, due to the former sovereign council areas using different laboratories for diffusion tube provision, there was a requirement to apply two different bias adjustment factors. It was considered more appropriate to use a custom spreadsheet to display this, rather than the Defra provided template. For 2020 monitoring programme onwards, all diffusion tubes will be provided by the same laboratory.

2019 Dorset Council Monitoring Location	Easting	Northing	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean (not adjusted for bias)	Annual Mean adjusted for bias (0.87 Gradko) (1.01 SYAQS)	Corrected to Nearest Exposure
4 Portland, St Georges Estate Rd.	368779	71706	9	13	8	11	8	9	8	5	6	8	10	6	9	7	7.4
8 Weymouth, King St	368003	79527	33	40	36	39	31	30		29	32	31	34	27	33	28	28.4
10 Weymouth, Rodwell Rd.	367542	78548	37	31	41	60	47	45	44	36	38	38	46	37	42	36	31.0
30 Weymouth, 15 Rodwell Rd.	367545	78550	31	31	33	26	28	25	24	23	26	27	33	22	28	24	23.9
31 Weymouth, Rodwell Rndbt 1	367540	78471	38	50	37	46	40	33	44	36	41	56	39	37	41	36	35.9
32 Weymouth, Portmore Gdns.	367528	78554	36	57	35	41	38	38	42	32	34	37	36	36	38	33	33.2
44 Weymouth, Melcombe Hse.	367830	78595	34	39	31	35	31								43	36	36.2
45 Weymouth, Upway St	367879	78567	34									38	29	31	40	35	35.1
46 Weymouth, Dominoes	367995	79528	43	46	39	40	38	36	43	39	32	31	32	33	45	39	39.1
49 Weymouth, Rodwell Rndbt 2	367540	78471	41	50	38	46	41	39	44	36	49	48	41	46	45	39	39.2

50 Weymouth, Rodwell Rndbt 3	367540	78471	41	48	40	44	37	39	42	35	32	50	39	35	34	29	29.5
51 Weymouth, Rodwell Inn	367550	78485	42	52	35	55	44	40	46						33	27	27.3
52 Weymouth, 16 Rodwell Rd.	367533	78531	49	59	47	47	51	41	47	45	40	40	46	32	38	33	32.8
58 Portland, Fortuneswell	368540	73593	43	46	42	44	38	38	40		62	33	38	33	42	36	33.0
59 Wyke, Old Portland Rd.	366268	77709						20	23	19	19	21	26	18	21	19	19.0
60 Wyke, High St.	366091	77551						12	12	7	11	14	19	11	12	11	11.2
711 Dorchester, High West St.	369121	90739	40	39	40	42	36		33	36	37	40	36		38	33	33.0
712 Dorchester, Trinity St.	369171	90711	32	29	29	27	27	24	25	26	27	30	32	28	28	24	24.4
713 Dorchester, High East St. 2	369484	90759	33	35	32	32	29	26	27	29	29	5	31	34	29	25	24.8
714 Dorchester, High East St. 1	369387	90742	36	52	44	34	36	37	38	40	36	43	44	63	42	36	36.4
715 Dorchester, The Grove	368907	90739	39	35	38	31	37	35	35	38	35	36	32	28	35	30	30.2
716 Dorchester, Maumbury Rd.	368948	90089	38	31	m	28	m	23	28	28	28	m	25	30	29	25	25.1
733 Dorchester, Great Western Rd.	369002	90275	34	28	30	26	28	27	22	27	28	27	32	24	28	24	24.1
718 Dorchester, Church St.	369381	90698	29	23	22	24	20	18	17	15	18	m	25	19	21	18	18.2
719 Dorchester, Bridport Rd.	368815	90636	29	25	23	27	24	23	21	19	25	26	28	21	24	21	18.8
720 Dorchester, Borough Gardens	368982	90453	13	16	m	11	m	9	8	10	8	13	15	13	12	10	10.1
721 Dorchester, High West St. 2	368982	90706	32	30	33	35	31	31	28	28	29	32	31	33	31	27	27.0
741 Dorchester, Tom Browns	369468	90756	40	46	42	37	38	m	36	39	38	40	39	m	39	34	34.3
717 Bridport, East Rd.	347557	93023	41	45	44	45	49	31	51	60	43	41	38	31	43	38	37.6
730 Bridport, East Rd. 2	347612	93050	46	47	45	35	52	50	54	53	47	41	40	38	46	40	39.8
731 Bridport, East Rd. 3	347277	92867	27	30	30	27	28	29		29	28	26	25	23	27	24	17.0
732 Bridport, Askers Mead	347262	92873	31	32	33	32	32	27	32	30	31	27	29	24	30	26	26.1
734 Bridport, East Rd. 4	347489	92989	33	37	35	33	31	32	34	32	31	m	32	29	33	28	28.3

722 Chideock, Hope Cottage	342364	92814	21	18	22	26	20	20	19	18	19	m	22	13	20	17	17.2
738 Chideock, Greenhills	342151	92869	18	19	20	25	18	20	17	17	21	19	18	15	19	16	19.0
724 Chideock, Duck St	342190	92840	37	48	42	43	50	40	50	53	33	m	34	31	42	36	36.4
725 Chideock, George Inn	342486	92791	26	27	24	22	23	21	22	20	21	19	25	19	22	19	19.5
726 Chideock, Village Hall	342015	92887	41	46	43	42	48	45	54	56	48	40	40	33	45	39	38.7
727 Chideock, Whitecroft	341946	92908	56	58	68	57	75	63	70	78	58	56	47	39	60	53	52.5
728 Chideock, Warren House	342025	92894	28	30	30	35	32	28	28	25	24	21	29	20	27	24	23.8
N14 Chideock, Hill House	341320	93138	79	98	96	99	114	107	91	117	94	87	63	62	92	80	80.2
N1 Gillingham, Lawrence Cottage	381302	126181	41	38	39	33	33	33	31	33	m	36	37	32	35	31	27.0
N2 Gillingham, Wyke St.	380511	126490	30	28		26	23	24	22	20	23	22	11	24	23	20	16.3
N4 Sturminster, Newton The Barbers	378606	114009	45	41	38	32	37	33	32	33	33	36	40	35	36	31	31.4
N7 Melbury Abbas, Spinney Cottage	388206	120321	5		7	9	9	29	28	26	25	23	26	21	19	16	16.4
N8 Shaftesbury, Christy's Ln.	387052	122740	29	22	20										24	21	17.4
N9 Spetisbury, Clockwork House	391849	101888	27	23	19										23	20	20.0
N10 Spetisbury, Vine Cottage	391114	102648	34	38	28										33	29	28.9
N11 Blandford, 67 Salisbury St.	388524	106542	29	33	21										28	24	23.9
N12 Blandford, East St.	388760	106383	39	33	29										34	29	29.2
N13 Fontmell Magna, Willow Cottage	386673	117063	17	17	12										15	13	9.2
N15 Gillingham, Cerne Ave.	382041	125887				8	6	6	7	7	7	9	13	9	8	7	7.0
N16 Gillingham, New Rd	381083	125868				25	18						24	19	21	19	19.3
P1 Wareham, Worgret Rd.	391790	87190	18	17	15	14	9	8	10	8	10	12	14		12	11	9.0
P2 Corfe Castle, East St.	396276	81699	24	19	18	20	14	9	13	10	13	14	20	13	16	14	14.0
P3 Swanage, Kings Rd.	402860	78830	18		16	17	13	11		11	10	13	17	13	14	12	10.0
P4 Swanage, Queens Rd.	402970	78410	11	16	9	11	8	7	6	5	7	7	11	7	9	8	8.0
P5 Upton, Blandford Rd. N	397910	93425	37	30	28	27	21	14	21	21	20	25	34	23	25	22	15.0

P6 Wool, Dorchester Rd.	384430	86880	23	20	21	20	17	14	14	16	m	17	21	17	18	16	11.0
P7 Bere Regis, West St.	383901	95100	15	15	14	13	10	7	7	8	9	10	15	10	11	10	9.0
P8 Upton, Blandford Rd.	398421	92644	33	27	25	22	20	13	17	18	19	21	31	22	22	19	14.0
P9 Swanage, Gilbert Rd.	402790	78950	16	16	17	15	13	11	10	12	10	13	14	15	14	12	11.0
P10 Sandford, Sandford Rd.	393223	89947	21	26	18	33	18	16	18	14	1	20	26	20	19	17	12.0
P11 Sandford, Primary School	393334	90089	22	29	18	35	19	22	18	14	15	20	25	18	21	18	16.0
P12 Swanage, Queens Rd. II	402965	78408	11	13	9	15	8	8	7	5	7	8	13	7	9	8	9.0
P13 Upton, Drascombe Dr.	398330	93137	31	28	26	24	17	17	15	14	17	22	30	21	22	19	19.0
P14 Upton, Palmerston Rd.	398572	93137	35	35	27	24		18	18	19	20	23	32	25	25	22	17.6
E1 Ringwood, Horton Rd.	413298	104528	23	30	20	26	22	26	22	23	22	21	19	27	23	20	20.4
E2 Ringwood, Avon Park	413488	104543	31	25	24	25	19	19	19	16	21	23	13	20	21	18	18.5
E3 Ringwood, Hurn Rd.	413686	104709	35	26	24	23	21	17	19	16	20	22	11	21	21	18	18.5
E4 Ringwood, Davids Ln.	413425	104429	23	23	18	19	15	16	15	15	7	18	15	19	17	15	11.0
E5 Ringwood, Castlewood	413521	104368	21	21	17	14	10	12	12	12	13	17	14	19	15	13	13.2
E6 Ferndown, Ringwood Rd.	407785	100135	36	39	30	36	28	29	25	23	26	42	17	34	30	26	21.0
E7 Ferndown, Dudsbury Ave.	407668	99889	27	27	21	21	14	14	15	15	16	19	12	21	19	16	16.1
E8 Ferndown, Fernlea Cl.	407804	100016	19	19	14	15	9	9	10	8	11	15	14	15	13	11	11.5
E9 Ferndown, Melbury Cl.	407650	99763	18	21	14	15	10	10	9	9	10	15	12	14	13	11	11.4
E10 St Ives, Ringwood Rd.	412782	104118	36	49	32	42	31	35	29	28	30	38	38	39	36	31	16.0
E11 St Ives, Sandy Ln.	412747	104117	23	28	18	22	14	18	14	14	14	21	14	23	19	16	16.2
E12 St Ives, Russell Gdns.	412749	104262	13	18	11	14	9	9	8	10	10	14	13	15	12	10	10.4
E13 St Ives, St Ives Wood	412978	104339	15	21	10	16	10	6	10	11	12	17	15	18	13	12	11.7
E14 West Parley, Public WC, Christchurch Rd.	408384	97986	34	31	24	35	23	27	22	21	25	27	15	26	26	22	16.0
E15 West Parley, 235 Christchurch Rd.	408468	98002	35	39	35	35	28	28	28	27	24	34	18	33	30	26	20.0
E16 Wimborne, West St	400833	100042	26	23	19	21	18	18	17	17	17	21	16	26	20	17	17.3
E17 Wimborne, West Borough	400901	100149	27	30	22	25	20	22	18	16	18	25	18	27	22	19	19.4

☐ **Local bias adjustment factor used**

☒ **National bias adjustment factor used**

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

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

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.**

(1) See Appendix C for details on bias adjustment and annualisation.

(2) Distance corrected to nearest relevant public exposure.

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

Significant Changes to Sources throughout Dorset Council

There have been no known significant changes to sources of pollution in Dorset Council. There have been a number of significant planning applications within the council's area

A list of Permitted Processes within the Dorset Council area can be seen at https://www.dorsetcouncil.gov.uk/business-consumers-licences/licences-and-permits/environmental-permits/environmental-permits.aspx

Diffusion Tube Bias Adjustment Factors

2019 diffusion tubes were sourced from two different companies, South Yorkshire Air Quality Samplers and Gradko International. Both labs provided a preparation method is 50% TEA in acetone. All of the data presented in this report has been bias adjusted using the national adjustment databased available on the LAQM Support website. The data has been adjusted using version 03/20 of the spreadsheet giving a factor of 1.01 for South Yorkshire Air Quality Samplers and 0.87 for Gradko supplied tubes. The data presented in this report has been fully bias adjusted, annualised where necessary and distance from road calculated.

2020 Diffusion Tubes have all been sourced from South Yorkshire Air Quality Samplers.

Dorset Council now operate one Chemiluminescent Analyser, to apply the local bias adjustment factor to all the diffusion tunes within its area was considered not truly representative.

Internal issues with accessing the analyser's data with respect to IT security concerns means that the data is not able to be manipulated and therefore we have heavily relied upon Air Monitors to kindly provide a service to scale and ratify data. This access has not been solved during 2020 either.

QA/QC of Monitoring Data

AIR PT is an independent analytical proficiency-testing (PT) scheme, operated by LGC Standards and supported by the Health and Safety Laboratory (HSL). AIR PT is a new scheme, started in April 2014, and offers a number of test samples designed to test the proficiency of laboratories undertaking analysis of chemical pollutants in ambient indoor, stack and workplace air. One such sample is the AIR NO2 test sample type that is distributed to participants in a quarterly basis. AIR NO2 PT forms an integral part of the UK NO2 Networks QA/QC, and is a useful tool in assessing the analytical performance of those laboratories supplying diffusion tubes to local authorities for use in the context of Local Air Quality Management (LAQM). Both labs used by Dorset Council in 2019 take part in the AIR PT scheme. The results of the AIR PT scheme for 2019 are provided in Table C.1 below.

Figure 12 Results of Air PT Rounds: Gradko and South Yorkshire Air Quality Samplers

AIR PT round	AIR PT AR025	AIR PT AR027	AIR PT AR028	AIR PT AR030	AIR PT AR033
Period	Apr – May '18	Jul – Aug '18	Sept – Oct '18	Jan – Feb '19	Jul – Aug '19
South Yorkshire Air Quality Samplers	100%	100%	100%	100%	100%
Gradko International	100%	100%	100%	75%	100%

Distance corrections have been applied to the following diffusion tubes 719, 731, 738, N1, N2, N8, N13, .P1, P2, P3, P5, P6, P7, P8, P9, P10, P11, P12 ,P13, P14, E4, E6, E10, E11, E14, E15, 10, and 58. Using the Background tube no 4 (7.4µg/m^3) and the NO_2 Fall Off With Distance Calculator from Bureau Veritas.

Figure 13: Distance Corrections

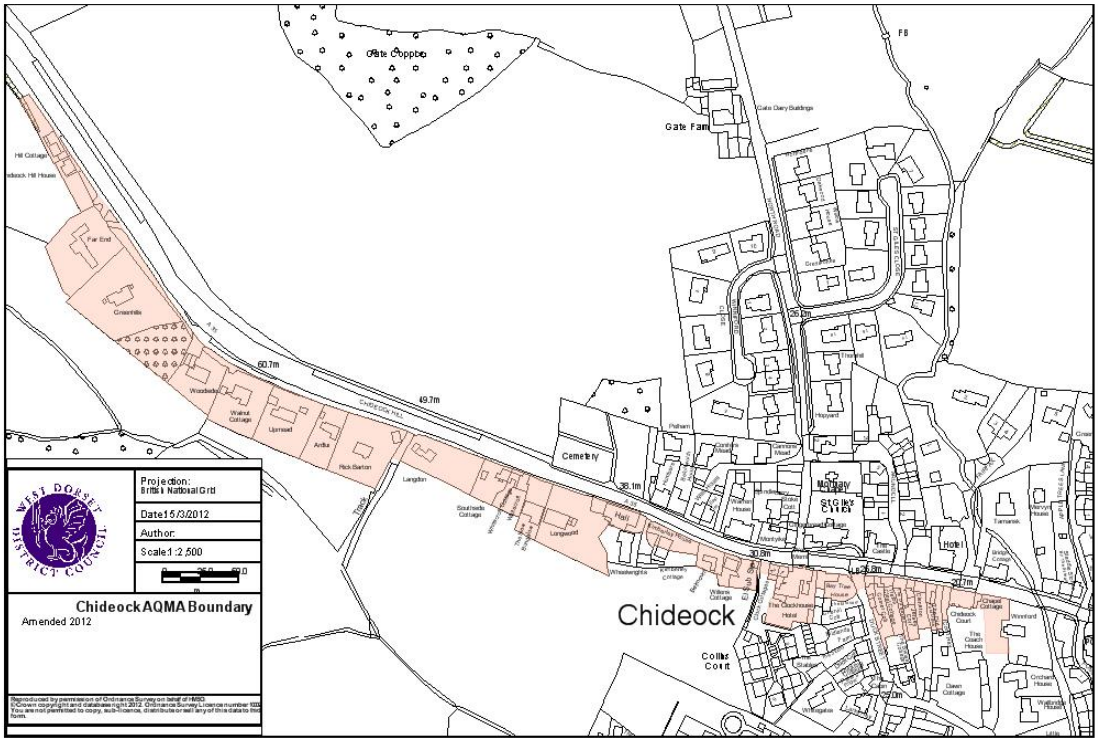
Enter data into the pink cells

Site Name/ID	Distance (m)		NO_2 Annual Mean Concentration (µg/m^3)			Comment
	Monitoring Site to Kerb	Receptor to Kerb	Background	Monitored at Site	Predicted at Receptor	
719.0	2.0	4.0	7.4	21.0	18.8	
731.0	4.0	18.0	7.4	24.0	17.0	
738.0	11.5	11.5	7.4	19.0	19.0	Warning: your monitor is more than 10m further from the kerb than your receptor - treat result with caution.
N1	1.5	5.6	7.4	35.0	27.0	
N2	1.7	11.5	7.4	23.0	16.3	
N8	2.0	11.0	7.4	24.0	17.4	
N13	0.1	26.0	7.4	15.0	9.2	Warning: your receptor is more than 20m further from the kerb than your monitor - treat result with caution.
P1	1.0	14.0	7.4	12.0	9.6	
P2	1.0	2.0	7.4	16.0	14.8	
P3	1.0	15.0	7.4	14.0	10.4	
P5	2.0	21.0	7.4	25.0	15.3	Warning: your receptor is more than 20m further from the kerb than your monitor - treat result with caution.
P6	2.0	32.0	7.4	18.0	11.1	Warning: your receptor is more than 20m further from the kerb than your monitor - treat result with caution.
P7	1.0	13.0	7.4	11.0	9.1	
P8	1.0	17.0	7.4	23.0	14.1	
P9	1.0	8.0	7.4	14.0	11.2	
P10	1.0	21.0	7.4	19.0	11.9	Warning: your receptor is more than 20m further from the kerb than your monitor - treat result with caution.
P11	2.0	12.0	7.4	22.0	15.9	
P12	2.0	7.0	7.4	9.0	8.5	
P13	6.0	12.1	7.4	22.0	18.8	
P14			7.4	25.0		
E4	0.5	7.5	7.4	15.0	11.4	
E6	1.3	5.3	7.4	27.0	21.1	
E10	1.3	27.9	7.4	31.0	15.6	Warning: your receptor is more than 20m further from the kerb than your monitor - treat result with caution.
E11	30.0	43.0	7.4	16.0	14.0	Warning: your receptor is more than 20m further from the kerb than your monitor - treat result with caution. Warning: your monitor is more than 10m further from the kerb than your receptor - treat result with caution.
E14	1.0	9.0	7.4	23.0	16.1	
E15	1.0	5.0	7.4	26.0	20.0	
10.0	2.5	5.0	7.4	36.0	31.1	
58.0	1.5	2.4	7.4	36.0	33.0	

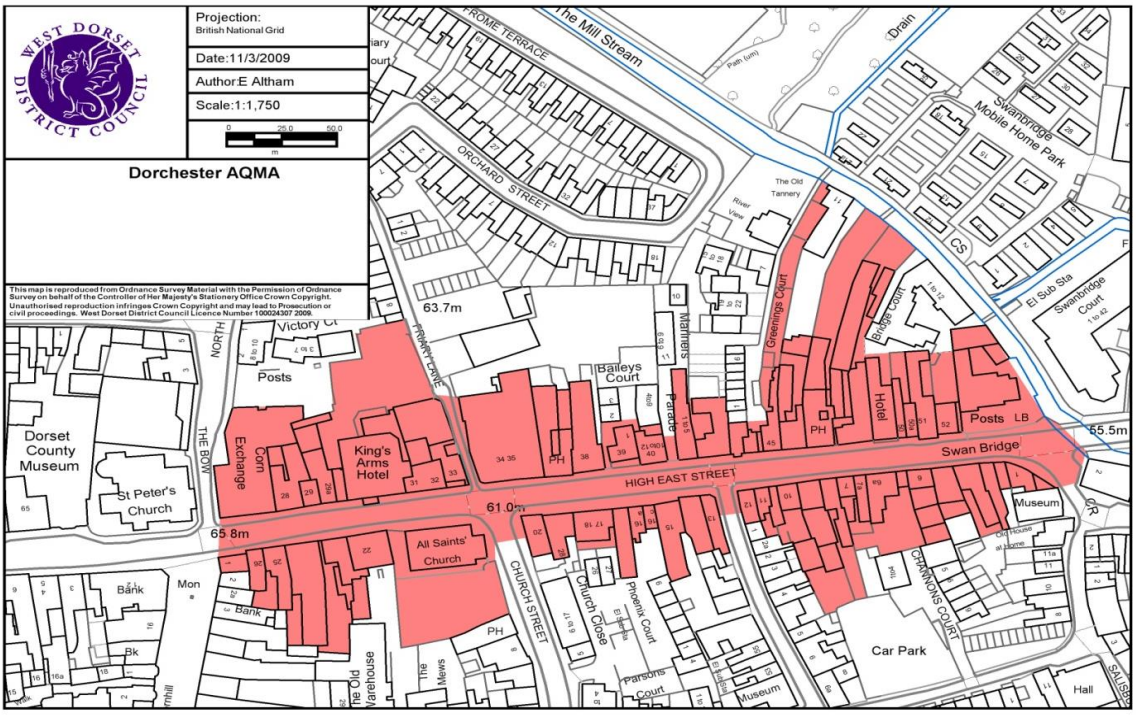
Appendix D: Map(s) of Monitoring Locations and AQMAs

AQMA Chideock 2007 Boundary

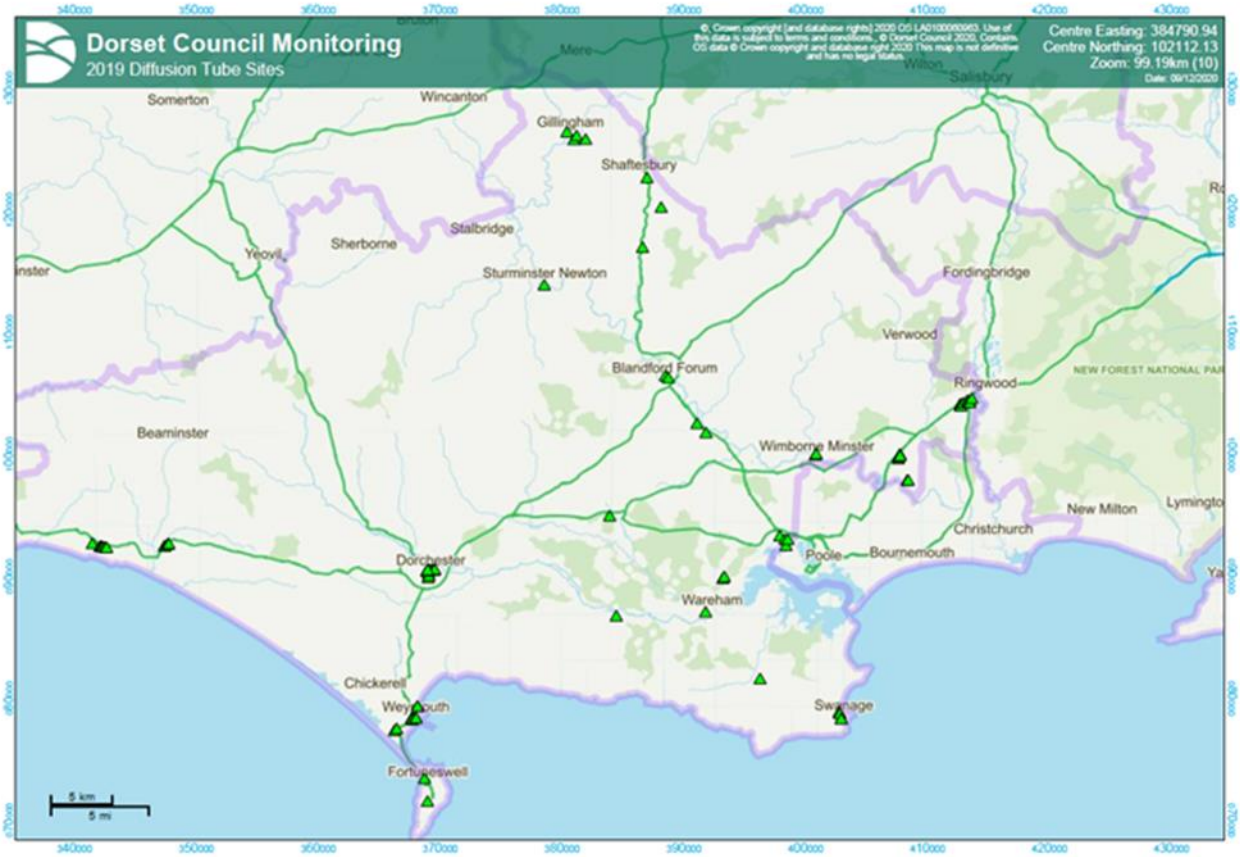
AQMA Chideock 2012 Amended Boundary



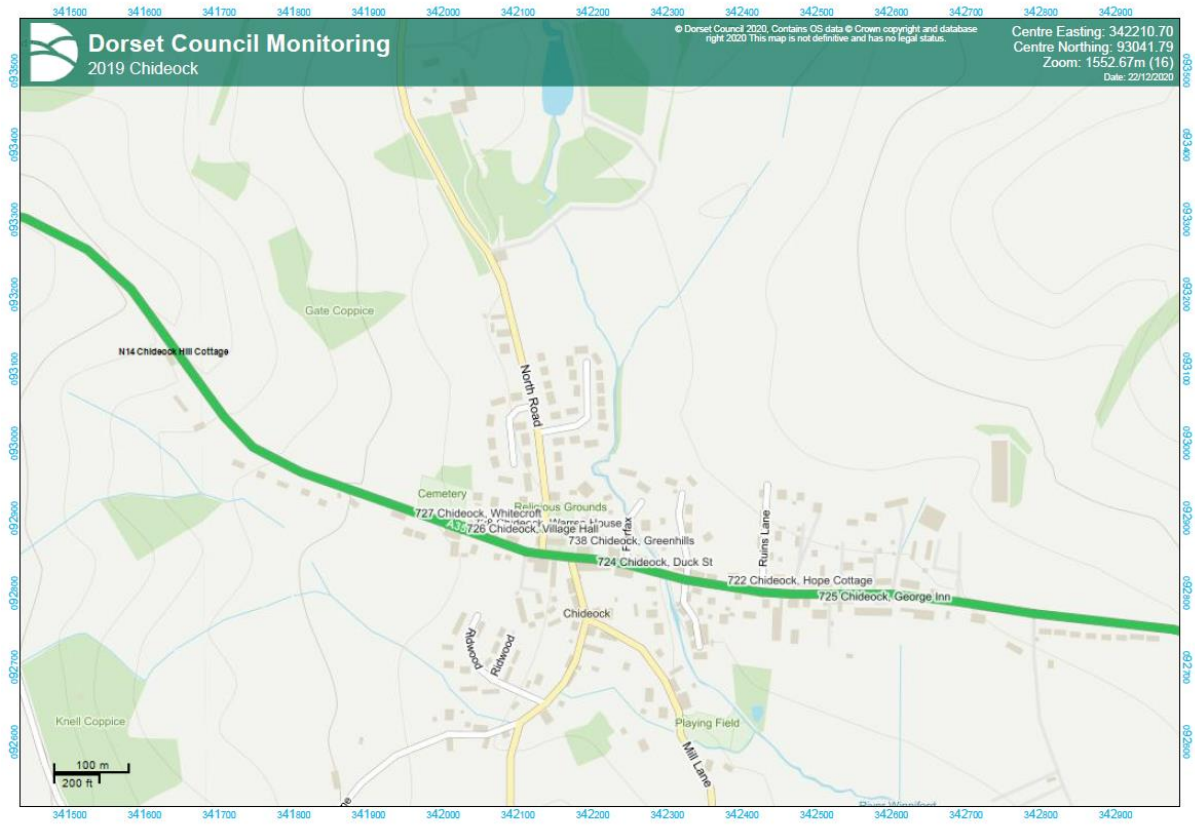
AQMA Dorchester 2009



All Dorset Council Diffusion Tube Monitoring Locations



Chideock Specific Monitoring Locations



Other locations for 2019 Monitoring can be found at:
https://explorer.geowessex.com/?layers=21985&basemap=19963&x=378008.83&y=99630.73&epsg=27700&zoom=10

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 micrograms of pollutant per cubic metre of air (µg/m^3).

Glossary of Terms

Abbreviation	Description
AQC	Air Quality Consultants
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
DC	Dorset Council
Defra	Department for Environment, Food and Rural Affairs
DMRB	Design Manual for Roads and Bridges – Air quality screening tool produced by Highways England
EDDC	East Dorset District Council
EU	European Union
FDMS	Filter Dynamics Measurement System
LAQM	Local Air Quality Management
NDDC	North Dorset District Council
NO_2	Nitrogen Dioxide
NO_x	Nitrogen Oxides
PDDC	Purbeck District Council
PM_{10}	Airborne particulate matter with an aerodynamic diameter of 10µm (micrometres or microns) or less
$PM_{2.5}$	Airborne particulate matter with an aerodynamic diameter of 2.5µm or less
QA/QC	Quality Assurance and Quality Control

SO_2	Sulphur Dioxide
SYAQS	South Yorkshire Air Quality Samplers
WDDC	West Dorset District Council
WPBC	Weymouth and Portland Borough Council

References

1. https://laqm.defra.gov.uk/tools-monitoring-data/no2-falloff.html
2. ASRs from Former Sovereign Authorities (EDDC, NDDC, PDC, WDDC, WPBC)
3. Local Air Quality Management Technical Guidance LAQM.TG(16)
4. www.laqmsupport.org.uk
5. Assessment of Air Quality along the A35 in Chideock, West Dorset. January 2019. Air Quality Consultants