

2020 Air Quality Annual Status Report (ASR)

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

August 2020





Bassetlaw
DISTRICT COUNCIL
— North Nottinghamshire —

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Executive Summary: Air Quality in Our Area

Air Quality in Bassetlaw

Bassetlaw is the northern most of the seven Nottinghamshire authorities. It covers an area of approximately 240 square miles and has a population of approximately 112,000. The population density (as of 2011 census information) is 176/km². The borough is predominantly rural with the two main settlements being the market towns of Worksop and Retford. The A1 trunk road runs straight through the borough from the north-west (at Harworth) to the south-east (at Tuxford).

The traditional industry in the west of the borough (around Worksop) was coal mining. Since 1980, all of the coal mines in Nottinghamshire have now closed. A variety of smaller and diverse businesses have established in the district as part of ongoing regeneration initiatives in the district. The River Trent forms the eastern boundary of the borough with Lincolnshire, and apart from the coal-fired power stations on the Trent there is little or no heavy industry in the east. The land becomes flatter in the east of the borough and arable farmland covers much of the area.

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.

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

Bassetlaw District council continues to monitor levels of Nitrogen Dioxide at key locations across Bassetlaw as this is the primary pollutant of concern in our area. The results of the monitoring data obtained during 2019 have been compared with the previous year's monitoring data and the annual air quality objectives as defined in the Air Quality Regulations.



Levels of Nitrogen Dioxide have remained fairly consistent between 2018 and 2019. There does appear to have been an increase in the amount of Nitrogen Dioxide in Worksop Town Centre we believe this to be a result of increased visits to the town centre but this could also be the result of other factor such as local weather issues.

Public Health England attributes 4.6% of deaths in our area as being attributable to Particulate Air Pollution as opposed to an English National average of 5.2%.

Actions to Improve Air Quality

A monitoring network of nitrogen dioxide (NO₂) diffusion tubes is in place within the District and this currently does not show any exceedances of the relevant AQS objective for NO₂ at any relevant location. This monitoring network is set to continue acting as a system to monitor changes in concentration of NO₂ and to identify any changes in trends.

Historically, air quality within Bassetlaw has consistently complied with the UK AQS objectives. The District in general benefits from a very good standard of air quality.

There are also a small number of 'hot-spot' locations where pollution has been shown over a number of years to be close to the legal limits. These are in the towns of Worksop and Retford in locations where standing traffic during busy periods causes air quality to be impacted. As the A1 slices across the district it intersects in a number of key locations with some of Bassetlaw's roads. At these locations the A1 either passes under, over or directly alongside the local road network and residents in the immediate vicinity could be impacted by pollution caused by increased levels of traffic. These are areas which are kept under close review to ensure that traffic related pollution is not above the health-based objectives.

Conclusions and Priorities

There were no measured, or modelled breaches, of AQS standards within Bassetlaw in 2019 and there are no Air Quality Management Areas.



Some key events which took place in 2019 were the closure of Cottam Power Station and the adoption of the [Nottinghamshire Air Quality Strategy](#) which sets out how Air Quality will be improved across Nottinghamshire.

[The Draft Bassetlaw Local Plan 2020](#) proposes the construction of many homes during the coming years and the impact of new development in our area will need to be carefully scrutinised and we are pleased that the plan makes explicit reference to Air Quality as a consideration when determining the location of future developments.

Local Engagement and How to get involved

Bassetlaw's Education and Awareness officer in conjunction with the Communications Team promotes Clean Air Day and will assist any local groups with their own initiatives with regards to improving air quality, for example promoting walking to school and the use of un-motorised transport.

Information is provided on Bassetlaw District Council's website in regards to Air Quality.

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1 Local Air Quality Management

This report provides an overview of air quality in Bassetlaw 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 Bassetlaw 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.



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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.

Bassetlaw District Council currently does not have any AQMAs. For reference, a map of Bassetlaw's monitoring locations is available in Appendix D.

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

Bassetlaw District Council has taken forward a number of direct measures during the current reporting year of 2019 in pursuit of improving local air quality. Details of all measures completed, in progress or planned are set out in Table 2.1.

Despite an increase in population, businesses and permitted processes we have been able to keep Air Quality within our area at a relatively high standard.

Bassetlaw District Council's priorities for the coming year are to establish Air Quality in the wider policy discourses within the council, especially with regards to the local plan.

The principal challenges to implementation of the aim are the sometimes conflicting aims within the various stakeholders.

But the progress made here should help prevent breaches of Air Quality Objectives in the future despite vigorous economic growth.

Table 2.1 – 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	Comments / Barriers to implementation
1	Maintain a High quality Environmental Permitting Regime	Environmental Permits	Measures to reduce pollution through IPPC Permits going beyond BAT	Ongoing	Local Authority and Local Industry	Local Industry	PPC Sampling Evidence	Varies by Process	Good	Ongoing	
2	Attendance at regional working group	Alternatives to private vehicle use	Other	Ongoing	Local Authority Environmental Health, Local Authority Transport	Local Authority	Nitrogen Dioxide	Various by locality	Long-term General downward Trends	Ongoing	
3	Local Education and Awareness Campaigns	Public Information	Via the Internet	Ongoing	Local Authority	Local Authority	Social Media Interactions		Satisfactory	Ongoing	
4	Establishing Air Quality as a factor when planning local development	Policy Guidance and Development Control	Other policy	2019	Local Authority House Builders Local Industry	Local Authority House Builders Local Industry	Long term Levels of Nitrogen Dioxide		Satisfactory	Current Draft Local Plan ends in 2037	Economic factors

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

3.1 Summary of Monitoring Undertaken Non-Automatic Monitoring Sites

Bassetlaw District Council undertook non- automatic (passive) monitoring of NO₂ at 23 sites during 2019. Table A.1 in Appendix A shows the details of the sites.

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

Further details on Quality Assurance/Quality Control (QA/QC) for the diffusion tubes, including bias adjustments and any other adjustments applied (e.g. “annualisation” and/or distance correction), are included in Appendix C.

3.2 Individual Pollutants

The air quality monitoring results presented in this section are, where relevant, adjusted for bias¹, “annualisation” (where the data capture falls below 75%), and distance correction². Further details on adjustments are provided in Appendix C.

3.2.1 Nitrogen Dioxide (NO₂)

Table A.2 in Appendix A compares the ratified and adjusted monitored NO₂ annual mean concentrations for the past 5 years with the air quality objective of 40µg/m³.

Note that the concentration data presented in Table A.2 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).

¹ <https://laqm.defra.gov.uk/bias-adjustment-factors/bias-adjustment.html>

² Fall-off with distance correction criteria is provided in paragraph 7.77, LAQM.TG(16)



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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.

February was marked by particularly high concentrations of Nitrogen Dioxide. We recorded levels of NO₂ exceeding 40µg/m³ in the town centres of: Worksop, Retford, Harworth and in Tuxford at the A1 Overpass. However none of these measurements exceeded the 60µg/m³ level which would indicate probable exceedances of the 1-hour mean objective. The levels in March were considerably lower for instance diffusion tube on Arlington Road Retford recorded an unadjusted reading of 46.2 µg/m³ in February a reading of 17.6 µg/m³ in March.

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

Site ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA?	Distance to Relevant Exposure (m) ⁽¹⁾	Distance to kerb of nearest road (m) ⁽²⁾	Tube collocated with a Continuous Analyser?	Height (m)
2	Cuckney	Suburban	456490	371245	NO ₂	No	1	1m	No	2
3	7a Kings Head, Carlton Rd, Worksop	Urban Centre	458564	379284	NO ₂	No	1m	1m	No	2
5	Newcastle Avenue, Worksop	Urban Centre	458230	378909	NO ₂	No	1m	1m	No	2
12	Watson Road, Worksop (1)	Urban Centre	458569	379162	NO ₂	No	0.5m	1m	No	2
15	Blyth Rd, Ranby	Urban Centre	464921	381197	NO ₂	No	0.5m	1m	No	2
22	Little Styrrup, DunhamTuxford	Urban Centre	481325	374504	NO ₂	No	1	1m	No	2
25	London Rd Junction, Retford	Urban Centre	470759	380698	NO ₂	No	5m	1m	No	2
26	Hospital Road, Retford	Urban Centre	470095	381292	NO ₂	No	2m	1m	No	2

27	Arlington Way / Grove Street, Retford	Urban Centre	470793	381106	NO2	No	1m	1m	No	2
28	Elkesley, A1	Urban Centre	468518	375695	NO2	No	1m	1m	No	2
29	Lincoln Road, A1 Overpass, Tuxford	Urban Centre	473779	371093	NO2	No	1m	1m	No	2
30	Beaufort Road, NrA57 bypass	Urban Centre	457557	379081	NO2	No	2m	1m	No	2
31	Claylands Ave, Worksop	Urban Centre	457837	380581	NO2	No	2m	1m	No	2
32	Birch Court, Tuxford	Urban Centre	473911	370840	NO2	No	10m	1m	No	2
34	Watson Road, Worksop (2)	Urban Centre	458639	379009	NO2	No	2m	2m	No	2
35	Selby Road, Styrrup, A1	Urban Centre	461104	390658	NO2	No	5m	2m	No	2
36	Retford Road, A1, Blyth	Urban Centre	463022	386937	NO2	No	2m	2m	No	2
37	Scrooby Road	Urban Centre	461636	391547	NO2	No	20m	1m	No	2
39	Carlton Road - New Tesco	Urban Centre	458685	379893	NO2	No	17m	1m	No	2
40	Scrooby Road - New ASDA	Urban Centre	462598	391521	NO2	No	2m	1m	No	2

41	Kilton Road - New Morrisons	Urban Centre	459376	379451	NO2	No	1m	1m	No	2
42	Hall Drive, Worksop (St. Annes Roundabout)	Urban Centre	457738	378729	NO2	No	1m	1m	No	2
43	Mansfield Road, Worksop	Urban Centre	457556	378743	NO2	No	1m	1m	No	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 – Annual Mean NO₂ Monitoring Results

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Monitoring Type	Valid Data Capture for Monitoring Period (%) ⁽¹⁾	Valid Data Capture 2019 (%) ⁽²⁾	NO ₂ Annual Mean Concentration (µg/m ³) ^{(3) (4)}				
							2015	2016	2017	2018	2019
Mansfield Road, Cuckney 2	456490	371245	Suburban	Diffusion Tube	91.7	91.7	<u>23.6</u>	22.3	21.4	21.4	20.8
7A Kings Head, Carlton Road, Worksop 3	458564	379284	Urban Centre	Diffusion Tube	100.0	100.0	<u>31.2</u>	31.2	30.1	22.4	30.2
Newcastle Avenue, Worksop (lamppost) 5	458230	378909	Urban Centre	Diffusion Tube	100.0	100.0	<u>29.8</u>	29.4	28.2	23.0	25.7
Watson Road (1) Near undertakers 12	458569	379162	Urban Centre	Diffusion Tube	100.0	100.0	<u>32.2</u>	32.2	31.1	31.4	34.6
Blyth Road, Ranby 15	464921	381197	Urban Centre	Diffusion Tube	100.0	100.0	<u>25.8</u>	25.8	22.2	16.6	19.2
Dunham (1), Little Styrrup 22	481325	374504	Urban Centre	Diffusion Tube	100.0	100.0	<u>25.9</u>	25.9	25.0	18.8	23.5



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London Road Junction, Retford 25	470759	380698	Urban Centre	Diffusion Tube	91.7	91.7	<u>31.4</u>	30.7	24.7	23.9	24.7
Hospital Road, Retford 26	470095	381292	Urban Centre	Diffusion Tube	100.0	100.0	<u>32.0</u>	32.1	31.4	29.2	30.1
Arlington Way / Grove Street, Retford 27	470793	381106	Urban Centre	Diffusion Tube	100.0	100.0	<u>32.8</u>	32.7	27.1	26.2	28.7
Elkesley A1 (lamp 93) 28	468518	375695	Urban Centre	Diffusion Tube	100.0	100.0	-		21.2	17.2	18.9
Tuxford, Lincoln Road A1 overpass 29	473779	371093	Urban Centre	Diffusion Tube	91.7	91.7	<u>39.1</u>	39.4	38.2	30.9	33.2
Beaufort Road / Nr A57 Worksop bypass 30	457557	379081	Urban Centre	Diffusion Tube	91.7	91.7	<u>24.3</u>	24.5	23.3	19.5	20.9
Claylands Avenue, Worksop 31	457837	380581	Urban Centre	Diffusion Tube	100.0	100.0	<u>27.7</u>	27.7	25.8	23.5	25.4
Birch Court, Tuxford 32	473911	370840	Urban Centre	Diffusion Tube	91.7	91.7	<u>26.7</u>	26.7	21.2	21.3	23.0
Watson Road (2) Near	458639	379009	Urban Centre	Diffusion Tube	66.7	66.7	<u>32.4</u>	32.4	27.8	23.6	32.5



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Newcastle Ave 34											
Styrrup, Serlby Road / A1 35	461104	390658	Urban Centre	Diffusion Tube	100.0	100.0	<u>27.7</u>	27.7	21.9	23.6	24.1
Blyth, Retford Road / A1 36	463022	386937	Urban Centre	Diffusion Tube	91.7	91.7	<u>30.4</u>	30.4	28.5	26.8	26.1
Scrooby Road Roundabout	461636	391547	Urban Centre	Diffusion Tube	91.7	91.7	<u>32.5</u>	32.5	29.8	26.1	28.8
Carlton Road - New Tesco	458685	379893	Urban Centre	Diffusion Tube	83.3	83.3	<u>26.3</u>	26.3	26.2	22.5	25.0
Scrooby Road - New Asda	462598	391521	Urban Centre	Diffusion Tube	83.3	83.3	<u>32.9</u>	32.9	26.4	22.6	28.9
Kilton Road - (New morrison's)	459376	379451	Urban Centre	Diffusion Tube	100.0	100.0	<u>31.5</u>	31.5	32.2	25.8	30.6
Hall Drive, Worksop (St. Annes Roundabout)	457738	378729	Urban Centre	Diffusion Tube	100.0	100.0	<u>31.5</u>	31.5	18.5	17.4	19.9
Mansfield Road, Worksop	457556	378743	Urban Centre	Diffusion Tube	100.0	100.0	<u>26.9</u>	26.5	23.7	22.9	23.9

☒ Diffusion tube data has been bias corrected



- ☐ 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 NO₂ annual mean objective of 40µg/m³ are shown in **bold**.

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

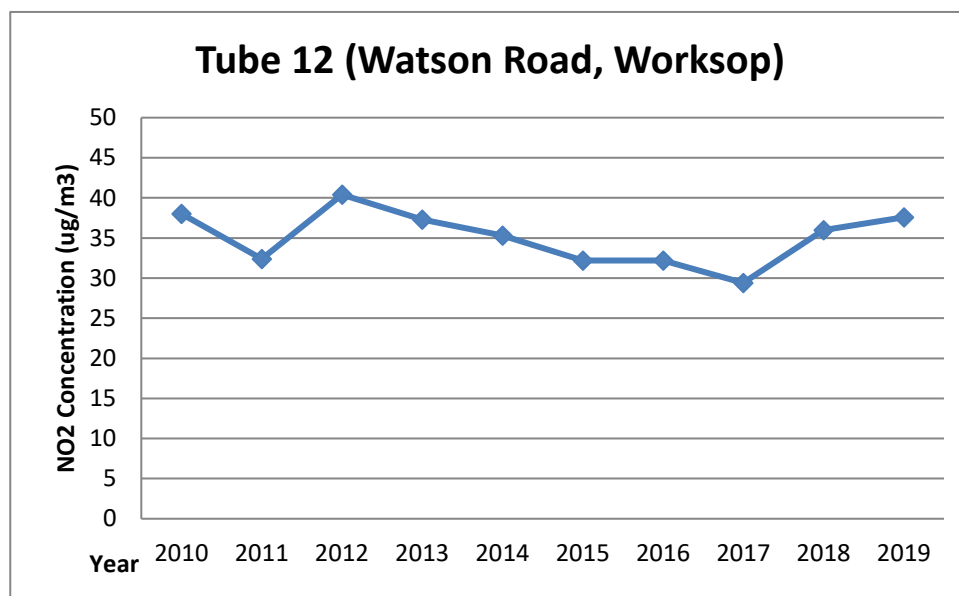
(1) Data capture for the monitoring period, in cases where monitoring was only carried out for part of the year.

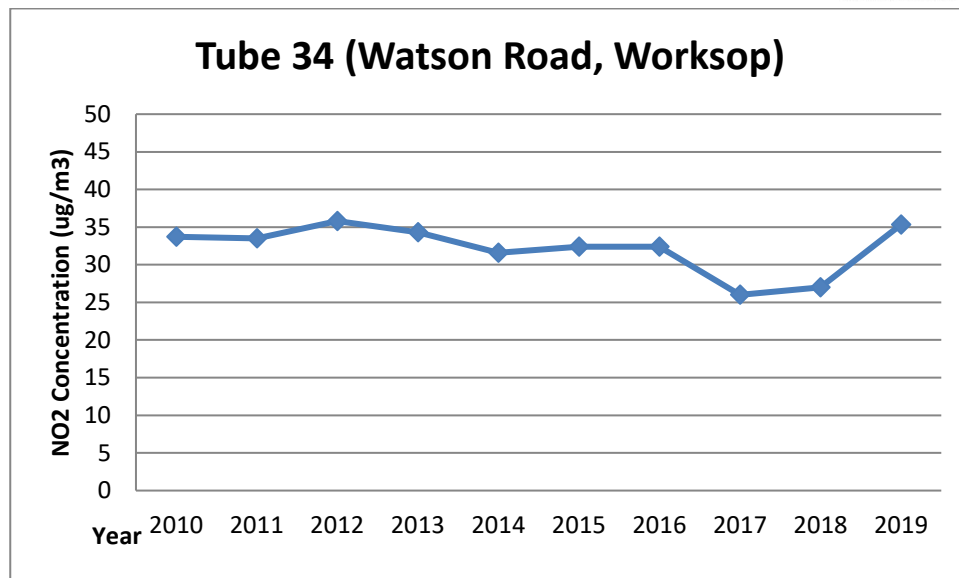
(2) Data capture for the full calendar year (e.g. if monitoring was carried out for 6 months, the maximum data capture for the full calendar year is 50%).

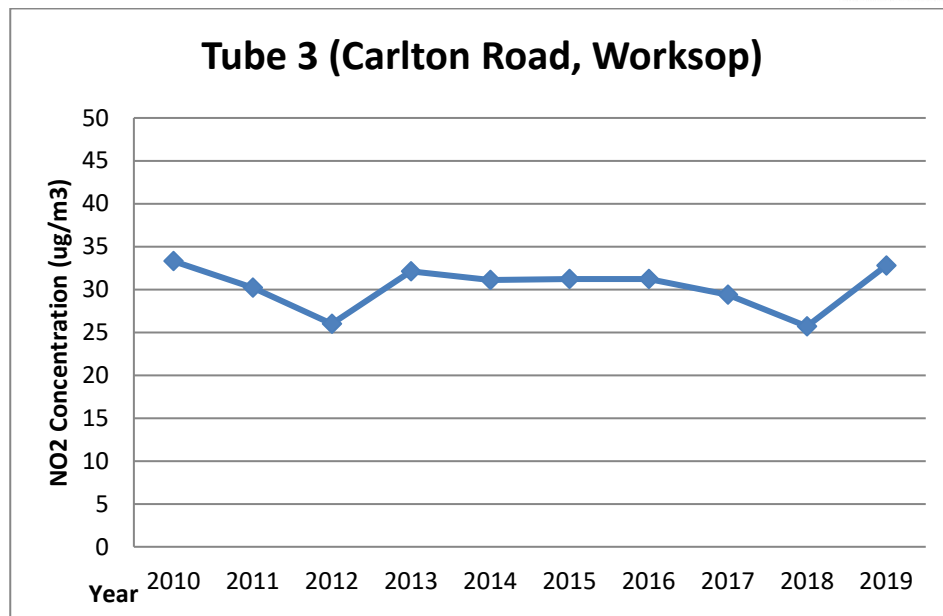
(3) Means for diffusion tubes have been corrected for bias. All means have been “annualised” as per Boxes 7.9 and 7.10 in LAQM.TG16 if valid data capture for the full calendar year is less than 75%. See Appendix C for details.

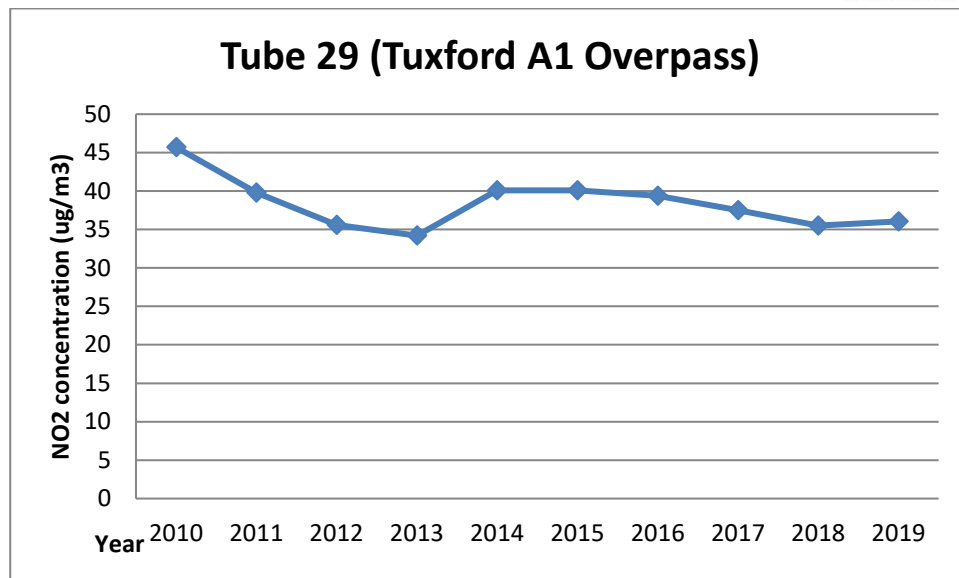
(4) Concentrations are those at the location of monitoring and not those following any fall-off with distance adjustment.

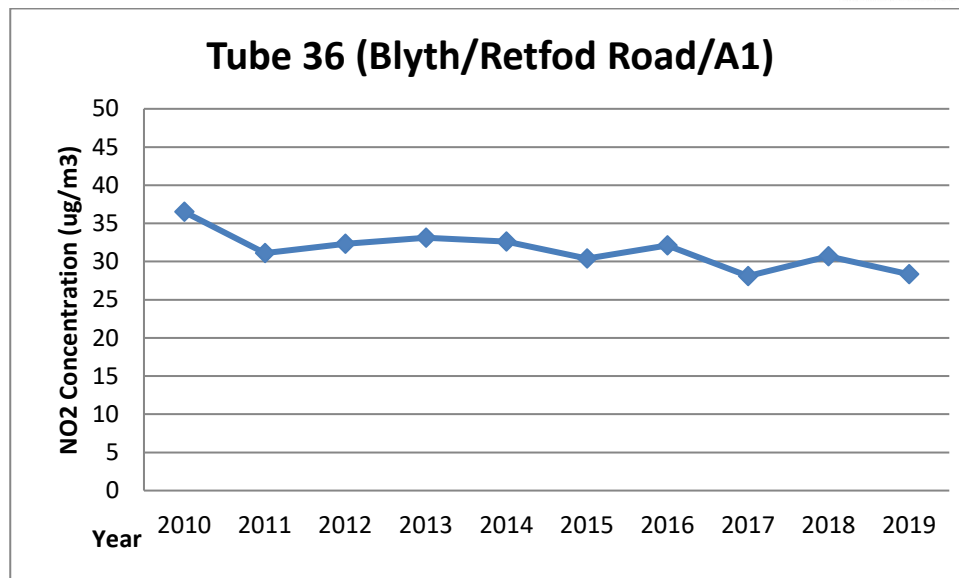
Figure A.1 – Trends in Annual Mean NO₂ Concentrations

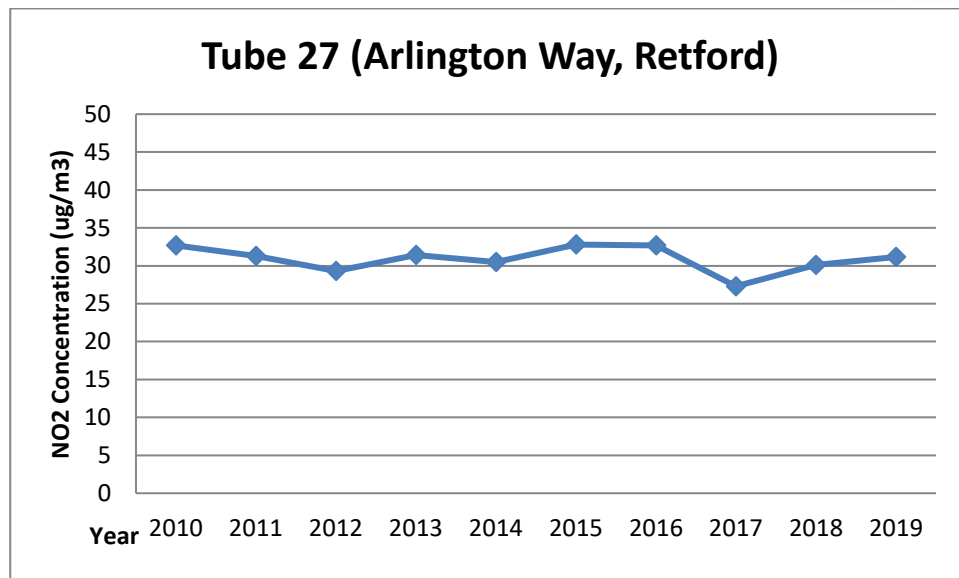


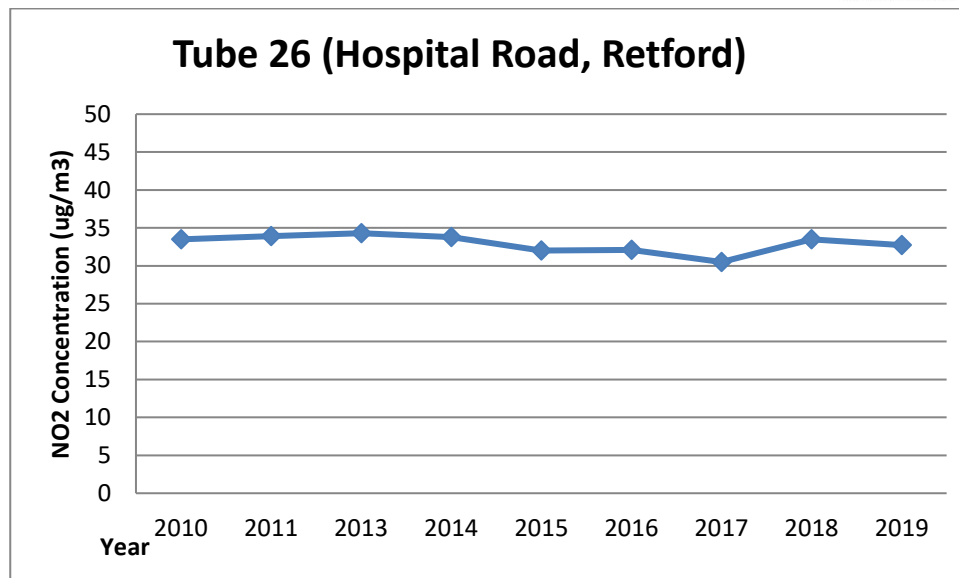












Appendix B: Full Monthly Diffusion Tube Results for 2019

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

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northings)	NO ₂ Mean Concentrations (µg/m ³)												Annual Mean		
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Raw Data	Bias Adjusted (factor) and Annualised ⁽¹⁾	Distance Corrected to Nearest Exposure ⁽²⁾
2	456490	371245	24.48664	32.10433	20.49	20.21694	19.08889	19.75651	18.41699	18.50657	20.73734		28.54156	26.4832	22.6	20.8	20.8
3	458564	379284	35.01542	39.12326	29.4195	25.4219	29.65302	34.18836	26.64015	25.031	33.48552	35.11937	44.50977	35.7734	32.8	30.2	30.2
5	458230	378909	36.3231	31.78988	29.27599	18.09452	21.86416	27.31955	23.25969	21.25578	30.84871	30.35329	32.15033	32.72307	27.9	25.7	25.7
12	458569	379162	41.02983	41.2414	31.82329	41.38449	36.82905	40.6606	31.74603	26.08663	37.72821	39.78108	47.24975	35.25744	37.6	34.6	36.8
15	464921	381197	28.72906	30.75746	22.43004	15.60669	15.65407	16.55931	15.13848	17.51633	18.45092	18.94254	25.86219	25.1451	20.9	19.2	19.2
22	481325	374504	29.87284	31.43175	22.54897	22.64502	24.57669	19.27142	23.18248	22.38298	25.09927	24.97841	32.66284	28.09129	25.6	23.5	23.5
25	470759	380698	38.68667	38.52868	28.21761	19.83231	21.62693	20.9031	22.41212	25.37374	23.90973	24.97841	30.46636		26.8	24.7	22.8
26	470095	381292	33.27054	42.8251	31.01605	27.8409	29.09723	29.61272	28.30628	29.80818	32.3287	34.49317	36.93309	37.15122	32.7	30.1	28.5



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27	47079 3	381106	32.59 773	46.19 963	17.59 789	29.04 081	27.20 215	31.13 415	22.81 805	24.40 882	31.40 383	35.18 895	38.03 381	38.41 774	31. 2	28.7	28.7
28	46851 8	375695	23.31 293	21.55 924	17.93 872	25.00 658	20.84 577	19.55 807	17.86 162	12.02 347	22.40 298	19.06 43	27.73 483	19.51 103	20. 6	18.9	18.9
29	47377 9	371093	39.98 184	49.10 45	40.41 594		31.62 989	26.37 325	31.44 146	33.15 4	36.89 553	34.02 352	37.23 603	36.13 648	36. 0	33.2	33.2
30	45755 7	379081	29.73 985	30.77 531	22.65 661	17.41 373	16.28 939	17.24 285	17.62 872	18.85 162	22.89 862		28.58 245	27.47 973	22. 7	20.9	20.6
31	45783 7	380581	33.27 835	34.27 274	27.02 426	23.97 491	23.96 474	22.00 558	22.77 043	22.77 66	27.67 638	27.91 858	32.32 086	32.88 783	27. 6	25.4	24.5
32	47391 1	370840	22.57 283	28.12 681	21.04 212	31.60 27	23.24 797		19.58 424	14.54 728	25.20 174	26.52 652	36.92 064	25.70 005	25. 0	23.0	21.1
34	45863 9	379009	38.45 929	37.87 73	28.09 204					29.02 093	33.46 569	39.92 023	41.09 959	34.71 325	35. 3	32.5	30.6
35	46110 4	390658	28.55 362	32.96 092	21.33 881	30.11 255	22.49 676	24.36 994	20.49 518	19.28 765	22.62 106	26.59 609	34.96 915	30.26 98	26. 2	24.1	22.4
36	46302 2	386937	28.89 883	31.21 205	24.05 765	25.61 14	28.44 713	27.51 8	24.14 991	22.89 584	29.91 345		38.08 365	31.07 241	28. 4	26.1	25.1
37	46163 6	391547	33.79 75	41.84 806	27.53 448	26.10 279		26.94 563	27.14 178	29.05 672	33.22 779	33.15 38	34.16 096	30.86 22	31. 3	28.8	22.8
39	45868 5	379893	35.01 542	31.89 667	25.83 927		22.18 046	25.64 678		20.37 907	27.20 125	27.88 375	25.86 456	29.65 829	27. 2	25.0	21.5
40	46259 8	391521	35.83 587	45.43 504		20.14 711	24.59 224	25.53 67		29.28 931	29.06 44	35.36 289	29.37 093	39.82 466	31. 4	28.9	27.5
41	45937 6	379451	41.01 398	39.35 217	34.47 822	26.10 269	27.79 476	27.42 98	30.03 751	28.73 624	38.12 926	44.13 33	34.84 958	26.65 446	33. 2	30.6	30.6
42	45773 8	378729	30.67 796	25.45 326	22.38 753	18.95 446	17.35 69	14.11 179	17.14 5	16.72 908	23.36 06	23.13 46	24.30 494	25.31 733	21. 6	19.9	19.9
43	45755 6	378743	28.62 069	35.05 693	21.45 471	27.03 429	22.24 734	21.89 533	18.43 491	19.34 133	25.83 524	29.11 829	33.45 132	28.78 1	25. 9	23.9	23.9



- ☐ Local bias adjustment factor used (confirm by selecting in box)
- ☒ National bias adjustment factor used (confirm by selecting in box)
- ☒ Annualisation has been conducted where data capture is <75% (confirm by selecting in box)
- ☐ Where applicable, data has been distance corrected for relevant exposure in the final column (confirm by selecting in box)

Notes:

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

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

(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

Quality Assurance and quality control

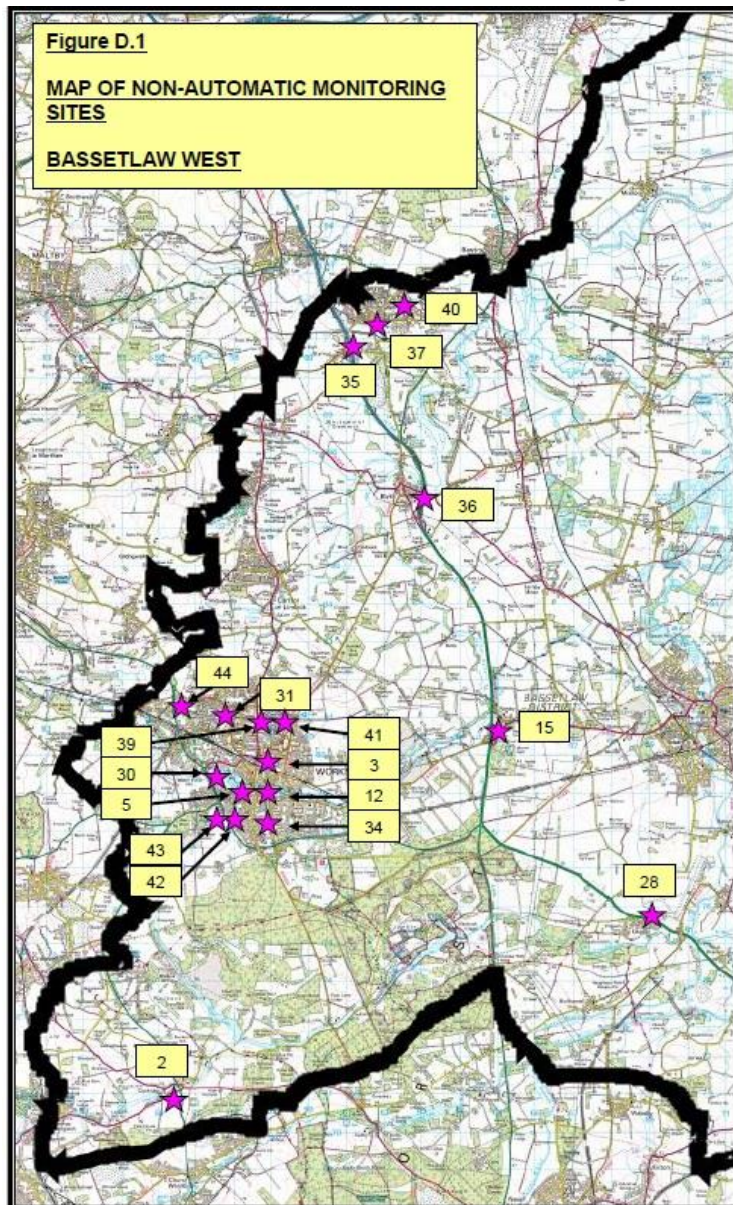
LAQM.TG(09) specifically encourages local authorities to select sampling labs that maintain high standards of quality assurance and quality control. The lab selected by Bassetlaw District Council for purchasing and analysing the nitrogen dioxide tubes is Gradko International. Gradko participate in the Workplace Analysis Scheme for Proficiency (WASP). The scheme is an independent analytical performance testing scheme operated by the Health and Safety Laboratory (HSL). WASP is an important QA/QC exercise for laboratories supplying diffusion tubes to Local Authorities for use in the context of Local Air Quality Management (LAQM). At quarterly intervals HSL supplies the labs with 4 samplers doped with unknown amounts of nitrite. It then assesses and calculates a performance index from the results. Gradko's analytical laboratory is assessed annually by UKAS to establish conformance of our Laboratory Quality Procedures to the requirements of ISO/IEC 17025 Standard. Gradko employ the use of travel blanks as recommended TG (09).

Selection of suitable bias factor

Bassetlaw District Council do not have any chemiluminescence analysers so the precision and accuracy of the nitrogen dioxide tubes cannot be validated by the use of a local co-location study. An appropriate bias adjustment factor derived from nationally available bias factors must be applied to the mean values of the tube results. The spreadsheet tool referenced at <https://laqm.defra.gov.uk/bias-adjustment-factors/national-bias.html> has been used to calculate an appropriate bias factor of 0.92



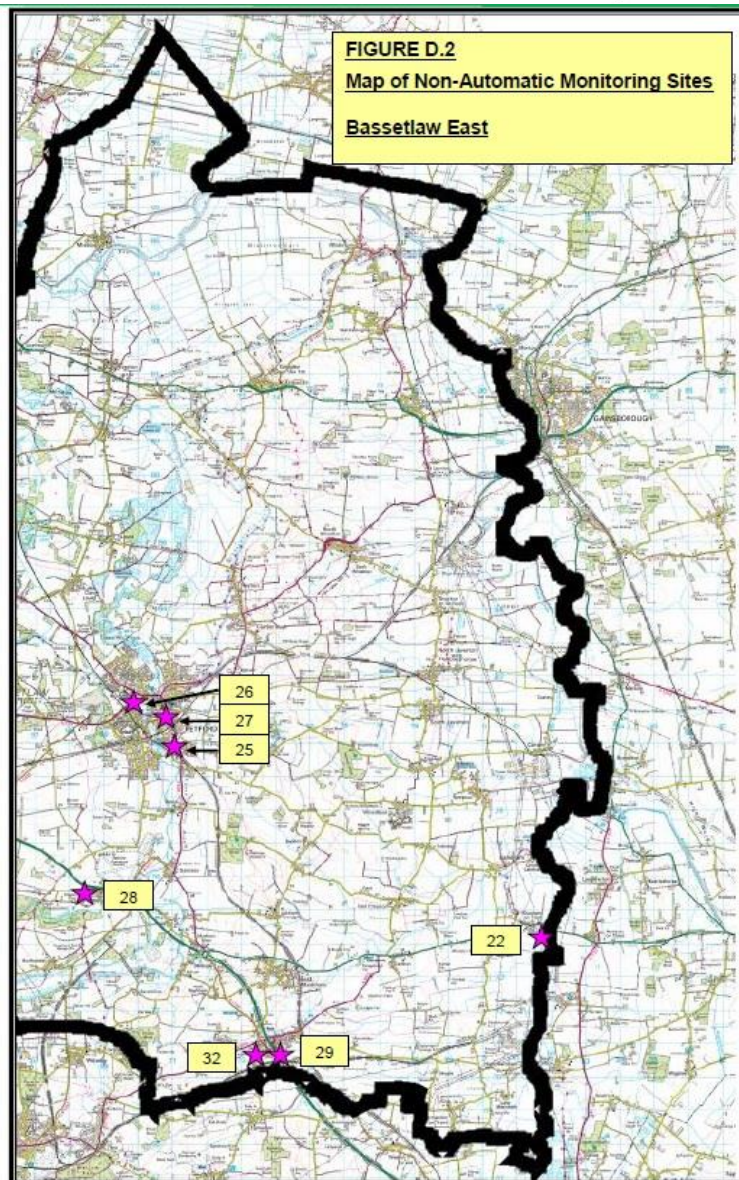
Appendix D: Map(s) of Monitoring Locations and AQMAs





Bassetlaw

DISTRICT COUNCIL
— North Nottinghamshire —





Appendix E: Summary of Air Quality Objectives in England

Table E.1 – Air Quality Objectives in England

Pollutant	Air Quality Objective ³	
	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

³ The units are in microgrammes of pollutant per cubic metre of air (µg/m³).

Glossary of Terms

Abbreviation	Description
AQAP	Air Quality Action Plan - A detailed description of measures, outcomes, achievement dates and implementation methods, showing how the local authority intends to achieve air quality limit values'
AQMA	Air Quality Management Area – An area where air pollutant concentrations exceed / are likely to exceed the relevant air quality objectives. AQMAs are declared for specific pollutants and objectives
ASR	Air quality Annual Status Report
Defra	Department for Environment, Food and Rural Affairs
DMRB	Design Manual for Roads and Bridges – Air quality screening tool produced by Highways England
EU	European Union
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 (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