

# 2017 Air Quality Annual Status Report (ASR)

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

July 2017

**Stratford on Avon District Council**

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## Executive Summary: Air Quality in Our Area

### Air Quality in Stratford on Avon District 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<sup>1,2</sup>.

The annual health cost to society of the impacts of particulate matter alone in the UK is estimated to be around £16 billion<sup>3</sup>.

Previous Review and Assessments have concluded that concentrations of carbon monoxide, benzene, 1,3-butadiene, lead, sulphur dioxide and PM<sub>10</sub> are compliant with the relevant objectives. Air Quality Management Areas were declared in 2006 and 2010 in Studley and Stratford Upon Avon respectively for exceedances in the annual mean objective for nitrogen dioxide.

Long term monitoring data shows that there has been significant improvement in air quality across the district since 2011. This is to be expected due to the progressive introduction of new vehicles operating to more stringent standards. The latest monitoring data for 2016 confirms this trend with no exceedances in the Stratford upon Avon AQMA. However, there remains one location within the Studley AQMA that is persistently higher than the annual mean national objective. The data for 2016 confirms this exceedance.

No significant new emissions sources have been identified within Stratford on Avon District Council Area other than new housing developments. In response a study was commissioned in 2015 to assess the cumulative air quality impacts associated with proposed development impacting on Stratford Upon Avon AQMA as set out in the Stratford on Avon District Council Core Strategy. Several Options were assessed:

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<sup>1</sup> Environmental equity, air quality, socioeconomic status and respiratory health, 2010

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

<sup>3</sup> Defra. Abatement cost guidance for valuing changes in air quality, May 2013

- 2015 reference case – includes Kipling Road, Shipston Road (Waitrose), NC Joseph developments and network amendments;
- 2028 reference case – includes the Stratford Transport Package (STP), Warwick Road Dynamic Signage Strategy and a number of other proposed junction improvements including that at Clopton Bridge;
- 2028 Core Strategy Option 1 – dispersed development ;
- 2028 Core Strategy Option 3 – Long Marston Airfield (includes Western Relief Road); and
- 2028 Core Strategy Option 4 – South East of Stratford (includes Eastern Relief Road).

The conclusion is that concentrations of PM10 and PM2.5 will remain below the objectives throughout the study area in 2028, whichever development scenario is implemented.

In the case of nitrogen dioxide, the annual mean concentrations remain below the objective at all relevant receptors in 2028, whichever development scenario is implemented, and whether or not a reduction in vehicle emissions of nitrogen oxides is assumed.

In summary the impacts of traffic generated by the proposed development scenarios have been shown to be acceptable at the worst-case locations assessed, with concentrations being well below the air quality objectives. This conclusion takes account of the uncertainties in future projections, in particular for nitrogen dioxide.

## **Actions to Improve Air Quality**

Stratford on Avon District Council has not identified any core actions to target sources of pollution. It continues to rely upon improvements in vehicle emission technology to impact positively on air quality.

Stratford District Council is in the process of writing Supplementary Planning Guidance for Air Quality.

## **Conclusions and Priorities**

Long term monitoring data shows that there has been notable improvement in air quality across the district since 2011. The latest monitoring data for 2016 confirms

this trend with no exceedances in the Stratford upon Avon AQMA. Even with significant new development identified in the Core Strategy key pollutants are projected to remain below national air quality objectives up to 2028. It is therefore appropriate for the council to consider revoking the AQMA for Stratford.

Whilst air quality within the Studley AQMA has shown a steady improvement there remains an exceedance in one location associated with traffic emissions. The growth of Redditch has the potential to impact upon Studley. The proposal for the development of 30ha of land for employment use at the Redditch Eastern Gateway has identified potential air quality impacts within the EIA Scoping exercise. The potential for impacts on Studley is acknowledged. Accordingly the 2008 Draft Studley Air Quality Action Plan requires updating.

### Local Engagement and How to get Involved

The Studley Parish Plan 2017-2020 identifies HGV traffic as a particular concern to the residents and has made a number of recommendations for action to reduce traffic, including restricting and diverting HGVs, traffic calming measures, promotion of alternative transport and building a by-pass.

The Draft Air Quality Action Plan for Studley 2008 will be updated in the next year and the general public will be consulted as part of that process.

The general public can take simple measures to help improve air quality, the main ones being, where possible, making short trips and journeys on foot or by bike instead of by car, or using public transport. Car sharing with colleagues, or with other parents on the school run, are some other examples of ways to reduce traffic congestion, for example. Other measures are listed below:

- Purchasing low-emission electric and/or hybrid vehicles, with government funding and grants available.
- Upgrading boilers to newest and most efficient gas condensing boilers with lowest NO<sub>x</sub> (and carbon) emissions.
- Renewable energy generation via solar photovoltaics installation.

Further information can be found Defra's Local Air Quality Management (LAQM) website.

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# 1 Local Air Quality Management

This report provides an overview of air quality in Stratford on Avon District Council during 2016. 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 Stratford on Avon District 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 Stratford on Avon District Council can be found in Table 2.1. For further information related to declared AQMAs, including maps of AQMA boundaries, 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).

We propose a review of air quality in the Stratford upon Avon AQMA with a view to revoking the AQMA. (see monitoring section).

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 (inc. date of publication)
						At Declaration	Now	
Studley AQMA	Declared 23 <sup>rd</sup> February 2006	Nitrogen Dioxide 40 µg/m <sup>3</sup> Annual Mean	Studley	A number of properties along a 200m stretch of Alcester Road from the junction with High Street.	NO	62 µg/m <sup>3</sup>	42 µg/m <sup>3</sup>	Draft Air Quality Action Plan for Alcester Road Studley: Stratford on Avon District Council September 2008
AQMA Stratford Upon Avon	Declared 21 <sup>st</sup> January 2010	Nitrogen Dioxide 40 µg/m <sup>3</sup> Annual Mean	Stratford on Avon	An area encompassing most developed areas of Stratford Upon Avon and Tiddington.	NO	45 µg/m <sup>3</sup>	38 µg/m <sup>3</sup>	None

Stratford on Avon District Council confirm the information on UK-Air regarding their AQMA(s) is up to date (confirm by selecting in box)

## **2.2 Progress and Impact of Measures to address Air Quality in Stratford on Avon District Council**

Stratford on Avon District Council has taken forward a number of direct measures during the current reporting year of 2017 in pursuit of improving local air quality. Details of all measures completed, in progress or planned are set out in Table 2.2.

Stratford on Avon District Council anticipates that the measures stated above and in Table 2.2 will continue to achieve compliance in AQMA Stratford Upon Avon.

Table 2.2 – Progress on Measures to Improve Air Quality

Measure No.	Measure	EU Category	EU Classification	Organisations involved and Funding Source	Planning Phase	Implementation Phase	Key Performance Indicator	Reduction in Pollutant / Emission from Measure	Progress to Date	Estimated / Actual Completion Date	Comments / Barriers to implementation
1	Development of Supplementary Planning Document which will include objectives on air quality and healthy communities.	Policy Guidance and Development Control	Air Quality Planning and Policy Guidance	Stratford on Avon District Council Planning Policy	In progress	In progress	N/A	N/A	In draft and due to go to consultation October 2017	Adoption expected January 2018	None identified
2	Member of the Coventry and Warwickshire Air Quality Alliance.	Policy Guidance and Development Control	Regional groups Co-ordinating programmes to develop area wide Strategies to reduce emissions and improve air quality	Warwickshire County Council Public Health	On going	On going	N/A	N/A	Implementation on-going	Date	None identified

## 2.3 PM<sub>2.5</sub> – 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<sub>2.5</sub> (particulate matter with an aerodynamic diameter of 2.5µm or less). There is clear evidence that PM<sub>2.5</sub> has a significant impact on human health, including premature mortality, allergic reactions, and cardiovascular diseases.

Stratford on Avon District Council is not taking any direct measures to address PM<sub>2.5</sub>.

## 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

Stratford on Avon District Council has not undertaken any automatic (continuous) monitoring.

#### 3.1.2 Non-Automatic Monitoring Sites

Stratford on Avon District Council undertook non- automatic (passive) monitoring of NO<sub>2</sub> at 18 sites during 2016 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 bias, “annualisation” and distance correction. Further details on adjustments are provided in Appendix C.

#### 3.2.1 Nitrogen Dioxide (NO<sub>2</sub>)

Table A.2 in Appendix A compares the ratified and adjusted monitored NO<sub>2</sub> annual mean concentrations for the past 5 years with the air quality objective of 40µg/m<sup>3</sup>.

For diffusion tubes, the full 2016 dataset of monthly mean values is provided in Appendix B.

The data shows a single location on Alcester Road, Studley that exceeds the national objective for the annual mean concentration. Other locations along Alcester Road show levels below the national objective. This is consistency with previous year’s data.

No exceedences have occurred in either Stratford Upon Avon or Henley in Arden.

## **Stratford on Avon District Council**

All data have been ratified and corrected for bias where applicable and includes corrections for distance to nearest receptor.

### **3.2.2 Particulate Matter (PM<sub>10</sub>)**

Particulate Matter (PM<sub>10</sub>) is not monitored within the Stratford on Avon District Council area.

### **3.2.3 Particulate Matter (PM<sub>2.5</sub>)**

Particulate Matter (PM<sub>2.5</sub>) is not monitored within the Stratford on Avon District Council area.

### **3.2.4 Sulphur Dioxide (SO<sub>2</sub>)**

Sulphur Dioxide is not monitored within the Stratford on Avon District Council area.

## Appendix A: Monitoring Results

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

Site ID	Site Name	Site Type	X OS Grid Ref	Y OS Grid Ref	Pollutants Monitored	In AQMA?	Distance to Relevant Exposure (m) <sup>(1)</sup>	Distance to kerb of nearest road (m) <sup>(2)</sup>	Tube collocated with a Continuous Analyser?	Height (m)
STRATFORD UPON AVON										
Elizabeth House Garden		Urban Background	419931	254693	NO2	YES	-58.7	59.7	NO	2
Shipston Road		Facade	420683	254421	NO2	YES	0	6	NO	2.5
Brewery Street		Facade	419948	255342	NO2	YES	0	1.3	NO	2
Guild Street		Facade	420066	255172	NO2	YES	0	2.5	NO	2.5
Tiddington Road		Facade	420710	254818	NO2	YES	0	1.7	NO	2.5
Ely Street		Facade	419972	254869	NO2	YES	0	1.8	NO	3
Grove Road 1		Facade	419759	254917	NO2	YES	0	1.4	NO	2.5
Grove Road 2		Facade	419758	254931	NO2	YES	0	1.4	NO	2.5
Greenhill Street		Facade	419768	255016	NO2	YES	0	2.7	NO	2
Wood Street		Facade	420127	254990	NO2	YES	0	3.1	NO	2
STUDLEY									NO	
Alcester Road		Facade	407300	263873	NO2	YES	0	2.7	NO	2.5
Studley Office		Urban Background	407309	263991	NO2	YES	-17	18	NO	2.5
Studley 1		Facade	407300	263986	NO2	YES	0	2.3	NO	2.5



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Studley 2		Facade	407302	263913	NO2	YES	0	2.5	NO	2.5
Studley 3		Kerbside	407301	263901	NO2	YES	0	1.4	NO	2.5
Studley 4		Facade	407297	263850	NO2	YES	0	1.5	NO	2.5
Studley 5		Facade	407322	263716	NO2	NO	0	3	NO	1.5
HENLEY IN ARDEN										
High Street 1		Facade	415078	265542	NO2	NO	0	1.4	NO	2.5
High Street 2		Facade	415089	265631	NO2	NO	-1	4.0	YES/NO	2.5

**Notes:**

- (1) 0m if the monitoring site is at a location of exposure (e.g. installed on/adjacent to the façade of a residential property).  
 (2) N/A if not applicable.

Table A.2 – Annual Mean NO<sub>2</sub> Monitoring Results

Site ID	Site Type	Monitoring Type	Valid Data Capture for Monitoring Period (%) <sup>(1)</sup>	Valid Data Capture 2016 (%) <sup>(2)</sup>	NO <sub>2</sub> Annual Mean Concentration (µg/m <sup>3</sup> ) <sup>(3)</sup>				
					2012	2013	2014	2015	2016
Elizabeth House Garden	Urban Background	Diff Tube	100	100	14	12.6	12.5	13.55	14.8
Shipston Road	Roadside	Diff Tube	80	80	20.9	20.2	19.9	21.3	21
Brewery Street	Roadside	Diff Tube	100	100	18.3	18.1	17.1	19.9	19.8
Guild Street	Roadside	Diff Tube	80	100	26.5	26.2	27.8	30.5	28.3
Tiddington Rd	Roadside	Diff Tube	80	80	36.5	37.1	35.3	37.7	38
Ely Street	Roadside	Diff Tube	95	95	23.1	19.7	18	18	20.5
Grove Road 1	Roadside	Diff Tube	100	100	37.1	34.5	31.2	34.7	35.2
Grove Road 2	Roadside	Diff Tube	100	100	35.7	35.3	31.9	35.4	36.1
Greenhill Street	Roadside	Diff Tube	100	100	32.7	32.6	33.2	32.2	34.3
Wood Street		Diff Tube	100	100	31.9	29.8	32.6	32.5	36.2
STUDLEY									
Studley Office	Roadside	Diff Tube	100	100	20.5	19.1	18.7	28.4	27.4
Studley 1	Roadside	Diff Tube	100	100	32.6	32.2	33.2	32.4	35.19
Studley 2	Roadside	Diff Tube	100	100	34	32.2	36.2	33.8	35.56
Studley 3	Roadside	Diff Tube	100	100	38.8	36	34.3	27.4	32.4
Studley 4	Roadside	Diff Tube			<b>43.2</b>	<b>45.2</b>	39.8	39.5	<b>42.05</b>
Studley 5		Diff Tube	100	100	25.5	26.1	25.3	26.9	33.93
High Street 1	Roadside	Diff Tube	95	95	34.5	33	31.2	26.2	29.3
High Street 2	Roadside	Diff Tube	95	95	28.5	26.5	31.9	33.3	34.2

- ☒ Diffusion tube data has been bias corrected
- ☒ Annualisation has been conducted where data capture is <75%
- ☒ If applicable, all data has been distance corrected for relevant exposure

**Notes:**

Exceedances of the NO<sub>2</sub> annual mean objective of 40µg/m<sup>3</sup> are shown in **bold**.

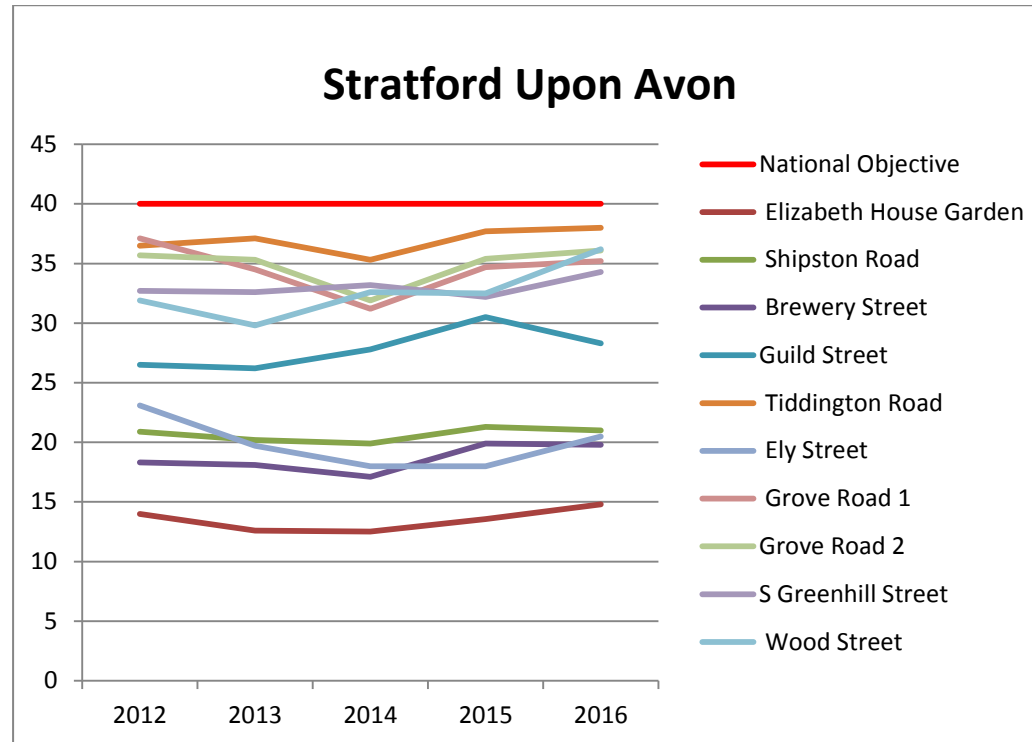
NO<sub>2</sub> annual means exceeding 60µg/m<sup>3</sup>, indicating a potential exceedance of the NO<sub>2</sub> 1-hour mean objective are shown in **bold and underlined**.

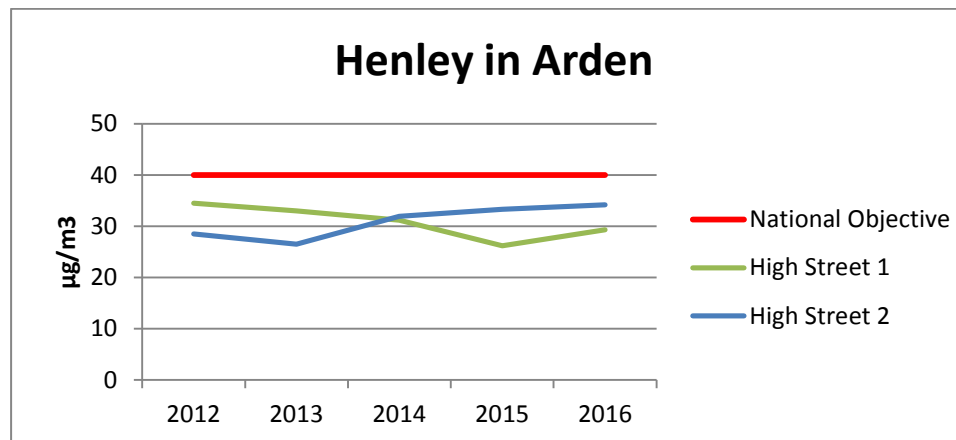
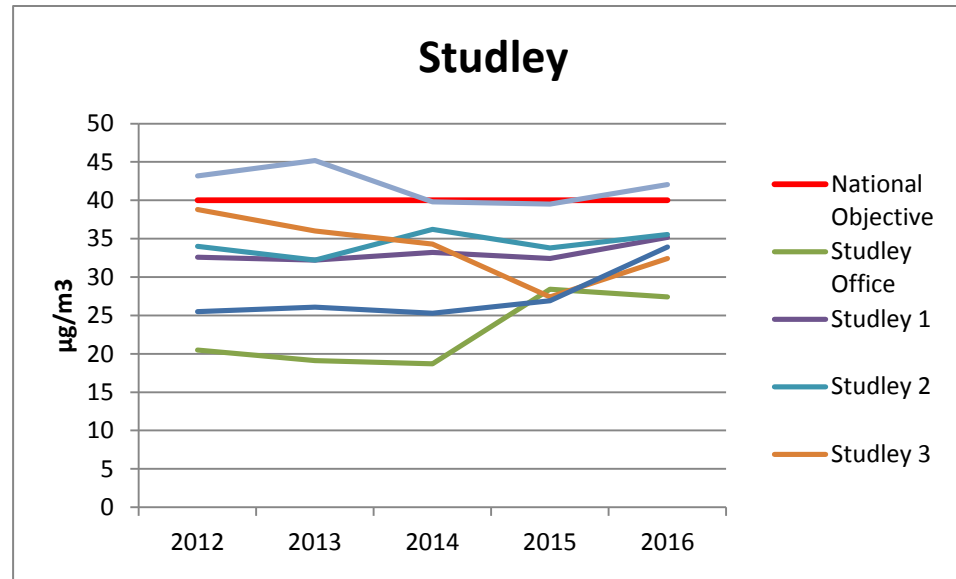
(1) Data capture for the monitoring period, in cases where monitoring was only carried out for part of the year.

(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.

Figure A.2 – Trends in Annual Mean NO<sub>2</sub> Concentrations





## Appendix B: Full Monthly Diffusion Tube Results for 2016

Table B.1 – NO<sub>2</sub> Monthly Diffusion Tube Results - 2016

Site ID	NO <sub>2</sub> Mean Concentrations (µg/m <sup>3</sup> )												Annual Mean		
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Raw Data	Bias Adjusted (factor) and Annualised <sup>(1)</sup>	Distance Corrected to Nearest Exposure <sup>(2)</sup>
Elizabeth House Garden	15.4	20.2	19.5	14.2	12.3	11.0	7.6	10.8	13.6	20.8	21.2	22.5	15.8	14.81	14.8
Shipston Rd	23.6		23.3	18.6	17.6	18.2	20.2	19.9		23.5	27.0	31.7	22.4	21.0	21.0
Brewery St	24.49	25.73	22.19	18.5	15.41	14.42	15.04	15.9	21.51	21	26.13	31.89	21.0	19.8	19.8
Guild St	32.04	35.52	35.18	30.43	30.66	0.95	23.83	28.96	31.89	36.68	35.29	<b>40.88</b>	30.2	28.4	28.3
Tiddington Rd	39.94	39.8	38.53	39.32		36.7		34.56	39.74	<b>41.04</b>	<b>47.05</b>	<b>47.7</b>	<b>40.4</b>	38.0	38.0
Ely St		22.62	21.89	21.58	18.18	16.59	12.49	15.05	20.52	30.44	28.65	31.4	21.8	20.5	20.5
Grove Rd	36.76	<b>41.39</b>	<b>44.29</b>	35.63	37.33	23.04	30.24	25.53	35	<b>42.23</b>	<b>53.09</b>	<b>45.09</b>	37.5	35.2	35.2
Grove Rd	<b>40.2</b>	38.8	38.4	33.64	32.74	31.57	35.57	30.12	37.74	<b>43.6</b>	<b>42.95</b>	<b>55.97</b>	38.4	36.1	36.1
Greenhill Street (24)	<b>40.73</b>	39.03	34.62	32.48	33.47	30.83	32.54	32.68	34.64	39.8	<b>40.1</b>	<b>47.18</b>	36.5	34.3	34.3
Wood St	36.13	<b>40.58</b>	39.63	38.48	<b>40.64</b>	33.16	32.09	34.15	36.85	<b>46.34</b>	<b>40.71</b>	<b>43.47</b>	38.5	36.2	36.2
Studley Office	18.75	21.3	25.79	21.65	19.24	18.84	19.62	20.91	22.91	23.22	25.96	27.6	22.1	20.8	27.4
Studley (1)	34.55	37.93	39.39	35.32	36.46	37.21	28.68	36.82	37.49	<b>43.42</b>	37.98	<b>43.99</b>	37.4	35.2	35.2
Studley (2)	36.38	41.37	38.93	35.35	32.14	37.16	31.28	34.87	<b>40.72</b>	<b>41.9</b>	36.14	<b>47.73</b>	37.8	35.6	35.6

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Studley (3) (13)	32.65	<b>43.71</b>	<b>41.19</b>	33.45	<b>43.88</b>	36.79	28.8	31.17	33.74	<b>47.41</b>	37.86	<b>40.12</b>	37.6	35.3	32.4
Studley (4) (16)	36.69	<b>41.9</b>	<b>47.58</b>	39.41	<b>47.71</b>	<b>47.21</b>	35.69	38.84	<b>45.93</b>	<b>54.01</b>	<b>57.06</b>		<b>44.7</b>	<b>42.1</b>	<b>42.1</b>
Studley (5) (17)	24.24	35.53	<b>41.66</b>	36.15	36.86	33.19	24.7	33.45	34.41	<b>46.17</b>	<b>40.92</b>	<b>45.87</b>	36.1	33.9	33.9
Henley High St 1		37.96	35.14	26.94	25.9	27.82	22.56	22.94	29.94	36.62	35.86	41.03	31.2	29.3	29.3
Henley High St 2	35.87		37.35	37.01	<b>40.05</b>	22.69	28.94	29.67	36.77	<b>45.12</b>	<b>40.19</b>	<b>46</b>	36.3	34.2	34.2

Local bias adjustment factor used

National bias adjustment factor used

Annualisation has been conducted where data capture is <75%

### Notes:

Exceedances of the NO<sub>2</sub> annual mean objective of 40µg/m<sup>3</sup> are shown in **bold**.

NO<sub>2</sub> annual means exceeding 60µg/m<sup>3</sup>, indicating a potential exceedance of the NO<sub>2</sub> 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

In 2015 Stratford on Avon District Council commissioned an air quality assessment to consider the cumulative impact of the Core Strategy developments on Stratford Upon Avon as a result of increased traffic and whether their combined influence would lead to an exceedance of the air quality objectives.

The conclusion is that PM<sub>10</sub>, PM<sub>2.5</sub> and nitrogen dioxide will remain below the national objectives throughout the study area in 2028 whichever development scenario is implemented. The impact of traffic generated by proposed development scenarios are shown to be acceptable at worst case locations.

The documents are referenced at the end of this report.

### Quality Control

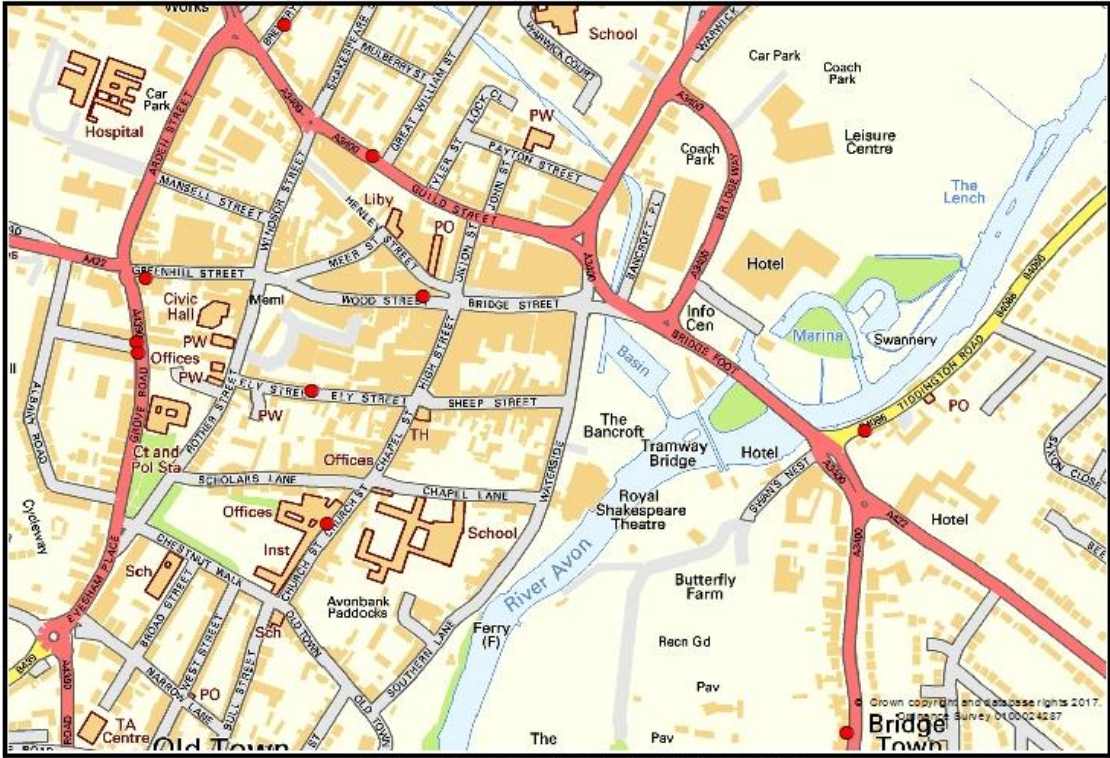
The National Diffusion Tube Bias Adjustment Factor data is used in determining the correct BAF for our data. A factor of 0.94 is used, which is an average of 21 studies conducted.

Collection rate of data from all monitoring locations exceeded 75% and therefore annualisation was deemed unnecessary.

All data was corrected for distance using the Bureau Veritas NO<sub>2</sub> Fall-Off with Distance Calculator V4.1(April 2016). Most monitoring locations are representative of receptor locations, with two locations considered representative of urban background.



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



Air Quality Monitoring Points - Stratford-upon-Avon

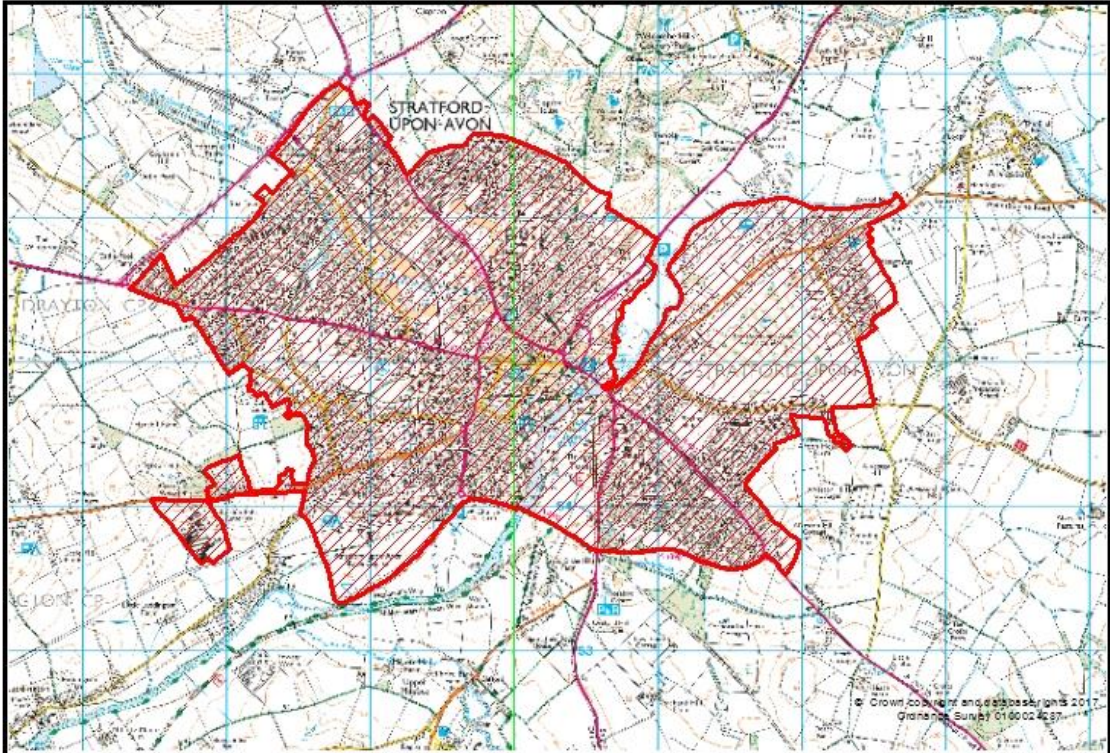


Air Quality Monitoring Points - Studley

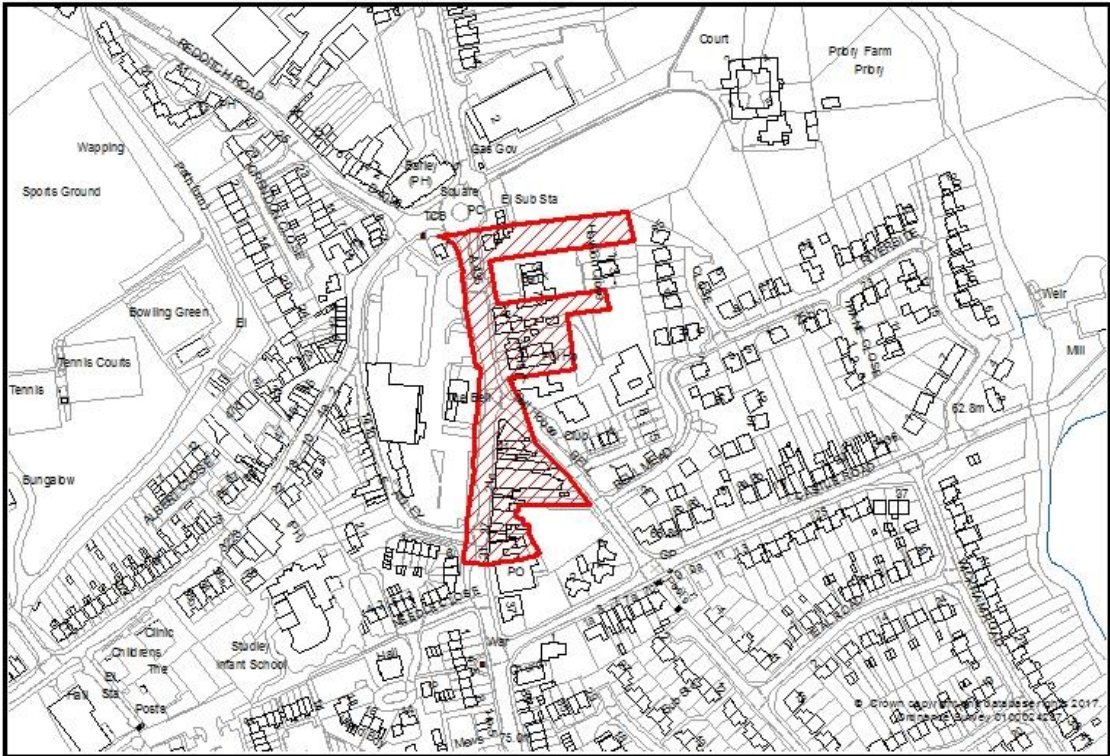


Air Quality Monitoring Points - Henley-in-Arden





Air Quality Monitoring Area - Stratford-upon-Avon



Air Quality Monitoring Area - Studley

## Appendix E: Summary of Air Quality Objectives in England

Table E.1 – Air Quality Objectives in England

Pollutant	Air Quality Objective <sup>4</sup>	
	Concentration	Measured as
Nitrogen Dioxide (NO <sub>2</sub> )	200 µg/m <sup>3</sup> not to be exceeded more than 18 times a year	1-hour mean
	40 µg/m <sup>3</sup>	Annual mean
Particulate Matter (PM <sub>10</sub> )	50 µg/m <sup>3</sup> , not to be exceeded more than 35 times a year	24-hour mean
	40 µg/m <sup>3</sup>	Annual mean
Sulphur Dioxide (SO <sub>2</sub> )	350 µg/m <sup>3</sup> , not to be exceeded more than 24 times a year	1-hour mean
	125 µg/m <sup>3</sup> , not to be exceeded more than 3 times a year	24-hour mean
	266 µg/m <sup>3</sup> , not to be exceeded more than 35 times a year	15-minute mean

<sup>4</sup> The units are in microgrammes of pollutant per cubic metre of air (µg/m<sup>3</sup>).

## 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 <sub>2</sub>	Nitrogen Dioxide
NO <sub>x</sub>	Nitrogen Oxides
PM <sub>10</sub>	Airborne particulate matter with an aerodynamic diameter of 10µm (micrometres or microns) or less
PM <sub>2.5</sub>	Airborne particulate matter with an aerodynamic diameter of 2.5µm or less
QA/QC	Quality Assurance and Quality Control
SO <sub>2</sub>	Sulphur Dioxide
...	...

## References

- 1 Defra (2009) Review & Assessment: Technical Guidance LAQM.TG(09),
- 2 Air Quality Consultants; Air Quality Assessment: Cumulative Impact of Developments in Stratford-on –Avon; Stage 1; November 2014; Job Number J2083
- 3 Air Quality Consultants; Air Quality Assessment: Cumulative Impact of Developments in Stratford-on –Avon; Stage 2; July 2015; Job Number J2083