Kibworth A6 Air Quality Data Ratification 2024 and the LAQM Statistics

The 2024 data ratification for the Kibworth A6 air quality monitoring site has been completed to the LAQM TG22 standards using the AURN methodology. This report summarises the individual Statistical Report, includes network comparison plots and spreadsheets. The ratified concentrations, comparisons between stations, pollutants and across years have passed the quality control checks. The instrument continued to work well so high data captures can be expected during 2025.

QAQC Procedures

Attached is a summary of our QAQC procedures which can be added to the ASR QAQC annex.

Site Environment and Description

Station	Site Environment and Description
Kibworth A6	Leicester Road, Kibworth Harcourt ROADSIDE MAP PHOTO

Spreadsheets

The spreadsheets contain the full monthly, daily, hourly and 15-minute mean datasets for 2024. These spreadsheets can act as a historical record of the measurements. The monthly means may be useful for any annualisation but not NO_2 diffusion tube bias corrections. These spreadsheets, not the website, must be used if consultants writing the ASR calculate the LAQM statistics from scratch.

LAQM Statistics

Here are the LAQM statistics for the ASR.

Nitrogen Dioxide NO_2

The NO_2 annual mean and hourly mean Objectives were not exceeded.

The NO_2 annual means and annual data captures are shown below. The AQS annual mean Objective is 40 µg m^{-3} and the annual data capture target is 75%.

Station	Annual Data Capture %	Annual Mean µg m^{-3}	Objective Exceeded
Kibworth A6	99.8	28.1	No

The NO_2 annual mean does not need annualising using the methodology in the Technical Guidance (7.140) because the annual data capture was greater than 75%.

The NO_2 hourly mean AQS Objective is 200 µg m^{-3}. The number of exceedances is shown below. There is an annual allowance of 18 hours.

Station	Number of Hourly Mean > 200 µg m^{-3}	Objective Exceeded	Maximum Hourly Mean µg m^{-3}	Annual Data Capture %	99.8th Percentile µg m^{-3}
Kibworth A6	0	No	118.6	99.8	-

The NO_2 99.8th percentile (Technical Guidance 7.195) does not need to be reported because the annual data capture was greater than 85%.

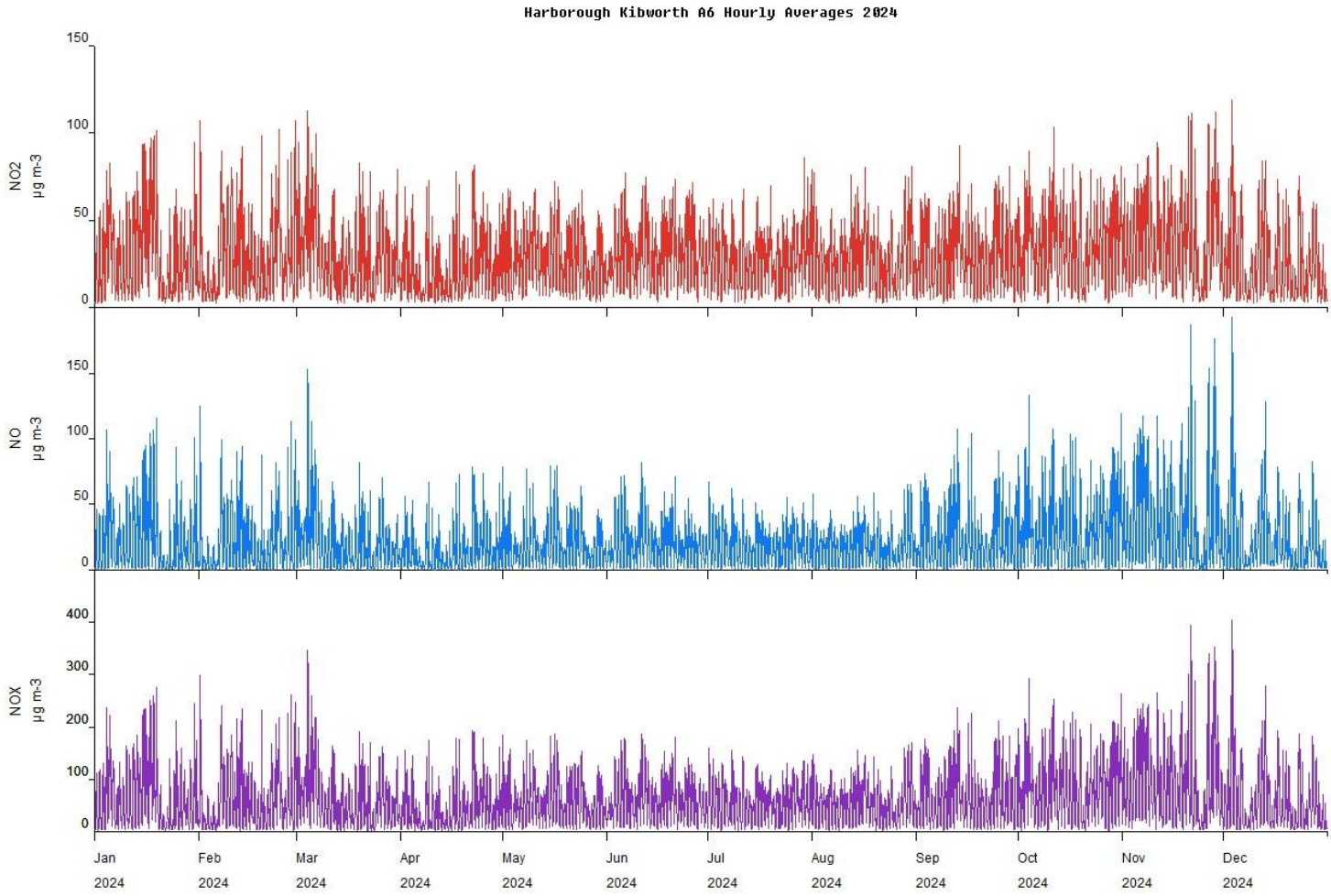
Daily Air Quality Index

The Daily Air Quality Index (DAQI) was introduced by Defra in January 2012 and revised April 2013. The number of occasions within each band is summarised as follows.

DAQI Pollutant	Moderate	High	Very High
Nitrogen Dioxide	0 hours	0	0

Timeseries Plots

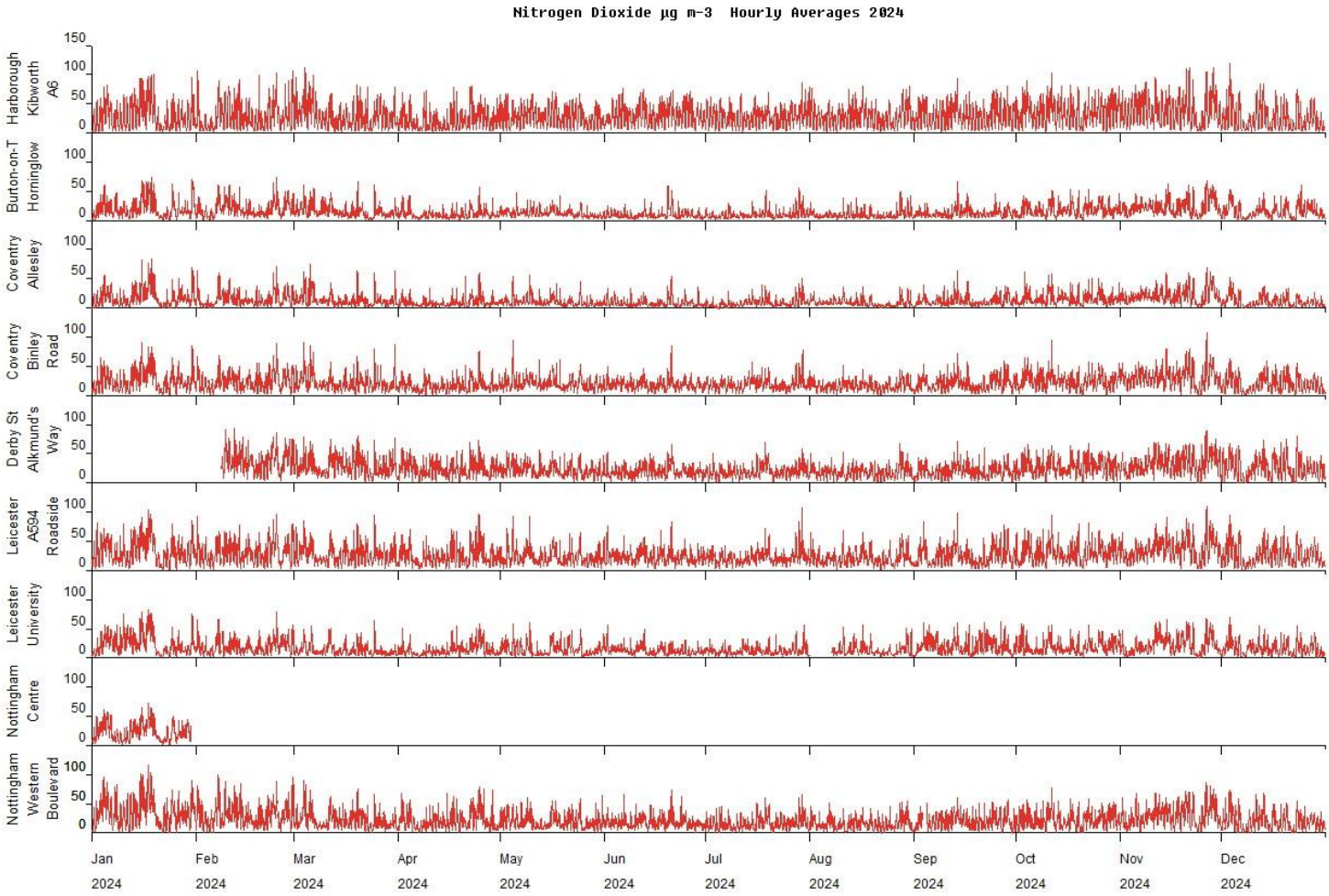
This timeseries plot shows the hourly mean measurements at the monitoring site.



Kibworth A6 Hourly Mean Concentrations during 2024

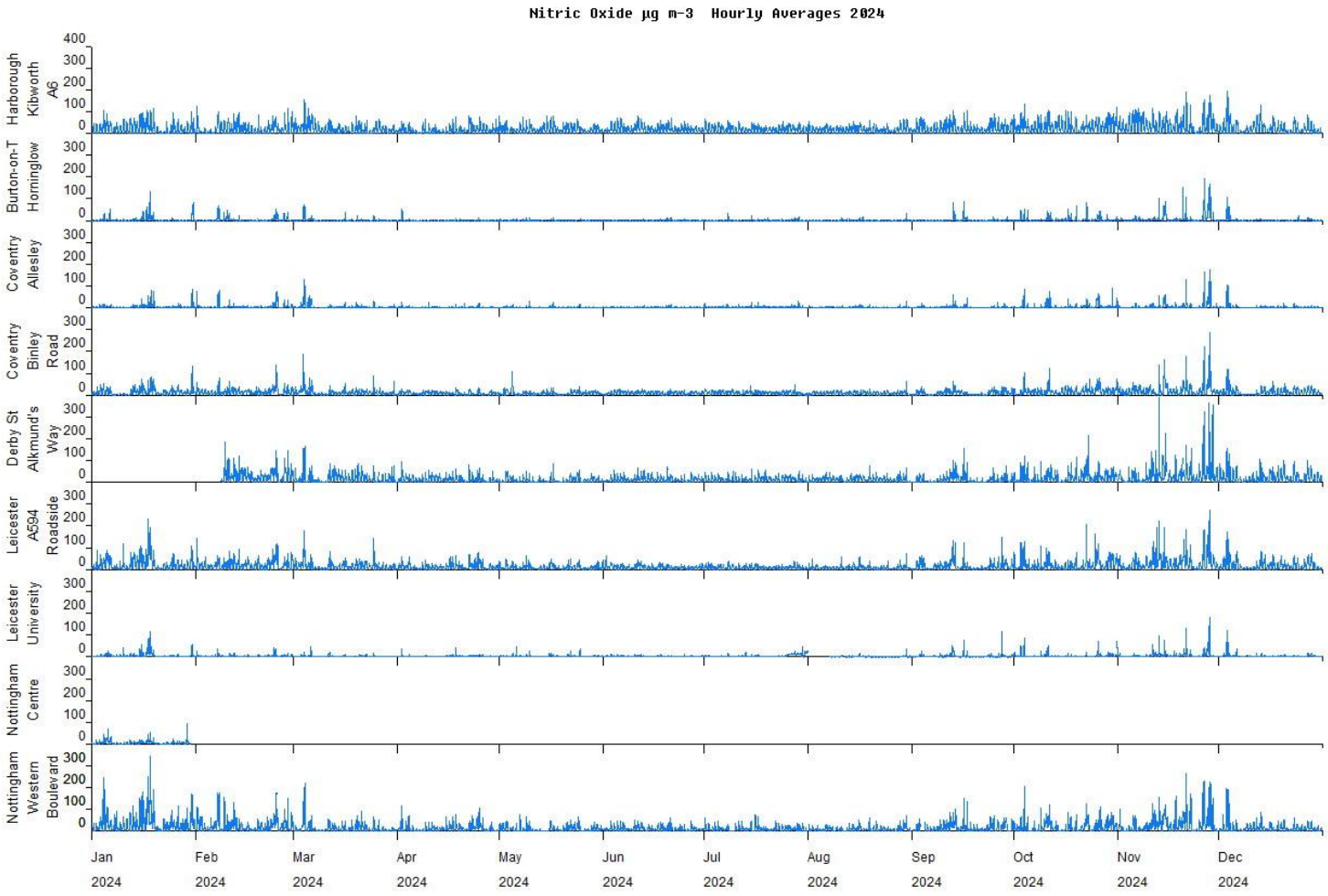
Timeseries Comparison Plots

These timeseries plots compare the measurements with the provisional data from nearby AURN sites. Measurements from individual stations should never viewed in isolation.



Nitrogen Dioxide Hourly Mean Concentrations during 2024

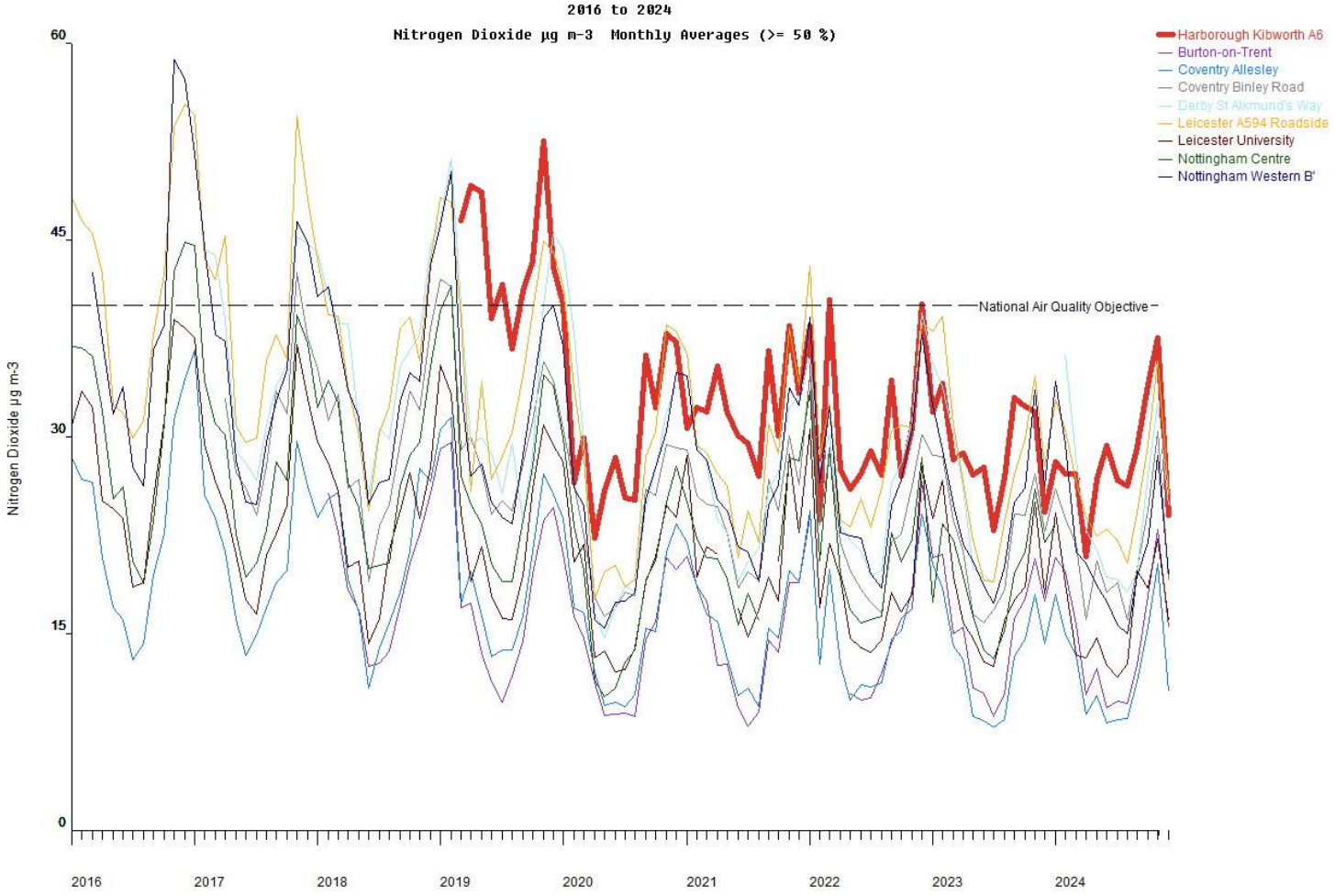
LAQM does not include Nitric Oxide (NO). This pollutant shows how the stations are influenced by traffic.



Nitric Oxide Hourly Mean Concentrations during 2024

Monthly Means Comparison Plots

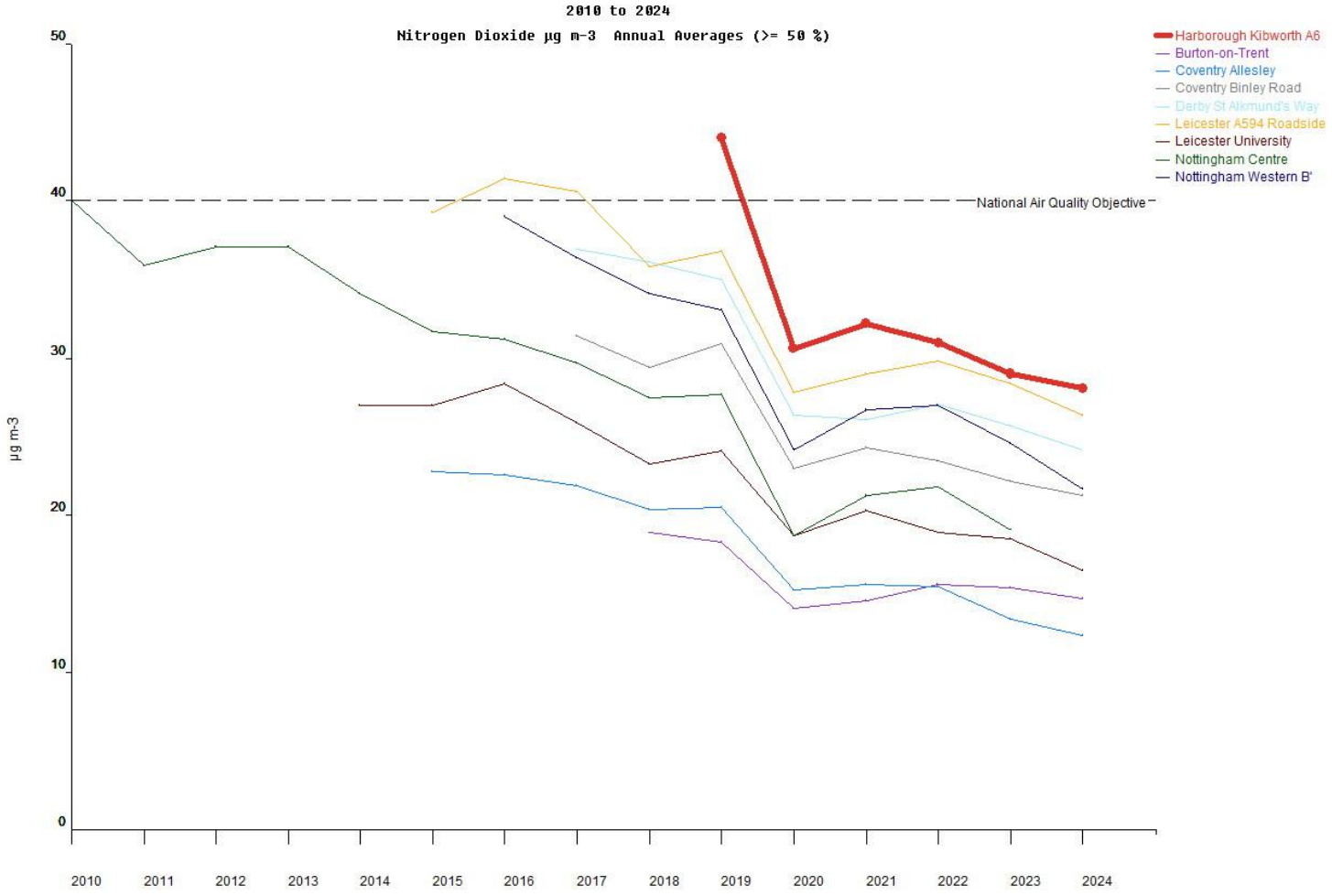
These timeseries plots compare the results with the nearby stations since 2016. These plots show the recent seasonal trends.



NO_2 Monthly Mean Concentrations from 2016

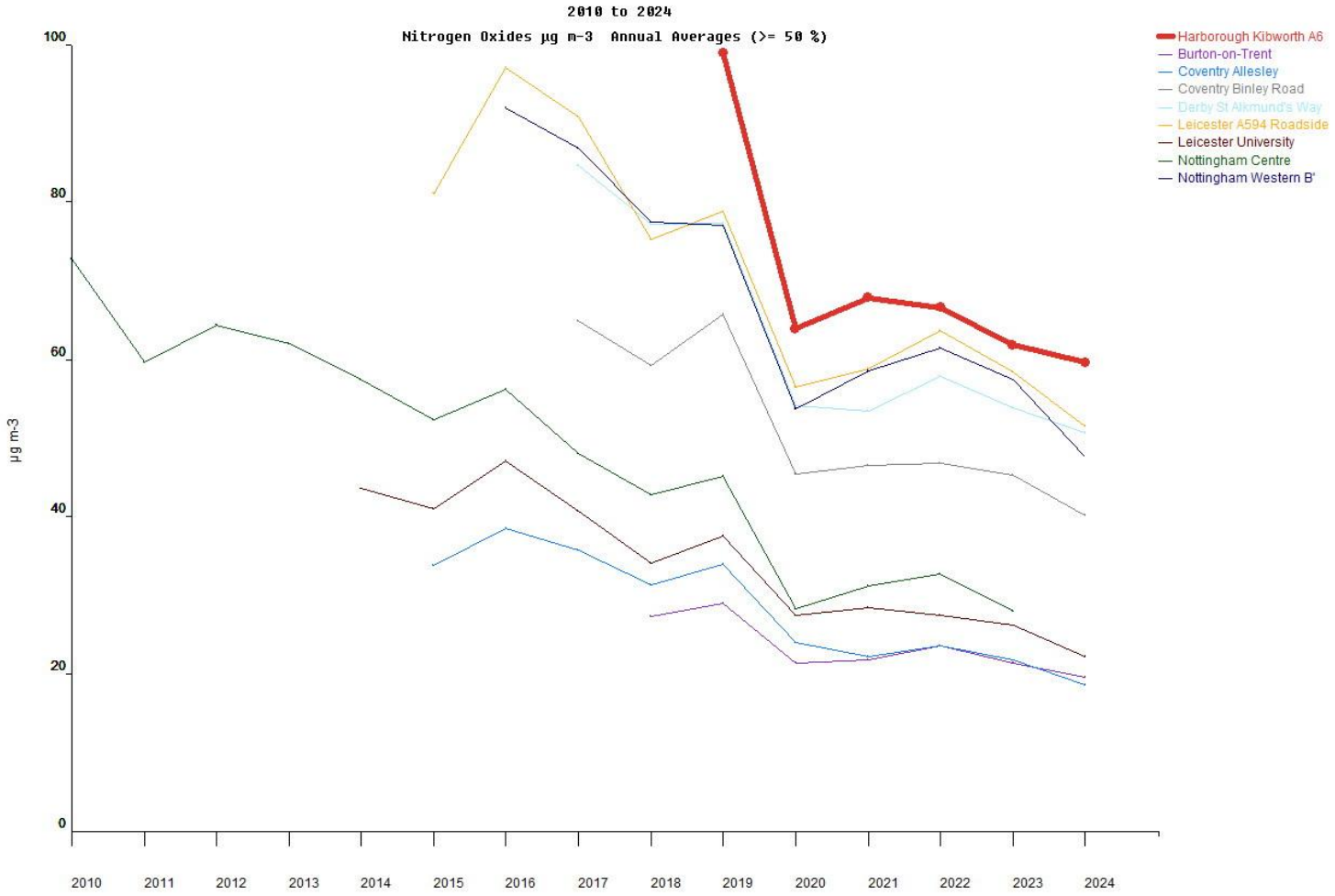
Annual Means Comparison Plots

These timeseries plots compare the results with the nearby stations since 2010. These plots show the long-term trends. Roadside locations generally have higher concentrations than Background and Rural locations.



NO_2 Annual Mean Concentrations from 2010

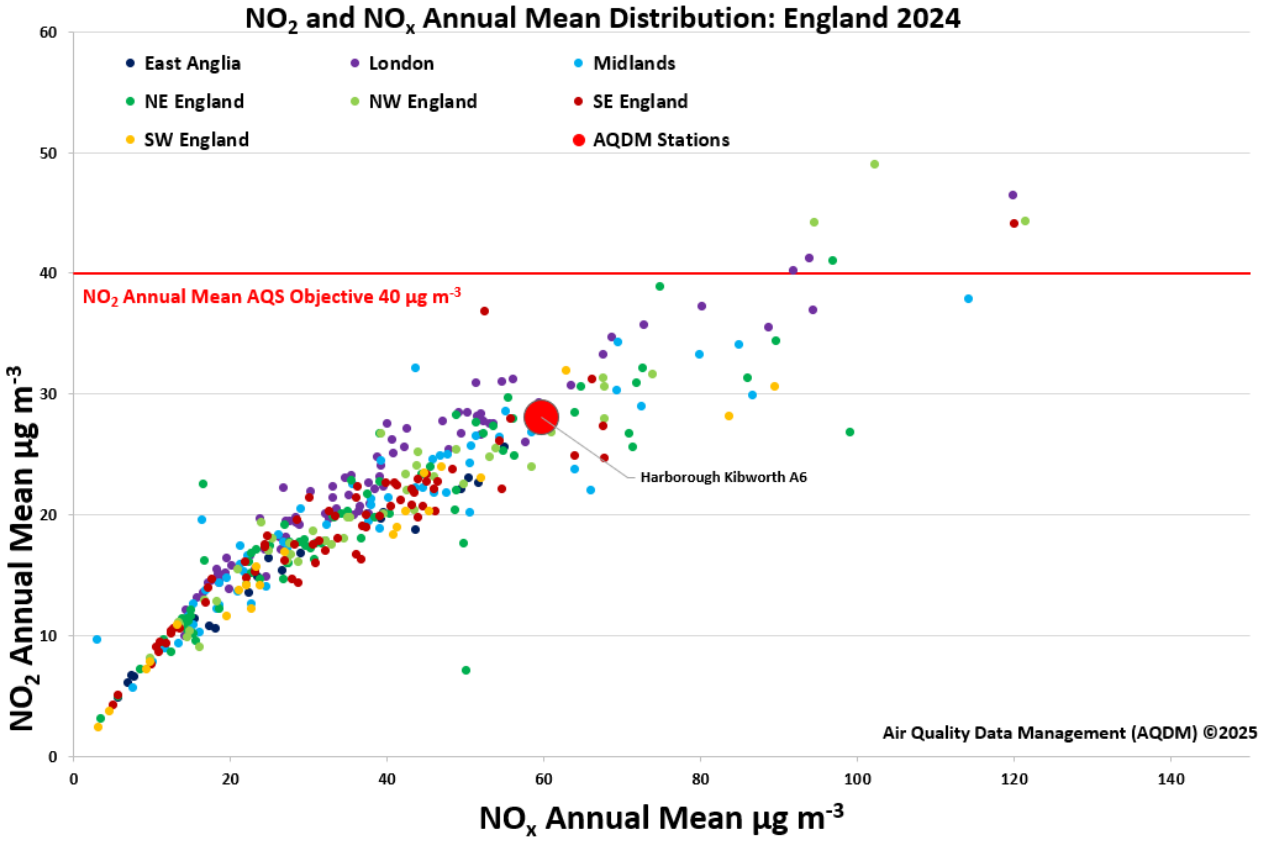
LAQM does not include Oxides of Nitrogen ($NO_x = NO_2 + NO$). This pollutant shows the long-term trend in emission reduction. Roadside locations generally have higher concentrations than Background and Rural locations.



NO_X Annual Mean Concentrations from 2010

NO2 and NOx Annual Means Comparison Plot

This plot shows the relationship between the NO_2 and NO_x annual means for monitoring stations, including the AURN, during 2024. Most 2024 data are still provisional and subject to change. The distribution begins with low pollution Rural stations near the origin and increases to the Roadside stations with the highest concentrations.



Annual Means Frequency Distribution Plots

These plots show the frequency distribution of the annual means for monitoring stations, including the AURN, during 2024. Most 2024 data are still provisional and subject to change. The distribution begins with low pollution Rural stations near the origin and increases to the Roadside stations with the highest concentrations.