

Air Quality Report 2018 to June 2023

INTRODUCTION

For many years it has been known that poor air quality has had a short- and long-term effect on our health and can lead to loss of life, effecting both the lungs (respiratory) and the heart, amongst other ill health effects. Consequently, people with heart and lung diseases can be more at risk to air pollution.

Historically poor air quality came from generations of factories and households burning coal. Examples of this are from the salt industry in Mid-Cheshire. Now the biggest contributor to air pollution within Cheshire East (CEC) is road transport. Uniquely CEC has one of the highest numbers of two car ownership in the UK, over forty percent. Consequently, with additional developments within Middlewich, traffic loading is increasing, and therefore potential increase in poor air quality.

The UK Public Health Outcomes Framework (PHOF) (please note the date range)

Indicator	Period	England Count	England Value
Under 75 mortality rates from respiratory disease	2021	13,109	26.5 per 100,000
Under 75 mortality rates from respiratory disease considered preventable	2021	7,709	15.6 per 100,000

Cheshire East Council (CEC) Statistics (please note the date range)

Indicator	Period	CEC Count
Deaths from respiratory diseases	2013 - 2017	116
Emergency admissions respiratory	2014 - 2018	123

The source of poor air quality is broken down into the following:

- Nitrogen dioxide (NO₂)
- Particulate matter (PM₁₀ and PM_{2.5})
- Ozone (O₃)
- Carbon monoxide (CO)
- Sulphur dioxide (SO₂)

CEC monitors directly NO₂ and indirectly Particulate Matter (PM₁₀ and PM_{2.5})

- *Nitrogen dioxide (NO₂) at high concentrations causes inflammation of the airways. Breathing in high levels of NO₂ can increase the likelihood of respiratory problems: wheezing, coughing, colds, flu, and bronchitis. People with asthma are prone to have more intense attacks. Prolonged exposure to high levels of NO₂ can cause irreversible damages to the respiratory system.*
- *PM_{2.5} and PM₁₀ are minute particles present in the air and exposure to it is very harmful for health. When the level of these particles increases and penetrate deeply into the lungs, you can experience number of health impacts like breathing problem, burning or sensation in the eyes etc.*

UKGovt statistics state road transport accounted for 27 per cent of emissions of NO₂ in the UK in 2021.

The Law

The public health catastrophe of the 1952 London Smog created the political momentum for the UK Government to pass the 1956 Clean Air Act. As years passed further legislations were introduced, based on the Environmental Act 1995 and the Air Quality Strategy 1997. More detailed information on National Laws is noted in Appendix Two below.

Management of Air Quality.

The management of local air quality is a statutory duty implemented through the Environmental Act 1995 (Part IV), The act places a legal duty on all local authorities to regularly monitoring within their areas both current and future air quality.

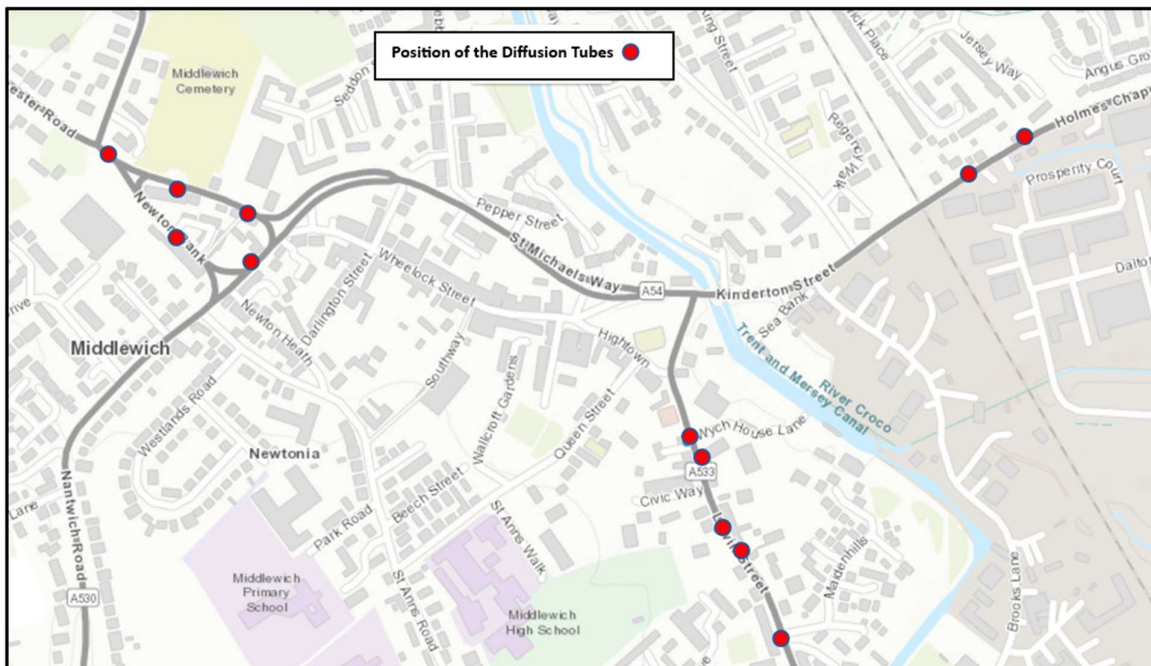
This monitoring, carried out by Cheshire East Council (CEC) must follow Government guidance.

- *that sets health-based objectives, which are based on what is considered acceptable given the known facts.*

Consequently, CEC has an Air Quality Action Plan 2020 to 2025 of how this monitoring is achieved.

Although there are no statutory requirements, CEC has a Local Air Quality Strategy, published October 2018 and additionally a Low Emission Strategy, published August 2018

CEC monitor air quality using Diffusion Tubes, passive measurement systems, relying on the diffusion of contaminant molecules in air to determine NO₂ levels, situated throughout the town which are in place and changed monthly. The original ones are taken away for laboratory analysis and the result published on the CEC Air Quality web page as Datasets.



The tubes are designed specifically for the measuring of Nitrogen Dioxide (NO₂) which focusing primarily on vehicle exhaust fumes.

Particulate Matter ((PM) is the sum of all suspended solids and moisture in the air)) is not directly measured in Middlewich, the results are derived by a DEFRA Modelling technique.

LIMITS

UK Government Limits are as follows.

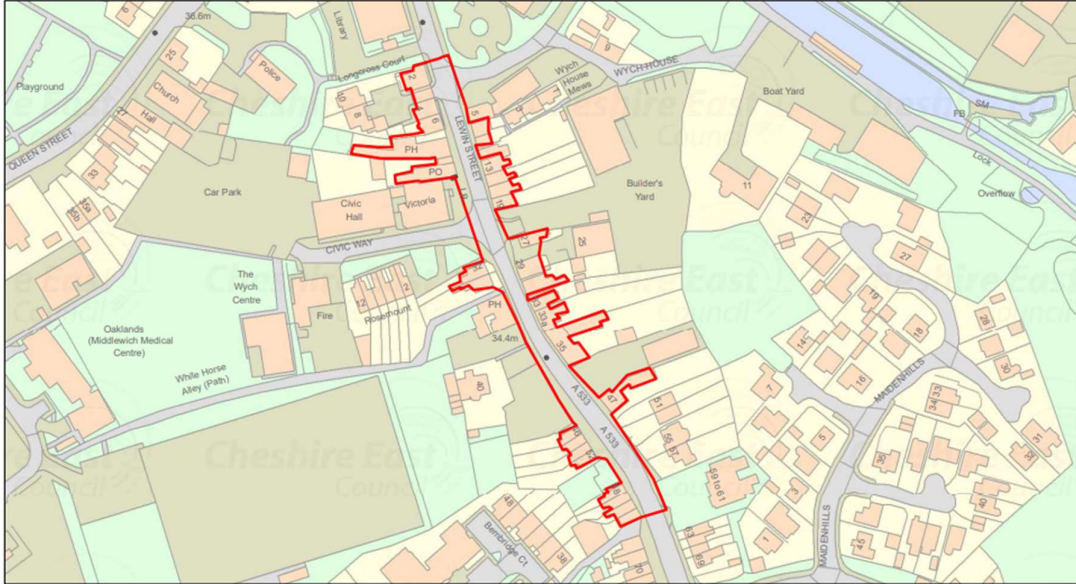
Pollutant	Air Quality Objective		
	Concentration	Measured as	Date to be achieved by
Nitrogen Dioxide	200 µg/m ³ not to be exceeded more than 18 times a year.	1-hour mean	31.12.2005
	40 µg/m ³	Annual mean	31.12.2005
Particles (PM ₁₀) (gravimetric)	50 µg/m ³ , not to be exceeded more than 35 times a year.	24-hour mean	31.12.2004
	40 µg/m ³	Annual mean	31.12.2004

It should be noted that the UK Government is currently being challenged due to not achieving its proposed limit reduction on NO2.

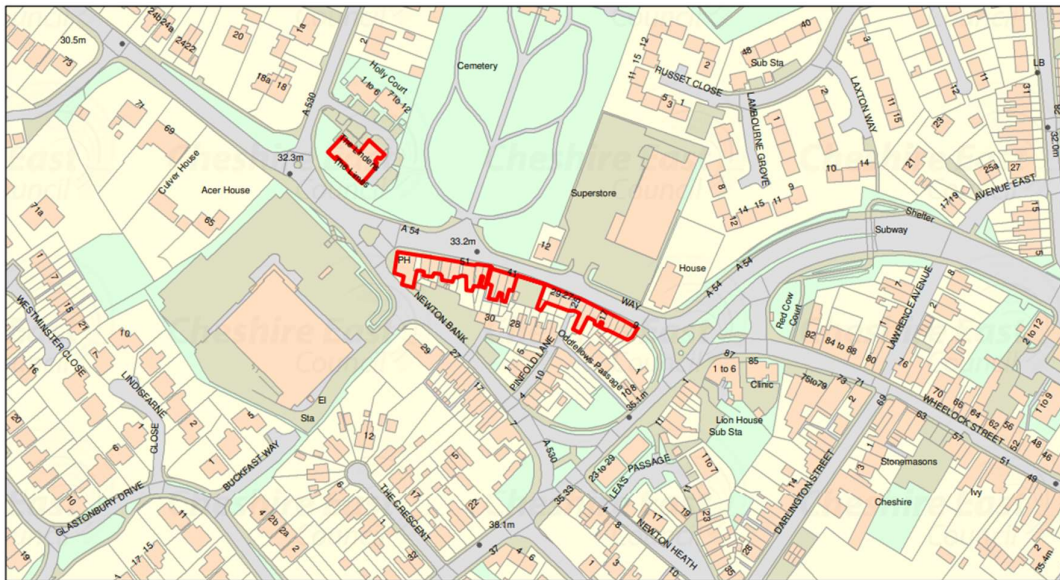
AIR QUALITY MANAGEMENT AREAS (AQMA)



If levels of NO2 are consistently above or around the limit, based on an average yearly reading, CEC must review the area of those high reading and declare that area as an AQMA.

Middlewich has currently two:



 **Air Quality Management Area
(Lewin Street, Middlewich)** 
1:1,567
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 **Air Quality Management Area
(Chester Road, Middlewich)** 
1:2,000
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Analysing the datasets from both 1A Holmes Chapple and Truby Cottage, both on Holmes Chapple Road there is a concern with consistent high readings of NO2. MTC will formally discuss with CEC Environmental

Addition there CEC have removed the following diffusion tubes, due to 'Low Readings' which MTC are challenging due needing to monitor construction traffic for the by-pass and Glebe Farm.

- 238 and 216 Booth Lane
- 1 Cledford Lane

MIDDLEWICH RECOMMENDATIONS

It is important Middlewich Town Council (MTC) understands the level of Air Quality, specifically NO2 and PM. Consequently, MTC has the following recommendations.

- Regularly reviewing the CEC Datasets and analysing, graphically recording, and reporting through the Town Council Meetings. The graphs show both recent and statistics going back to 2018. (See Appendix One)
- Collaborate with CEC
 - Ensure CEC policies and initiatives reflect MTC drive to reduce air quality.
 - to install AQmesh Air Quality Monitor purchased by MTC.
- Continue to review all planning applications to ensure suitable and sufficient mitigation to reduce potential additional poor air quality.
- 238 and 216 Booth and 1 Cledford Lane
- Question CEC why Truby Cottage and 1 Holmes Chapple Road are not AQMA's
- Monitor additional 'hot spots' in Middlewich.
- Model MTC Traffic data against Air Quality datasets
- Carry out regular Air Quality meetings.
- Through the council social media keep residents informed on air quality

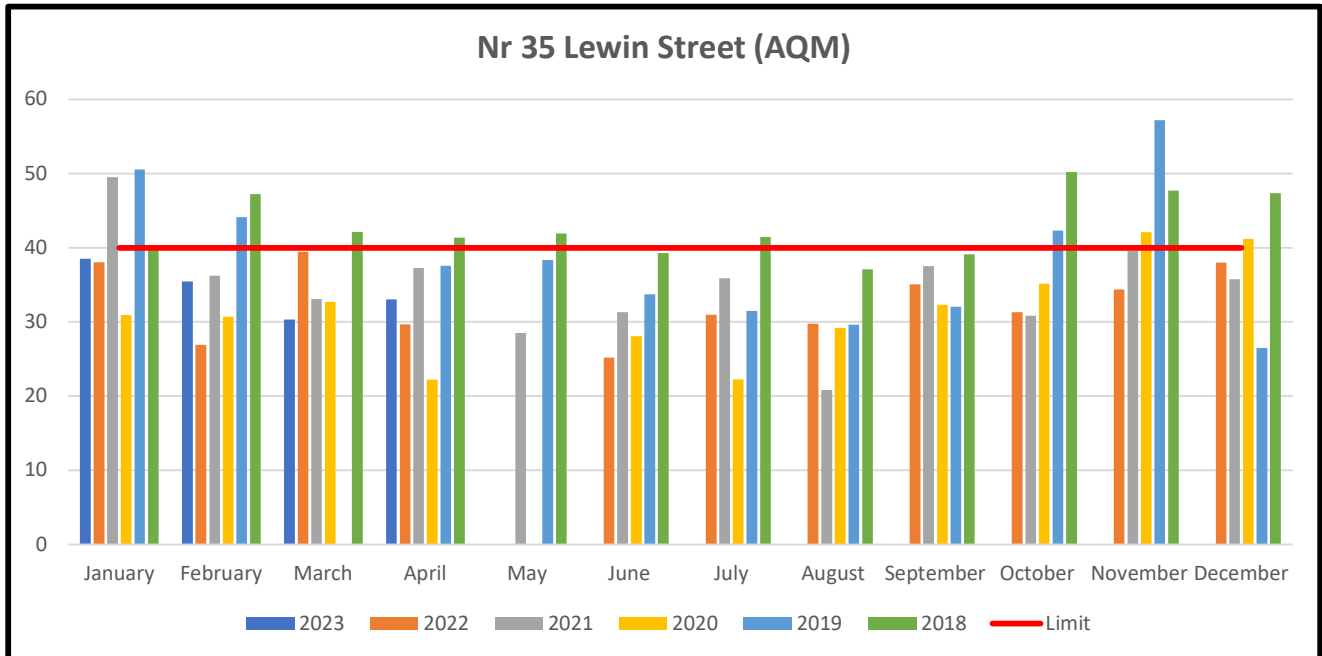
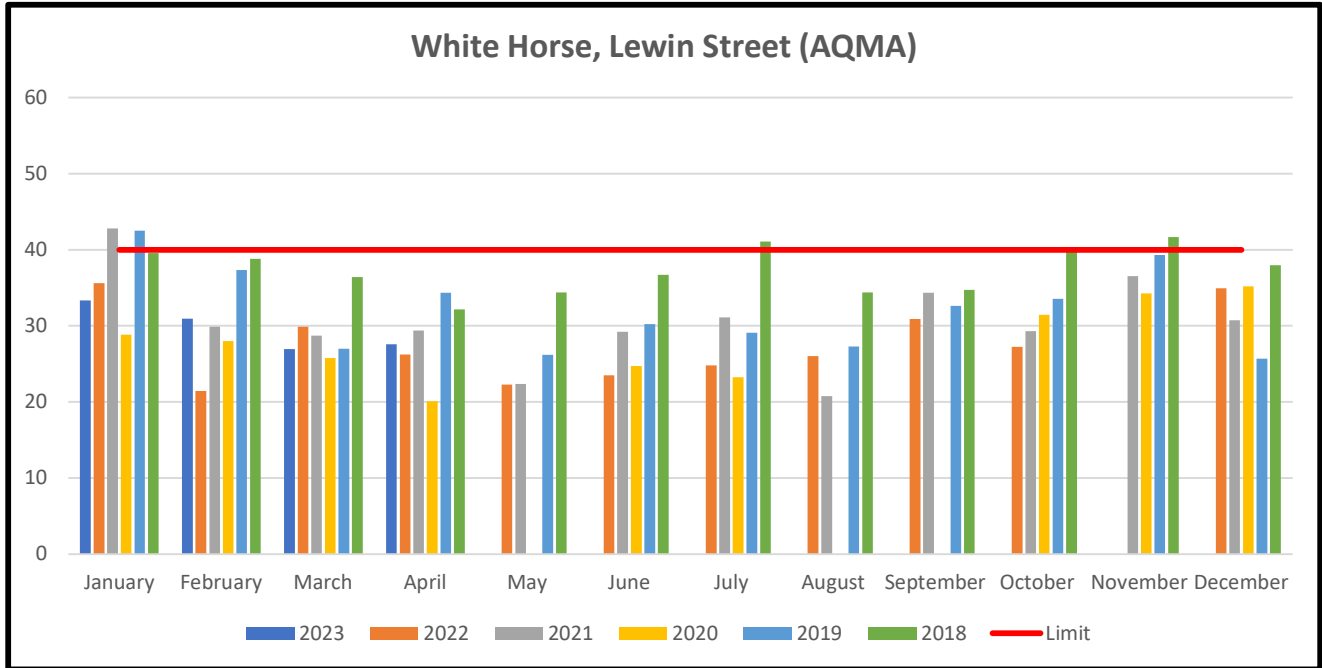
Cllr Graham Orme
MTC Compliance
25th June 2023

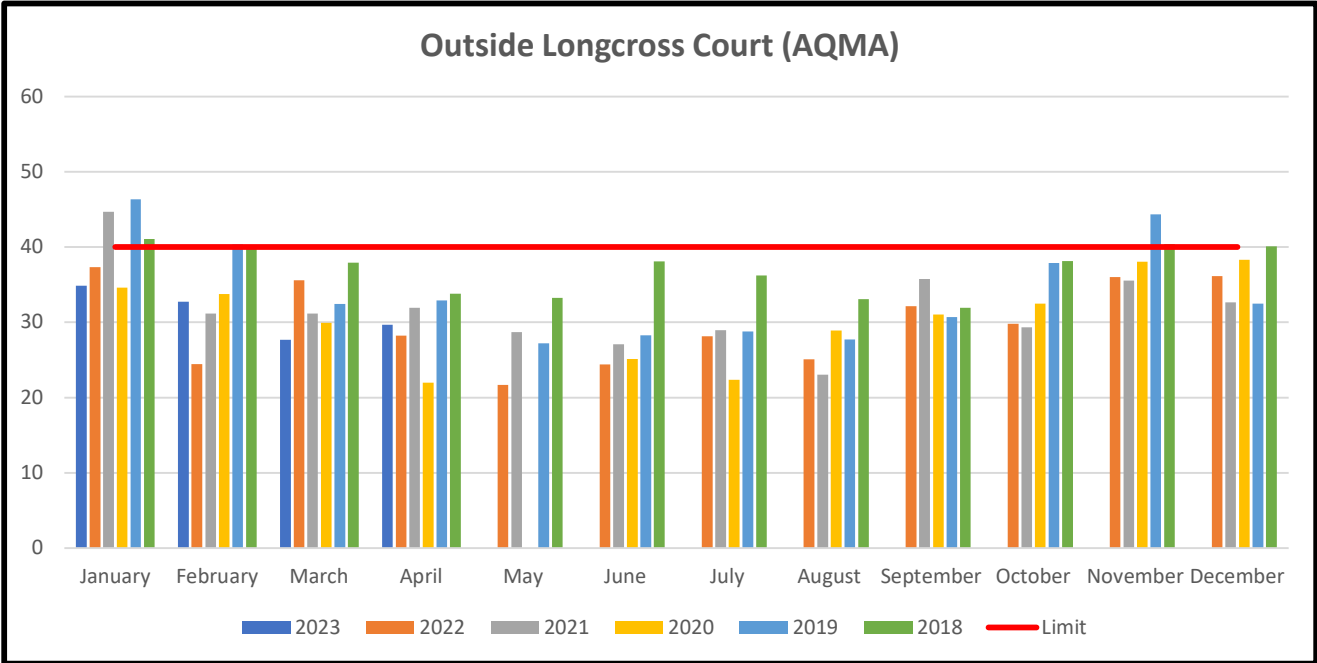
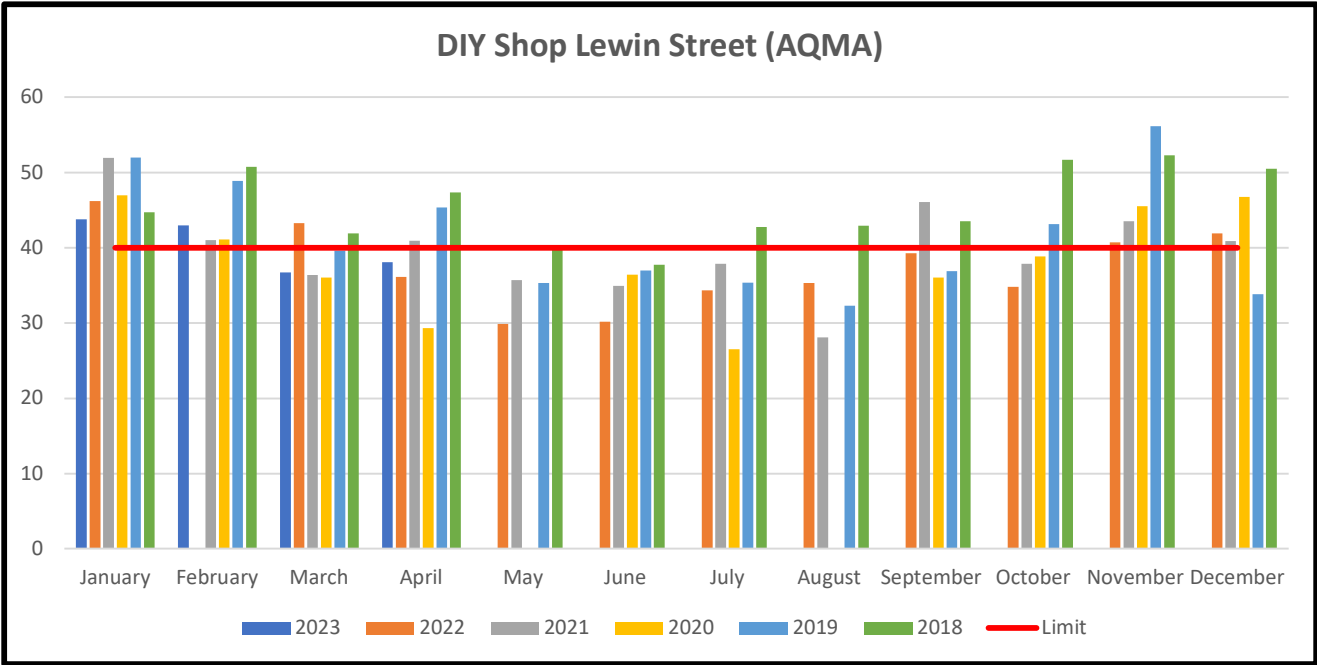
Version Two

Appendix One

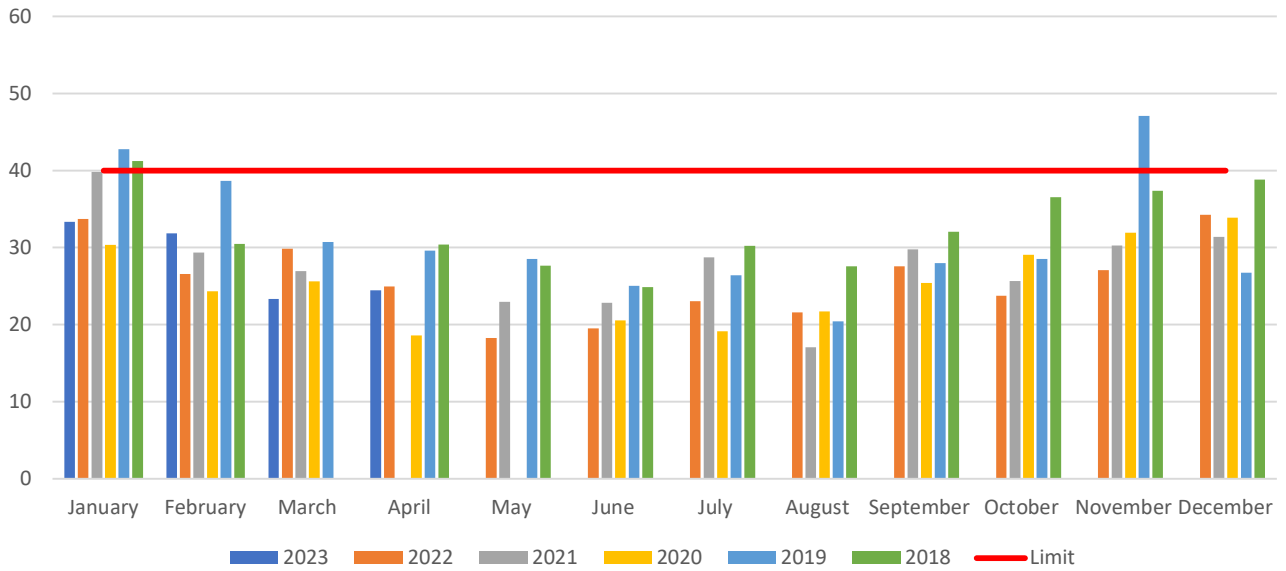
Please note UK Limits on NO2 is 40 µg/m3

Datasets uploaded as of April 2023. Awaiting May results

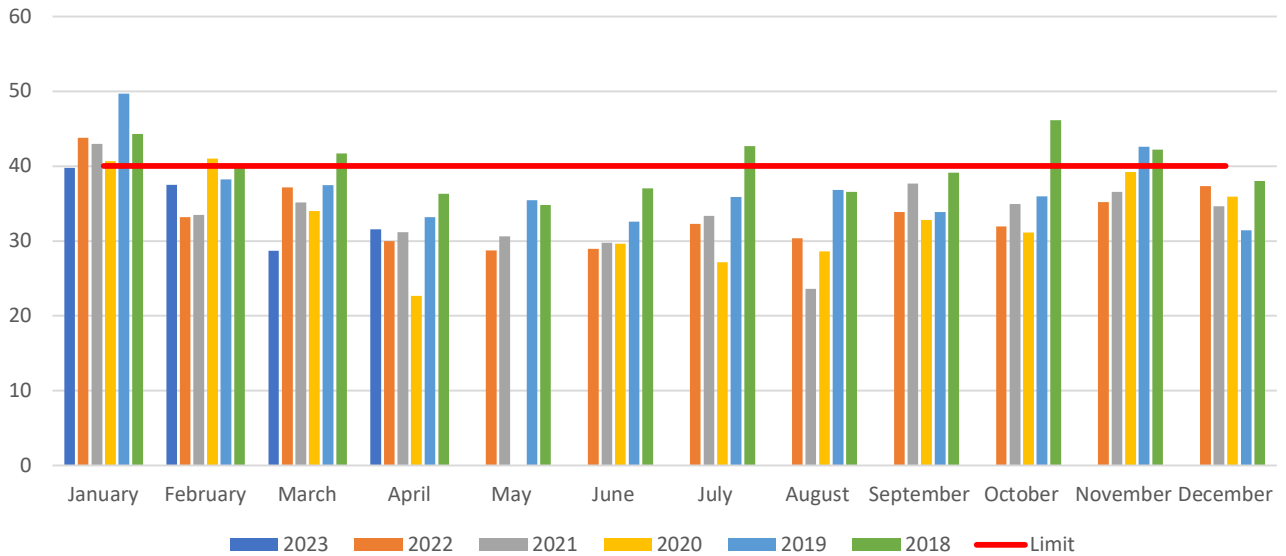




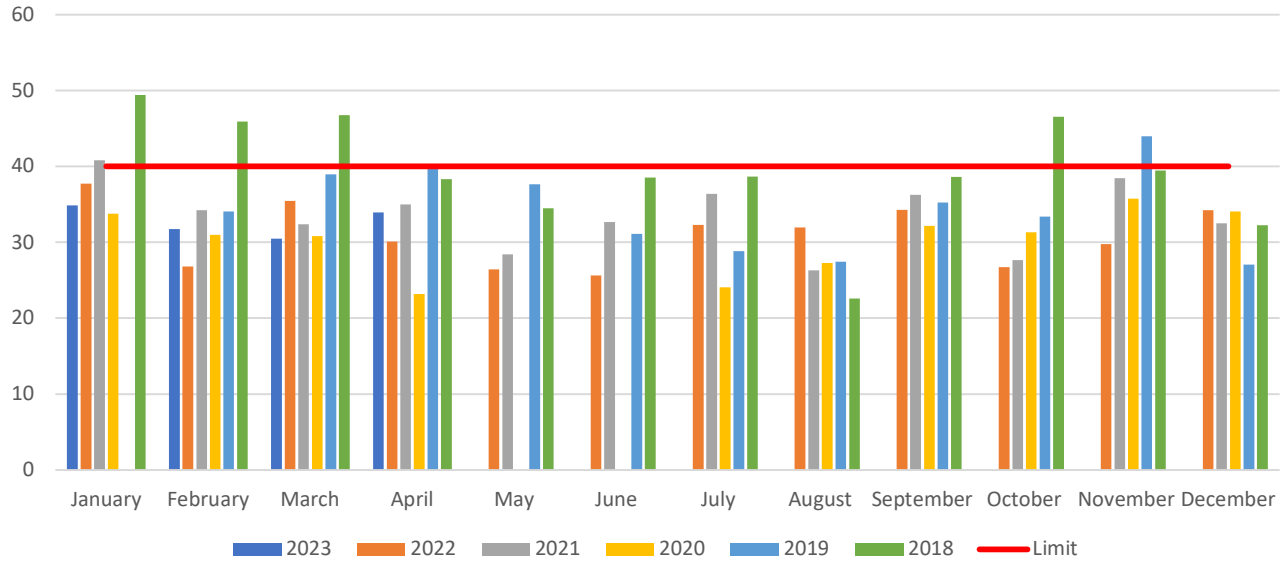
84 & 86 Lewin Street (AQMA)



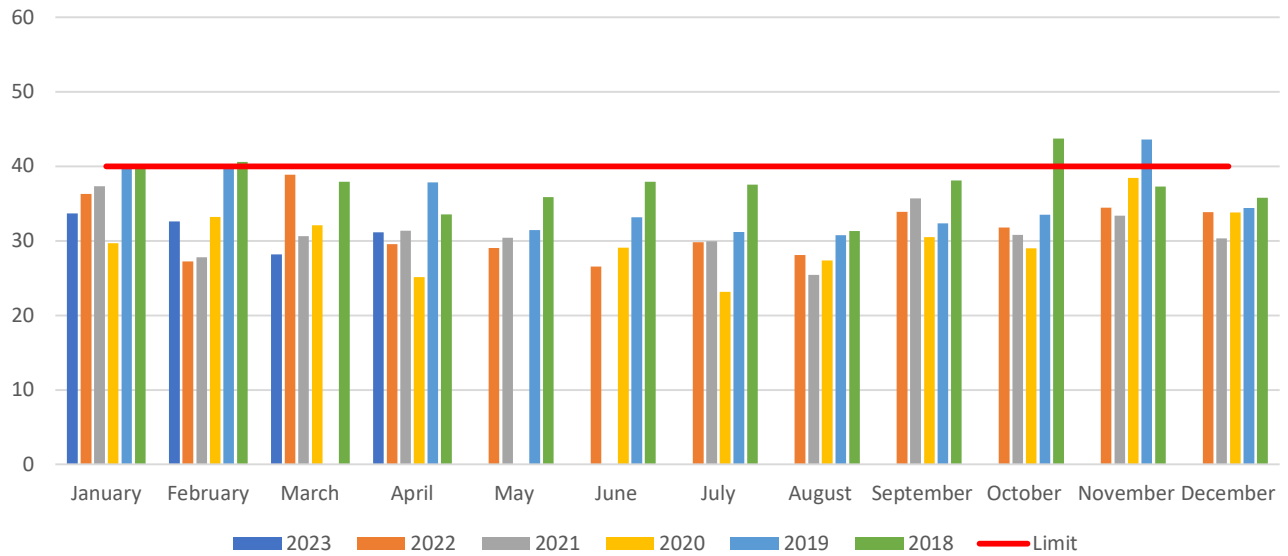
23 Newton Bank



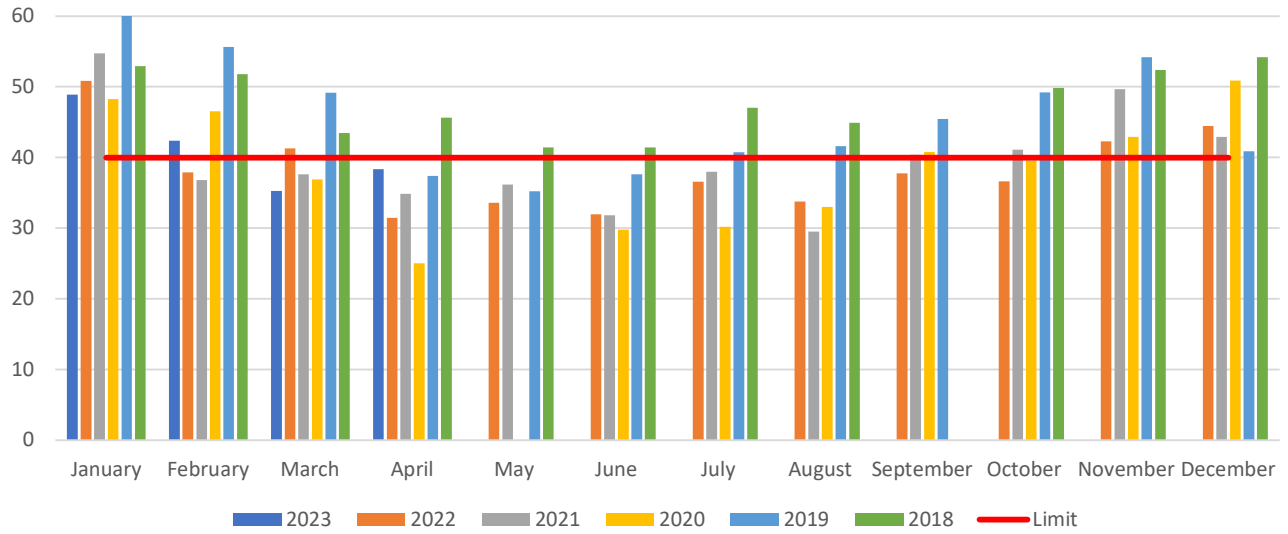
The Lindens 12 - 14 Chester Road (AQMA)



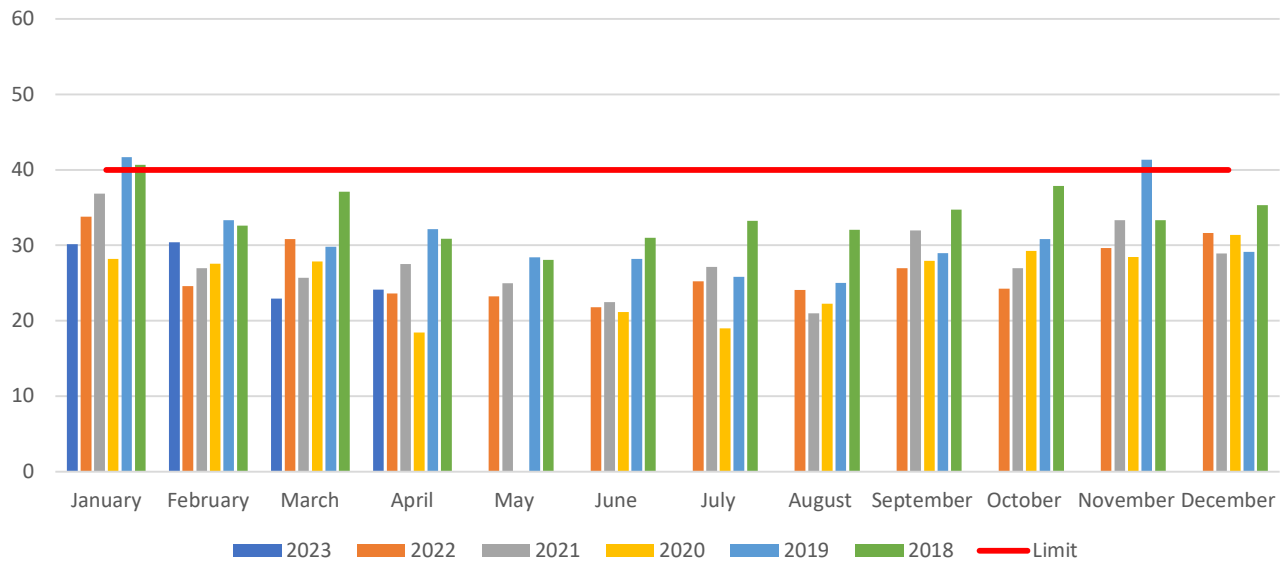
51 Chester Road (AQMA)

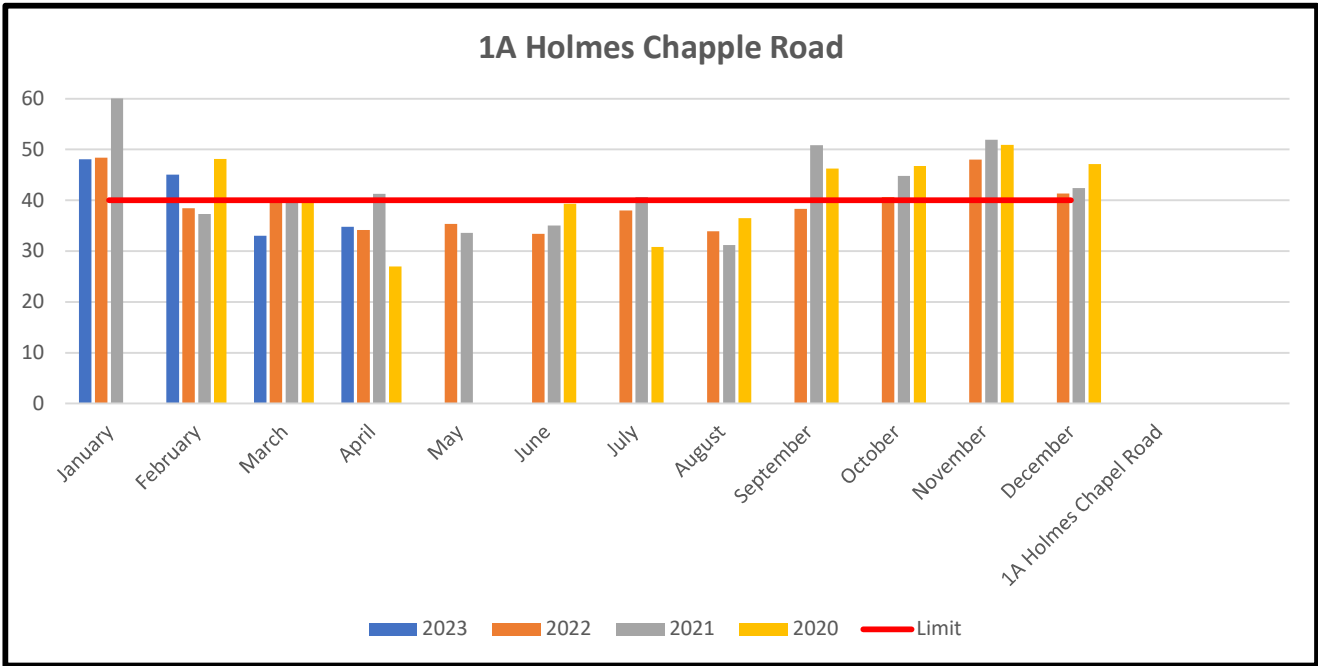
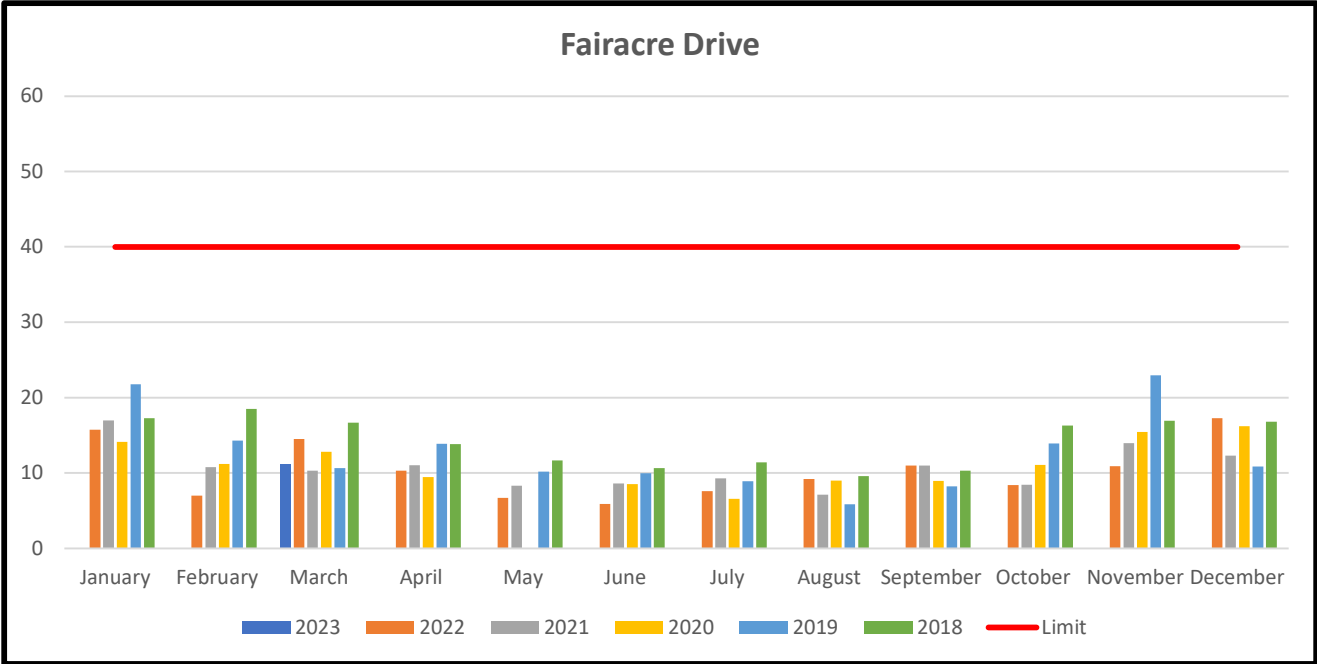


15/17 Chester Road (AQMA)

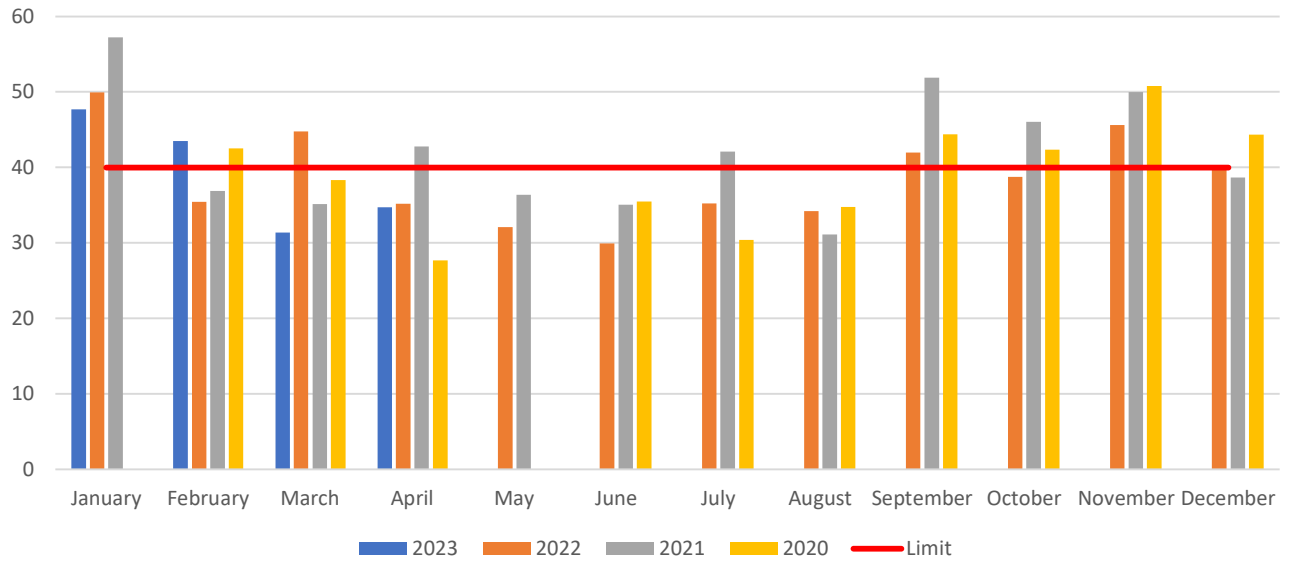


10 Nantwich Road





Truby Cottage Holmes Chapple Road



Appendix Two

UK National laws, standards, and policies

- Road Traffic Regulation Act 1984
- Clean Air Act 1993
- Environment Act 1995
- Transport Act 2000
- The Air Quality (England) Regulations 2000
- The National Emission Ceilings Regulations 2002
- The Large Combustion Plants (National Emission Reduction Plan) Regulations 2007
- The Environmental Permitting (England and Wales) Regulations 2010
- The Air Quality Standards Regulations 2010
- Part IV of the Environmental Protection Act 1995
- UK Plan for Tackling Roadside Nitrogen Dioxide Concentration 2017
- UK Clean Air Strategy 2019