

# 2023 Air Quality Management Areas – Revocation Report

In fulfilment of Part IV of the Environment Act 1995  
Local Air Quality Management, as amended by the  
Environment Act 2021

Date: December 2023



Cheshire West  
and Chester

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## Air Quality in Cheshire West and Chester

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, the elderly, and those with existing heart and lung conditions. There is also often a strong correlation with equalities issues because areas with poor air quality are also often less affluent areas<sup>1,2</sup>.

The mortality burden of air pollution within the UK is equivalent to 29,000 to 43,000 deaths at typical ages<sup>3</sup>, with a total estimated healthcare cost to the NHS and social care of £157 million in 2017<sup>4</sup>.

This report provides an overview of air quality in two of Cheshire West and Chester Council's Air Quality Management Areas (AQMAs); Whitby Road/Station Road in Ellesmere Port and Fluin Lane in Frodsham, and it presents the evidence to support their revocation. The report considers:

- Long-term air quality monitoring data for each AQMA
- Local and national trends in NO<sub>2</sub> levels
- Projected roadside nitrogen dioxide (NO<sub>2</sub>) concentrations
- Local factors that may impact on the AQMA.

It fulfils the requirements of Local Air Quality Management (LAQM) as set out in Part IV of the Environment Act (1995), as amended by the Environment Act (2021), and the relevant Policy and Technical Guidance documents.

The LAQM Review and Assessment 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 (listed in Table 1 below) are likely to be achieved. Where an exceedance is considered likely the local authority must declare

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<sup>1</sup> Public Health England. Air Quality: A Briefing for Directors of Public Health, 2017

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

<sup>3</sup> Defra. Air quality appraisal: damage cost guidance, January 2023

<sup>4</sup> Public Health England. Estimation of costs to the NHS and social care due to the health impacts of air pollution: summary report, May 2018

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 order to achieve and maintain the objectives and the dates by which each measure will be carried out.

Under LAQM, the Council prepares an Annual Status Report (ASR), which is submitted to Defra for approval. The most recent ASRs are available on the Council's website at: [www.cheshirewestandchester.gov.uk/aqmanagement](http://www.cheshirewestandchester.gov.uk/aqmanagement) . Our intention to revoke the Ellesmere Port and the Frodsham AQMAs has been stated in the ASRs, and appraisal comments from Defra support this decision.

## Legislation and Guidance

The Environment Act 1995 Section 83 (2b) of the Environment Act (1995) (as amended by the Environment Act 2021) states that an AQMA: “.....may, as a result of a subsequent air quality review, be revoked by... an order, if it appears on that subsequent air quality review that the air quality standards and objectives are being achieved, and are likely throughout the relevant period to be achieved, within the designated area”.

## Statutory Guidance

Guidance on the requirements for revoking an AQMA are set out in statutory guidance LAQM.PG(22) (policy) and LAQM.TG(22) (technical). PG(22) says that:

An AQMA can be revoked where a review demonstrates that air quality objectives are being met and there is confidence that they will continue to do so. Monitoring results should have been below national objective levels for three years or more prior to revocation.

TG(22) states that: “In some instances if compelling evidence exists, detailed modelling to support the decision to amend/revoke an AQMA may not be necessary and an AQMA may be amended or revoked following a screening assessment or on the basis of robust monitoring evidence. However, pollutant concentrations may vary significantly from one year to the next, due to the influence of meteorological conditions, and it is important that authorities avoid cycling between declaring, revoking and declaring again, due simply to these variations. Therefore, before

revoking an AQMA on the basis of measured pollutant concentrations, the authority therefore needs to be reasonably certain that any future exceedances (that might occur in more adverse meteorological conditions) are unlikely. For this reason, it is expected that authorities will need to consider measurements carried out over several years or more. The revocation of an AQMA should be considered following three consecutive years of compliance with the relevant objective as evidenced through monitoring.” Guidance goes on to say that where 2020 and 2021 [both of which were impacted by lockdown restrictions] are a continuation of a downward trend and part of many consecutive years of compliance (e.g., where compliance has also been achieved in 2019, prior to COVID-19) the AQMA may be appropriate for revocation.

## Air Quality Management Areas

The Ellesmere Port (Whitby Rd / Station Rd) AQMA was declared in 2005 in order to address road traffic related nitrogen dioxide (NO<sub>2</sub>) affecting residential properties on parts of Whitby Rd, Station Rd and Princes Rd. At the time of declaration annual mean NO<sub>2</sub> was measured at 44.5 micrograms per cubic metre (µg/m<sup>3</sup>) – as compared to the national air quality objective of 40 µg/m<sup>3</sup> (see Appendix 2: Summary of Air Quality Objectives in England below). Over time the ambient levels of NO<sub>2</sub> have gradually reduced such that, as of 2022 (the last full calendar year for which ratified monitoring results are available) those levels stood at 29.2 µg/m<sup>3</sup>. A map of the AQMA is shown in Figure 1 below.

Frodsham AQMA was declared in 2015, also due to NO<sub>2</sub> from road vehicles, and covers a small number of residential properties on Fluin Lane and High Street (A56) in Frodsham. Annual mean NO<sub>2</sub> levels of 41.5 µg/m<sup>3</sup> at declaration have declined to a maximum of 28.4 µg/m<sup>3</sup> in 2022. A map of the AQMA is shown in Figure 2 below.



Figure 1 Map of Ellesmere Port AQMA

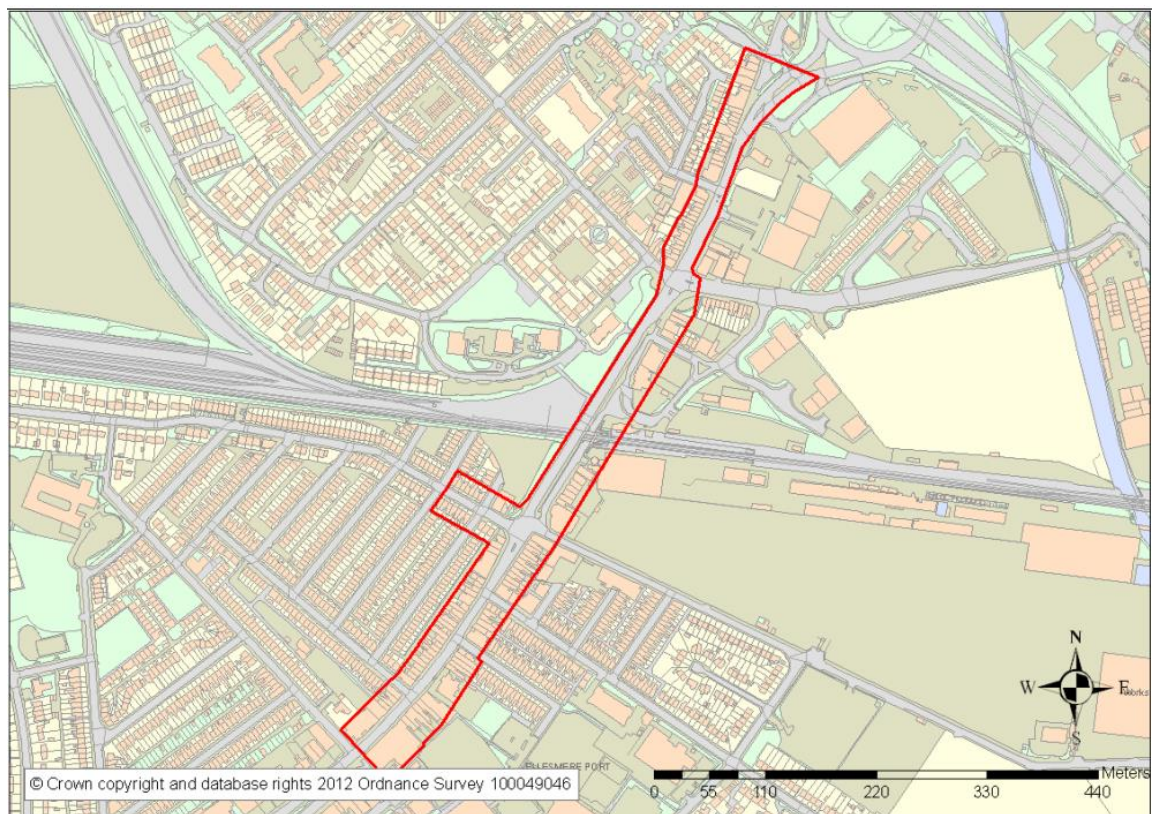


Figure 2 Map of Frodsham AQMA



## Local Air Quality Monitoring in the AQMAs

Local monitoring shows that the roadside concentrations of NO<sub>2</sub> have declined significantly in recent years. Ambient levels of NO<sub>2</sub> in both AQMAs under review are now consistently and comfortably below the national annual objective of 40µg/m<sup>3</sup>.

The Council currently monitors NO<sub>2</sub> at three locations (RR, SR and WH) within the Ellesmere Port AQMA and at four sites (FH, FJ, FM and FT) in the Frodsham AQMA. Details of the monitoring sites can be found in the latest version of the Annual Status Report at [www.cheshirewestandchester.gov.uk/aqmanagement](http://www.cheshirewestandchester.gov.uk/aqmanagement) . In 2013 NO<sub>2</sub> at the worst-case locations was 42.2 µg/m<sup>3</sup> in Ellesmere Port and 44.7 µg/m<sup>3</sup> in Frodsham. These levels have now declined 29.2µg/m<sup>3</sup> and 28.4µg/m<sup>3</sup> respectively. Ten-year trends in annual mean NO<sub>2</sub> are shown in Figure 3 and Figure 4 below. In both cases, there have been no exceedances of the objectives for at least five years, and the maximum levels have been more than 10% below the annual objective for three years.

It is worth noting that levels were significantly lower than would have been expected in 2020 due to suppressed traffic movements during the pandemic lockdowns, and this can be clearly discerned from the graphs. However, subsequent to this, concentrations did not return to pre-pandemic levels but in fact continued to follow the earlier downward trend.

The Council will continue to monitor NO<sub>2</sub> at worst-case locations in the current AQMAs to confirm that ambient levels of the pollutant continue to be compliant with the national objectives and to gauge improvements in local air quality over time.

Figure 3 Trend graph of monitored NO<sub>2</sub> in Ellesmere Port AQMA

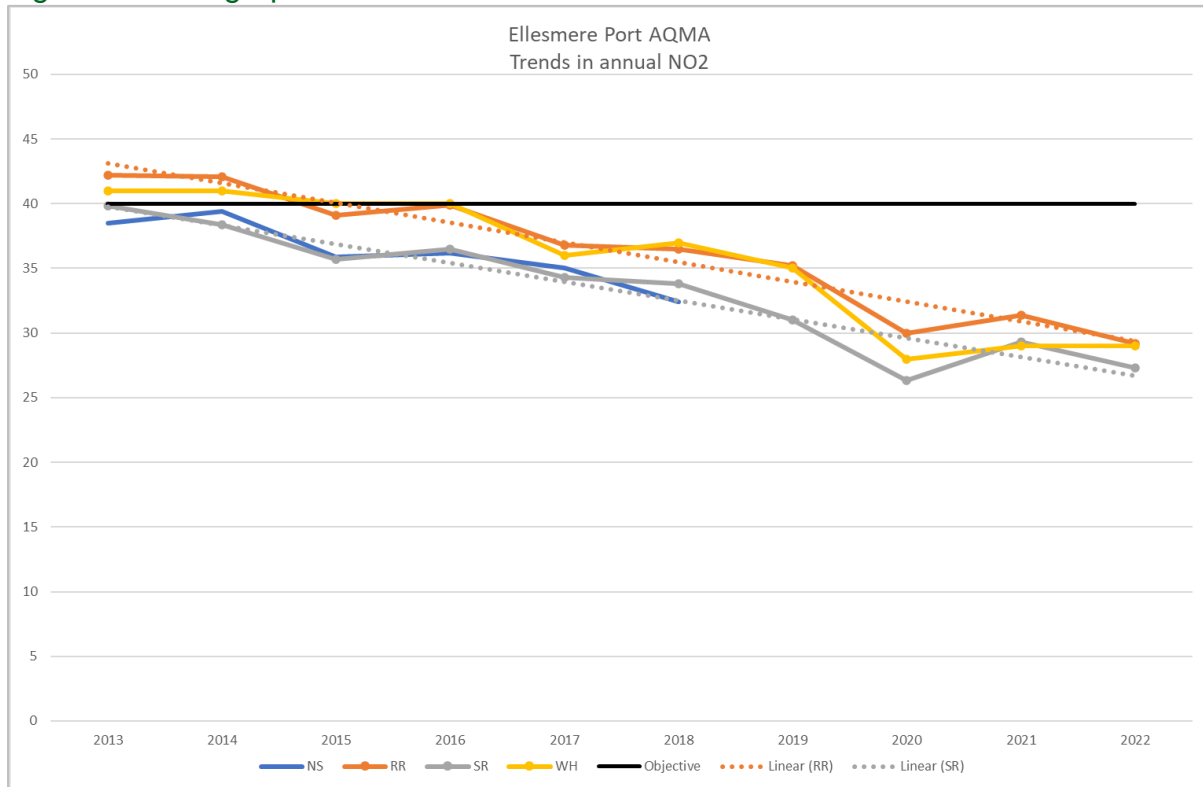
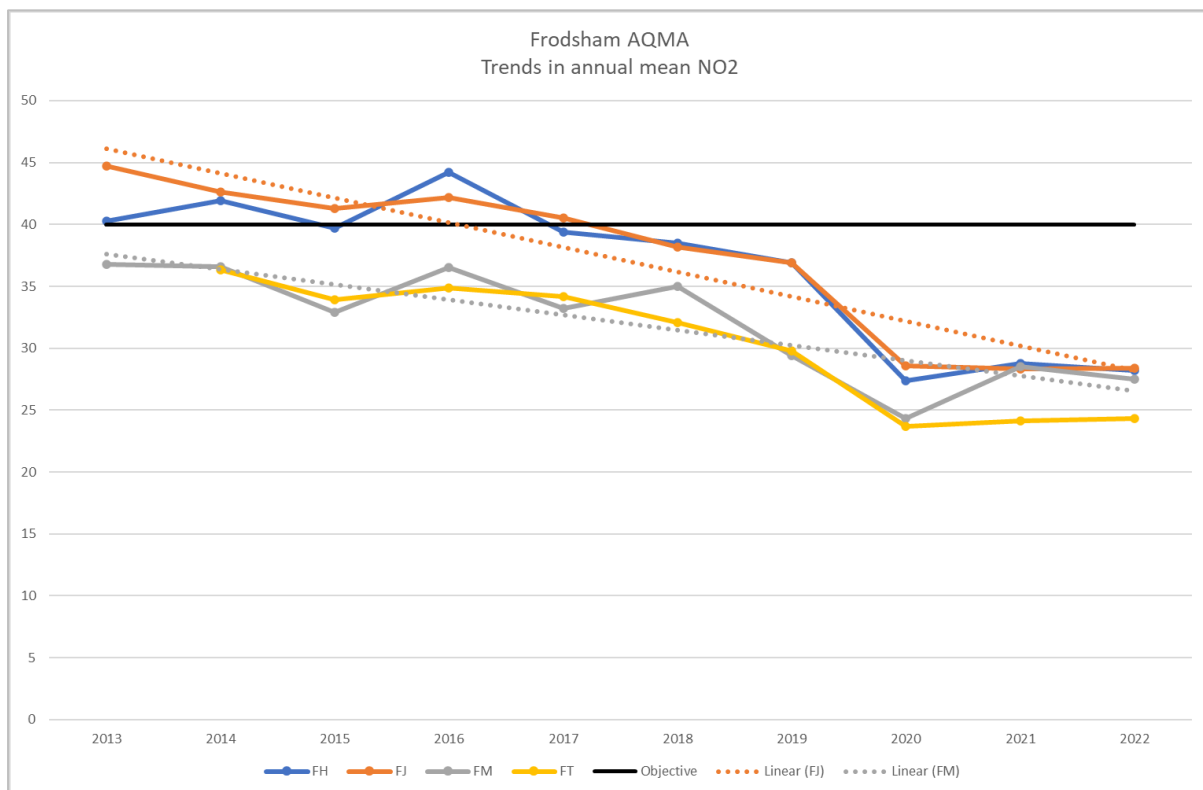


Figure 4 Trend graph of monitored NO<sub>2</sub> in Frodsham AQMA



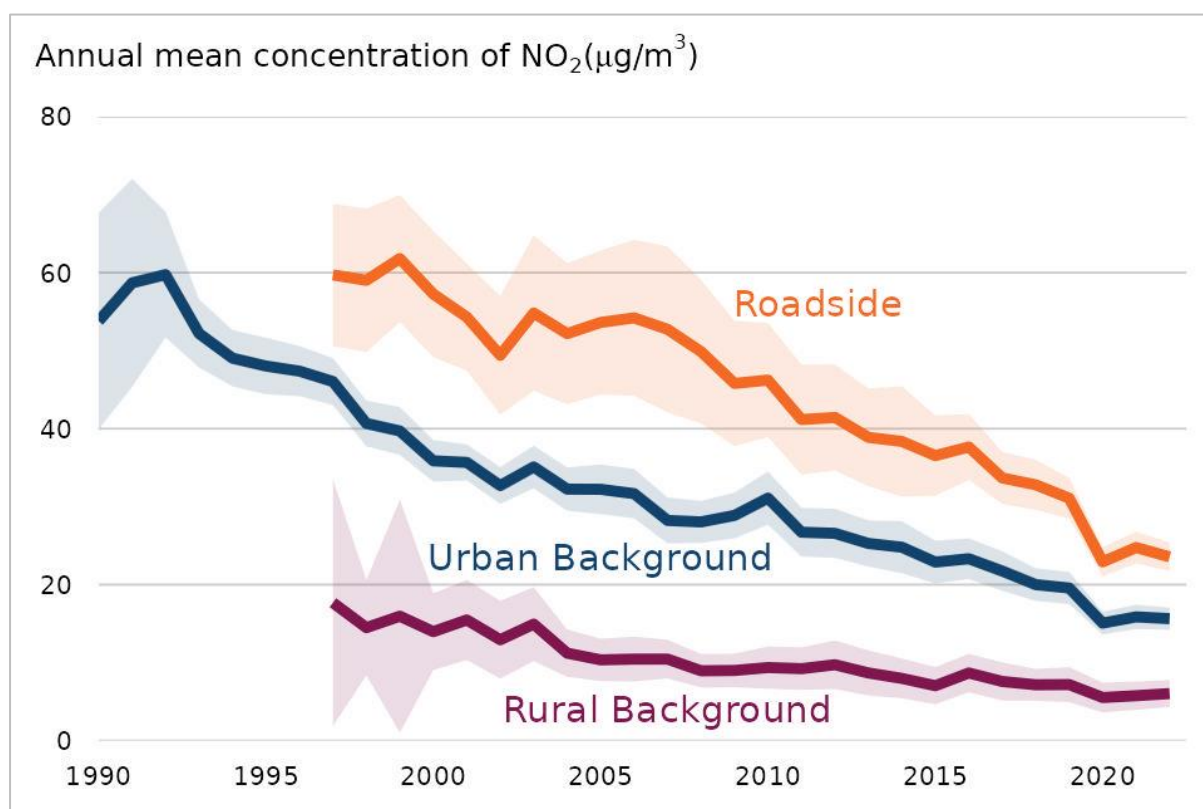


## Air Quality Monitoring – National Network

The trends in NO<sub>2</sub> observed locally are also reflected in data generated by Defra's national monitoring network. Available on the Defra webpage, National Statistics – Air quality statistics in the UK, 1987 to 2022 - Nitrogen dioxide (NO<sub>2</sub>) ([Nitrogen dioxide \(NO<sub>2</sub>\) - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/statistics/nitrogen-dioxide-no2)), the position is that:

“Roadside NO<sub>2</sub> pollution has reduced in the long-term and in recent years, having been stable for most of the 2000s. The annual mean concentration of NO<sub>2</sub> at the roadside has decreased over the time series to 23.6 µg/m<sup>3</sup> in 2022 (see Figure 5 below). For most of the 2000s, the annual mean NO<sub>2</sub> concentration was stable, likely as a result of the increased ownership of diesel-fuelled vehicles which historically emitted far more nitrogen oxides compared to equivalent petrol-fuelled vehicles. Between 2006 and 2019 inclusive, the annual mean NO<sub>2</sub> concentration at roadside sites reduced by an average of 1.8 µg/m<sup>3</sup> each year. This reduction was observed at most long-running monitoring sites across the UK and could be a consequence of the large reduction in road transport emissions of NO<sub>2</sub> over the same period in the UK, as newer vehicles subject to stricter emissions standards enter the transport fleet.”

Figure 5 Annual mean concentrations of NO<sub>2</sub> in the UK, 1990 to 2022<sup>5</sup>



## Forecast NO<sub>2</sub> Trends

It has been shown that the levels of NO<sub>2</sub> (and indeed NO<sub>x</sub> (oxides of nitrogen, that includes both NO<sub>2</sub> and nitric oxide (NO))) have reduced significantly in recent years. But in order to have confidence that levels will remain below the objective, and that revocation of the AQMAs is justified, it is necessary to predict future trends in NO<sub>2</sub>. Defra's Roadside NO<sub>2</sub> Projection factors tool<sup>6</sup> enables future levels of roadside NO<sub>2</sub> to be estimated. Using a base year of 2022, local monitoring data have been projected forwards to 2030. The 'rest of UK (HDV =<10%)' scenario (i.e. in which heavy duty vehicles (HDVs) make up less than 10% of the local fleet) has been applied. The graphs in Figure 6 and Figure 7 below demonstrate that compliance with the objectives will be maintained as NO<sub>2</sub> concentrations at the roadside continue to subside.

<sup>5</sup> Source: [www.gov.uk/government/statistics/air-quality-statistics/nitrogen-dioxide](https://www.gov.uk/government/statistics/air-quality-statistics/nitrogen-dioxide) - accessed 12/23

<sup>6</sup> Source: [Roadside NO<sub>2</sub> Projection Factors | LAQM \(defra.gov.uk\)](https://defra.gov.uk/roadside-no2-projection-factors-laqm) – accessed 12/23

Figure 6 Roadside NO<sub>2</sub> forward projections in the Ellesmere Port AQMA

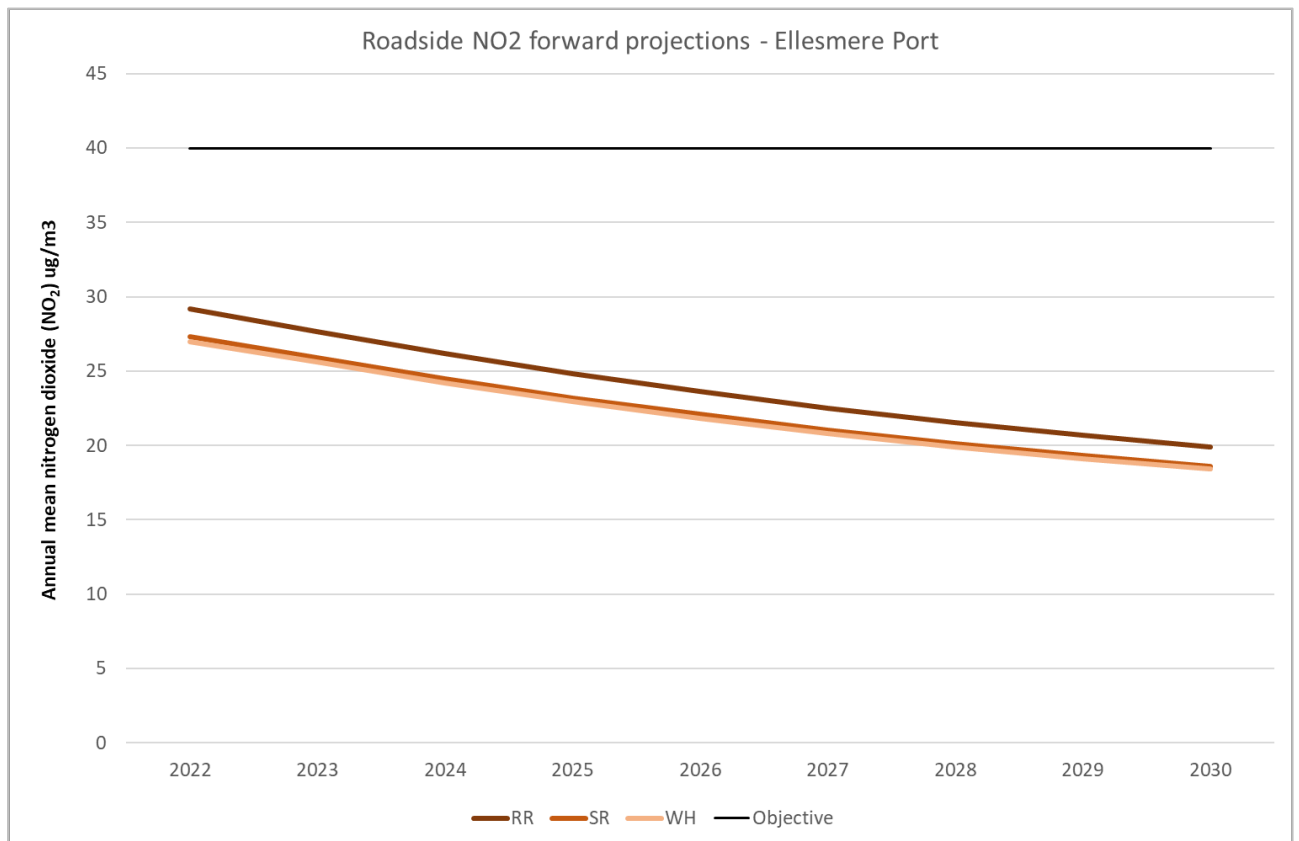
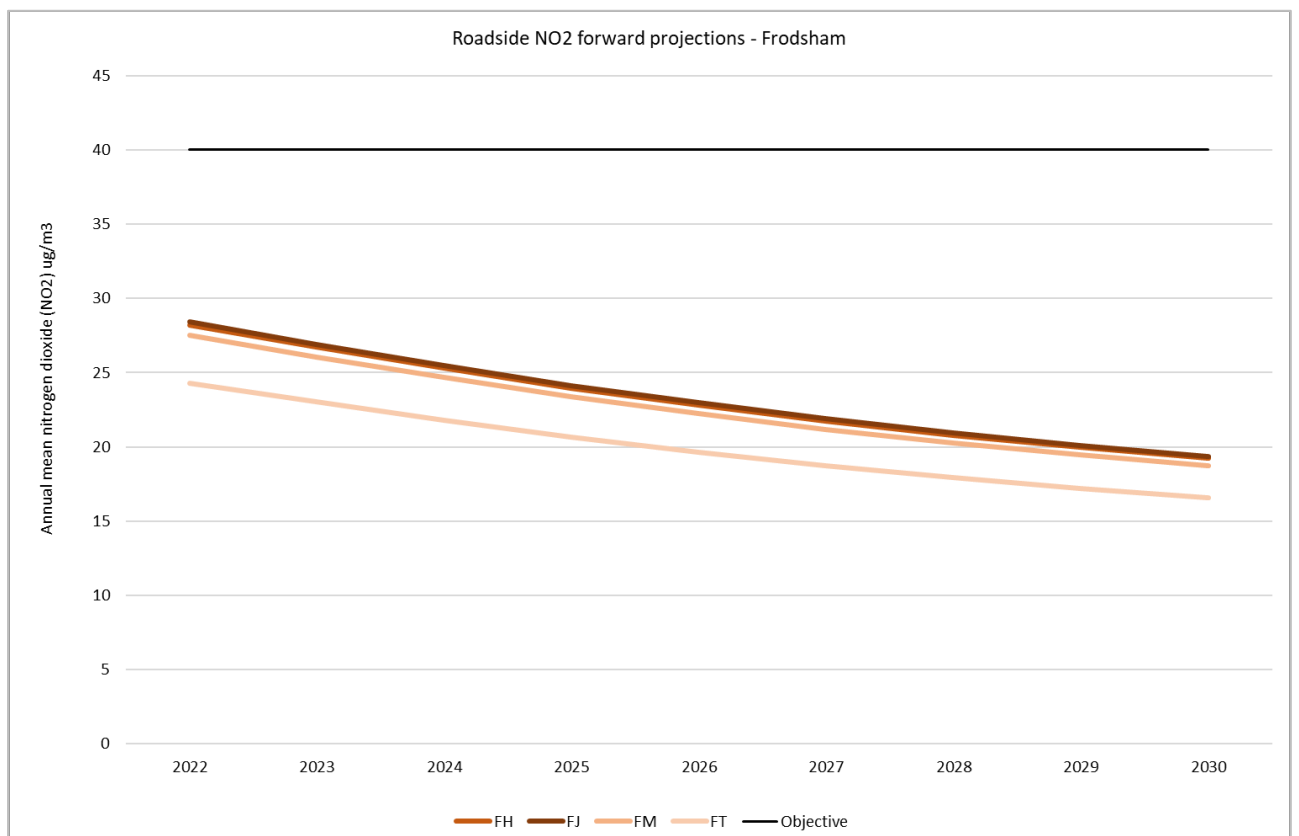
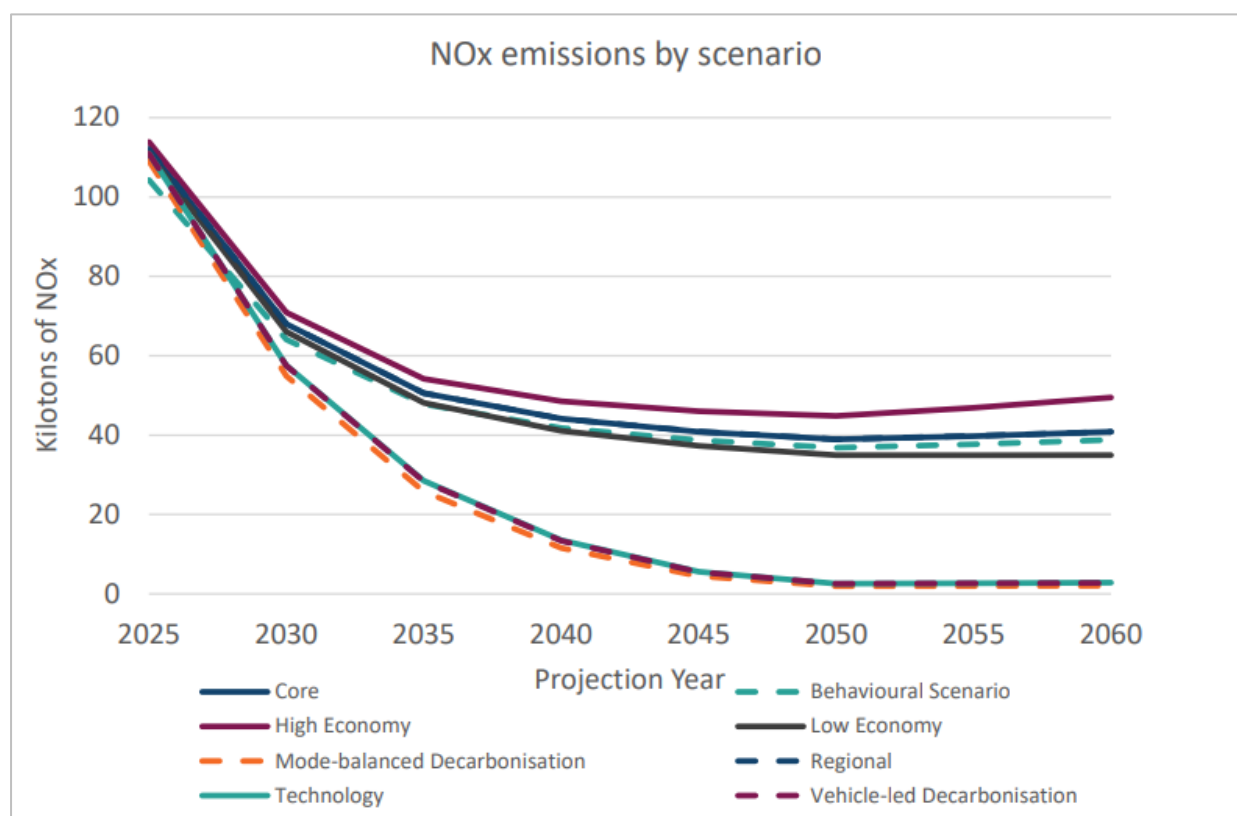


Figure 7 Roadside NO<sub>2</sub> forward projections in the Frodsham AQMA



Beyond 2030 there is more uncertainty about the anticipated levels of roadside NOx due to unknowns such as: socio-economic factors; technological advances; adoption rates of cleaner vehicles; and policy-led interventions. However, the Department of Transport's National Road Traffic Projections 2022 report<sup>7</sup> provides a strategic view of future road travel demand. Employing the National Transport Model, a number of scenarios have been produced, all of which predict an increase in traffic and congestion but at the same time forecast continued reductions in vehicular emissions. The report says: "Between 2025 and 2050 NOx are projected to reduce by 65%, driven by the uptake of Euro 6 engines. However, as the uptake of Euro 6 engines flattens off the impact of greater travel increases the NOx by 1% between 2050 and 2060." The graph below (Figure 8) "shows the downward trajectory of tailpipe NOx emissions across all the scenarios. The high EV uptake scenarios reduce to almost zero by 2050 due to the electrification of the vehicle fleet."

Figure 8 Projected national road traffic NOx emissions



<sup>7</sup> Source: <https://www.gov.uk/government/publications/national-road-traffic-projections> - accessed 12/23

## Local Policies, Strategies, and Initiatives

Cheshire West and Chester Council has progressed a number of direct measures in pursuit of improving local air quality. Details of all measures completed, in progress or planned are set out in the 2023 Annual Status Report.

More detail on these measures can be found in their respective Action Plans, the Low Emission Strategy, and the Local Plan Part 2. Key completed measures are:

- Installation of 12 double-socket fast electric vehicle charge points (EVCPs) across 6 council car parks, match funded through the Department for Transport (DfT) on-street residential charge point scheme (ORCS).
- Installation of 14 double-socket fast EVCPs in Canalside depot along with 2 rapid chargers at the nearby Boat Museum. Local Enterprise Partnership was match funded with Climate Emergency Funds for this project.
- Installation of EV charging infrastructure at Northern Lights, Browning Way and Guilden Sutton depots.
- Revision of Licensing policy to stimulate the uptake of taxis and private hire ultra-low emission vehicles (ULEVs).
- Implementation of planning conditions requiring EVCPs in new developments following adoption of the Local Plan, part 2. Completion and adoption of the EV strategy, which will help to inform and prioritise the rollout of additional EVCP infrastructure across a range of location types including on-street and council workplaces.
- Finalisation of a procurement strategy, supported by LEVI funding, for a comprehensive local network of privately funded fast and rapid EVCPs across the borough.
- Installation of the first phase of fast EVCPs (41 sockets) in the Northgate development multistorey car park in Chester.
- Continued adoption of EVs across the Council fleet.
- Completion of a taxi driver engagement scheme to inform and demonstrate the feasibility and benefits of electric vehicles.
- Revision of Taxi Licensing Policy to remove non ULEVs from fleet by 2036.

## Conclusions and Recommendations

According to the Environment Act and associated statutory guidance, an AQMA can be revoked where a review demonstrates that air quality objectives are being met and there is confidence that they will continue to do so.

This review has considered current and historical monitoring data and has shown that the roadside concentrations of NO<sub>2</sub> have declined significantly since the initial declaration of the AQMAs in both Ellesmere Port and Frodsham. Air quality in the AQMAs is demonstrably compliant with the objectives as there have been no exceedances for five years. National air quality monitoring data follows a similar trend to that observed locally. Furthermore, predictions of future trends in NO<sub>2</sub> show that recurrence of exceedances of the objectives in the AQMAs is highly improbable. The Council has confidence therefore that compliance has been and will continue to be achieved and is satisfied that its decision to revoke both AQMAs in 2024 is justified. Monitoring of NO<sub>2</sub> will continue at worst-case locations in the current AQMAs to confirm that ambient levels of the pollutant remain compliant with the national objectives and to gauge improvements in local air quality over time.

Formal revocation of both the Ellesmere Port and Frodsham AQMAs is recommended. This should proceed as soon as practicable in order to comply with statutory reporting obligations.

Draft revocation Orders are shown in Appendix 1: Draft AQMA Revocation Orders below. The draft Orders include an anticipated date of their coming into force although this may be subject to change.



## Appendix 1: Draft AQMA Revocation Orders

### 1. Ellesmere Port

Cheshire West and Chester Borough Council Order 2024

Environment Act 1995 Part IV Section 83(2)(b)

Order Revoking an Air Quality Management Area

Cheshire West and Chester Borough Council, in exercise of the powers conferred on it by Section 83(2)(b) of the Environment Act 1995 hereby makes the following order:

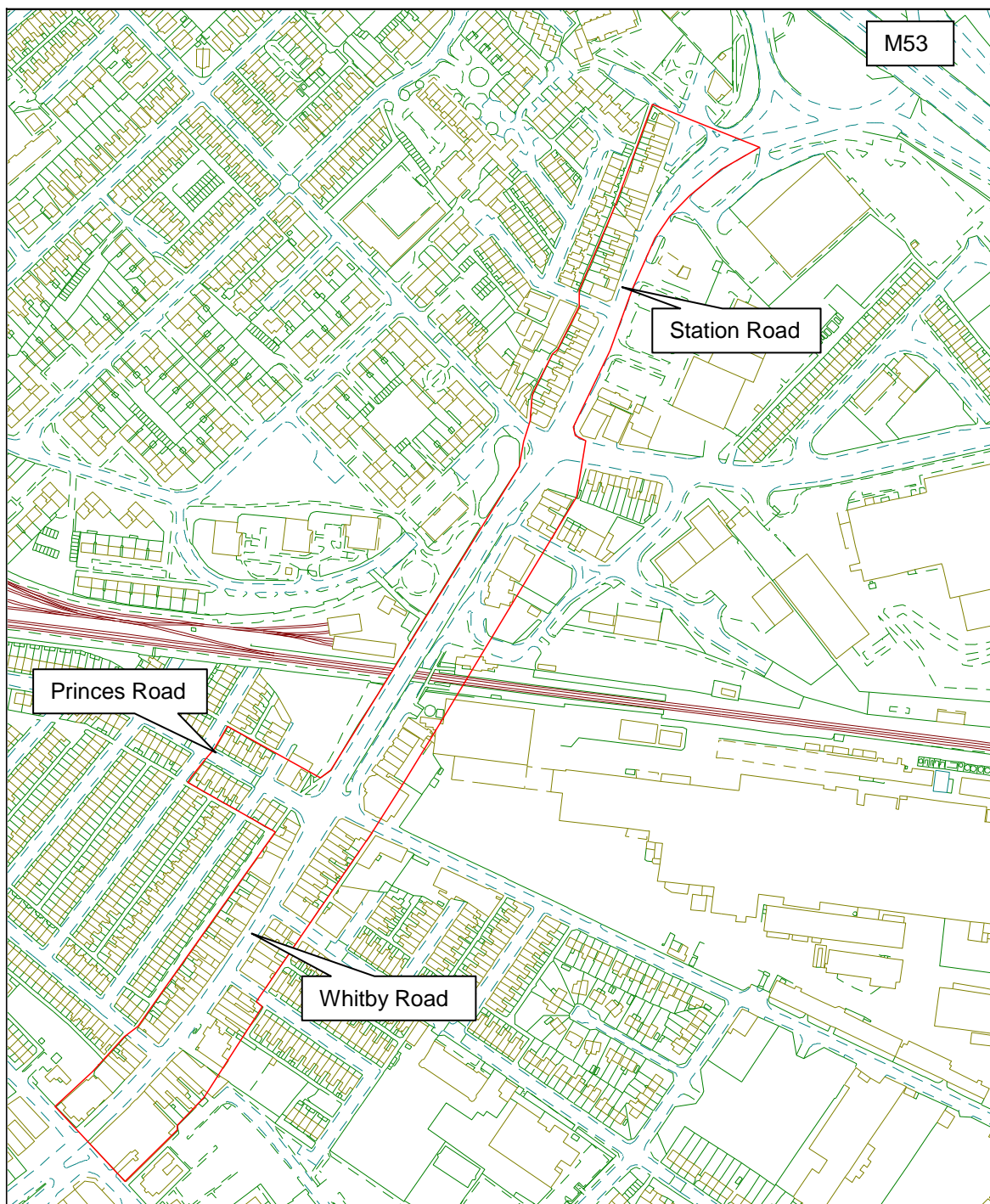
1. This Order shall revoke the area known as the Ellesmere Port and Neston Borough Council Air Quality Management Area No.1 (Whitby Road / Station Road) (as shown in the attached map) declared for the nitrogen dioxide (NO<sub>2</sub>) - annual mean objective on 16/05/2005.

2. This Order shall come into force on 1st March 2024.

The Common Seal of  
**Cheshire West and Chester Borough Council**  
was hereunto affixed  
in the presence of:

.....

Dated: .....



Ellesmere Port and Neston Borough Council

Air Quality Management Area No.1  
(Whitby Road / Station Road)

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## 2. Frodsham

Cheshire West and Chester Borough Council Order 2024

Environment Act 1995 Part IV Section 83(2)(b)

Order Revoking an Air Quality Management Area

Cheshire West and Chester Borough Council, in exercise of the powers conferred on it by Section 83(2)(b) of the Environment Act 1995 hereby makes the following order:

1. This Order shall revoke the area known as the Cheshire West and Chester Borough Council (Frodsham) Air Quality Management Area 2015 (No.1) (as shown in the attached map) declared for the nitrogen dioxide (NO<sub>2</sub>) - annual mean objective on 26/11/2015.

2. This Order shall come into force on 1st March 2024.

The Common Seal of

**Cheshire West and Chester Borough Council**

was hereunto affixed

in the presence of:

.....

Dated: .....



Frodsham Air Quality Management Area 2015 (No.1)



Cheshire West  
and Chester

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Ordnance Survey 100049046.

## Appendix 2: Summary of Air Quality Objectives in England

Table 1 – Air Quality Objectives in England<sup>8</sup>

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

<sup>8</sup> The units are in microgrammes of pollutant per cubic metre of air (µg/m<sup>3</sup>).

## References

- Local Air Quality Management Technical Guidance LAQM.TG22. August 2022. Published by Defra in partnership with the Scottish Government, Welsh Assembly Government and Department of the Environment Northern Ireland.
- Local Air Quality Management Policy Guidance LAQM.PG22. August 2022. Published by Defra in partnership with the Scottish Government, Welsh Assembly Government and Department of the Environment Northern Ireland.