



Whirlies, East Kilbride Revocation of Air Quality Management Area Report

Background

- Introduction

An Air Quality Management Area (AQMA) around the Whirlies Roundabout, East Kilbride, between A725, A749 and B783 and extending along all the roads leading into the roundabout was declared in 2008 due to likely breaches of Particulate Matter (PM₁₀) annual mean air quality objective of 18µg/m³

A link to the South Lanarkshire Council Air Quality Management Area Order No.1 (Whirlies Roundabout, East Kilbride) is available here:

<https://www.scottishairquality.scot/laqm/aqma/578>

Measured PM₁₀ concentrations have declined over recent years and, on this basis, South Lanarkshire Council are currently considering revocation of the Whirlies AQMA. This report aims to provide evidence to support revocation.

- Legislation

In exercise of the powers conferred upon it by Section 83(1) of the Environment Act 1995 South Lanarkshire declared the South Lanarkshire Council Air Quality Management Area No.1 (Whirlies Roundabout, East Kilbride)¹ which came into effect on 28th November 2008.

- Summary of proposal

This report presents evidence to demonstrate that air quality objectives are not, and are unlikely to be, exceeded and as such the Whirlies AQMA will be revoked.

Description of AQMA

- Pollutants declared for and time intervals, date declared

The Whirlies AQMA was declared due to potential exceedance of the Scottish annual mean objective for PM₁₀. The AQMA was declared November 2008.

- Description and extent of AQMA

The AQMA encompasses the Whirlies Roundabout between A725, A749 and B783. The AQMA also includes all roads that lead into the roundabout. The AQMA is demonstrated in map format in Annex A.

Description of local sources

- Describe local sources (e.g. traffic, industry)

Baseline emissions inventory work indicated that PM₁₀ emissions arose from road transport (45%), solvents (18%), waste treatment (13%), other transport and nature (7%) with remaining emissions attributed to industrial combustion and processing as well as commercial, institutional and residential combustion.

For NO_x the most significant source is road transport (57%) with commercial, institutional and residential emissions contributing 24% and industrial emissions contributing 14%. The remaining 5% NO_x emissions were attributed from other transport.

More information is available here: [Further Assessment of Air Quality in Whirlies AQMA \(scottishairquality.scot\)](https://scottishairquality.scot/further-assessment-of-air-quality-in-whirlies-aqma)

- Action planning measures which have been implemented

Active travel

‘Love to Ride South Lanarkshire’ was a tailored online behaviour change programme and platform which ran for eighteen months and has been proven to motivate and encourage more people on bikes. The project engaged with 35 workplaces and encouraged 18% of new riders to become occasional or regular riders and 9% of active occasional riders to become regular riders. More information is available here: [Cycle for fun and prizes this September - South Lanarkshire View](https://www.southlanarkshire.gov.uk/news/love-to-ride-south-lanarkshire-view)

‘Beat the Street’ projects have been delivered in South Lanarkshire since 2018. This is a sustainable active travel behaviour change initiative aimed at encouraging residents and visitors to decrease journeys by car and increase journeys made using more active and sustainable means of travel. Projects have taken place in Lanark and Rutherglen, East Kilbride (EK)(x 3), Hamilton and Blantyre, Cambuslang and Rutherglen and within the Clydesdale area. Over 66,000 people have taken part and community engagement has ranged between 10 – 17% of the local population. Participants have walked, cycled, or wheeled over 820,000 miles. Some further information is available here: [https://www.southlanarkshire.gov.uk/news/article/2411/winners of east kilbride s latest beat the street challenge](https://www.southlanarkshire.gov.uk/news/article/2411/winners-of-east-kilbride-s-latest-beat-the-street-challenge)

‘BetterPoints – Think, Move, Breathe’ is an App based active and sustainable travel behaviour project that rewards participants for choosing active and sustainable ways of travelling across South Lanarkshire. More information is available here: [BetterPoints - Think, Move, Breathe](https://www.southlanarkshire.gov.uk/betterpoints-think-move-breathe).

South Lanarkshire Council (SLC) has worked in partnership with South Lanarkshire College, which is based in East Kilbride, to support the expansion of cycling uptake with students and staff. SLC supported the college in their purchase of a new e-cargo bike which will enable sustainable deliveries across campus as well as transporting materials for the horticultural department. Dr Bike sessions have also been supported to assist staff and students with bike maintenance.

South Lanarkshire re-launched its ‘Cycle2Work’ scheme and in 2022 agreed that this scheme would now be an all-year-round project with no closing date for applications. More information is available here: [Cycle2Work](https://www.southlanarkshire.gov.uk/cycle2work)

Cycle training has also been provided within our schools. In academic year 2022-23 there were 67 schools delivering to Bikeability Level 1 and 52 schools training to Level 2 on-road with a further 2 schools delivering Level 2 style training in the playground.

Ongoing improvements and expansion of the cycling and walking network continued and a link to the current network is available via online resource linked here: [The air that we](https://www.southlanarkshire.gov.uk/the-air-that-we-breathe)

[breathe story map](#). An example of the infrastructure improvements in the East Kilbride area is available here: [Improvements underway for Active Travel routes - South Lanarkshire View](#)

The East Kilbride branch of Universal Connections participated in a Beat the Street legacy project aimed at upskilling members of the local community in cycle training. Nine members of staff and volunteers completed their 'Train the Trainers Bikeability Leaders' course. This will enable the centre to run essential cycling courses for young people and the wider community to build their confidence, using cycle lanes safely and basic bike maintenance to keep their bikes roadworthy. Further information on the project is available here: [Cycling has universal appeal - South Lanarkshire View](#)

Installation of cycle shelter at Universal Connections East Kilbride, which is part of SLC Education. Universal Connections works closely with youth and those in the wider community, and they are working on supporting and encouraging cycling as a viable travel option. SLC are currently installing a fully segregated cycling infrastructure within East Kilbride and the installation of the cycling shelter supports Universal Connections in their endeavours regarding cycling.

Installation of Public Bike Maintenance stands within Calderglen Country Park (East Kilbride) and Lanark Country Park to encourage active travel choices by means of cycling to and from and within the parks within both towns.

SLC Walking and Cycling Sustainable Travel Promotion. Each year SLC undertake a publicity campaign with our "Leave the Car at Home" message, and this involves a variety of publicity formats such as billboard advertising, bus rear advertising and supermarket digital sheet advertising.

East Kilbride Active Travel Infrastructure – As part of the EK Active Travel study undertaken in 2019, community engagement led to a series of routes highlighted for enhancement for both walking and cycling. Several routes have now been installed throughout the town including segregated bidirectional cycle lanes with additional footway provision for pedestrians.

Improvement in Bus Services – SLC in partnership with Strathclyde Partnership for Transport (SPT) have been improving facilities at bus stops including providing high quality bus shelters, making bus stops more accessible, with installation of high kerbs that are at the same height as the floor of the buses and providing timetable information at all bus stops. Also installed are real time passenger information along some of the strategic bus routes, making travelling by bus more convenient and desirable.

Education

Focused air quality workshops have been delivered to both primary and secondary school students.

The 'On the Move' project has been delivered in Lanark and Blantyre with work ongoing to introduce it to the Calderglen area in EK. Primary schools and communities around Lanark and Blantyre have worked together to inspire locals to travel responsibly for the environment. More information is available here: [On the Move to cleaner air in Lanark - South Lanarkshire View](#)

Young sports leaders and S6 students from St Andrews and St Brides High School (East Kilbride) had an opportunity to be trained as Bikeability Instructors as part of the legacy work from one of the 'Beat the Street' projects. These students are now able to deliver on road cycle training to primary school children under the Cycling Scotland's Training Scheme. Children who are taught this course learn safe cycling skills and road safety and Highway Code awareness, and basic cycle maintenance checks along with Eco and Active Travel to improve air quality.

Conference of Schools (COS1) event – On the back of the Conference of the Parties 26 (COP26) summit event in Glasgow in 2021 young people from all high schools within South Lanarkshire created a Youth Forum on Climate Change and Sustainability. They held their first mini-COP event called Conference of Schools 1 (COS1) in 2022 which was held over three days at Palace Grounds in Hamilton with more than 500 primary aged children in attendance. The Youth Forum came up with a theme for the event "TIERS" which focused on Travelling, Influencing, Eating, Reduce-Reuse-Recycle, and Shopping. They asked the school attendees to commit to a set of pledges and to raise awareness across the rest of the schools. A further COS2 event also ran in February 2024 and more information is available:

<https://blogs.glowscotland.org.uk/sl/public/primaryscience/uploads/sites/13996/2024/05/28124907/COS2-Case-Study-final.pdf>

Tackling engine idling

South Lanarkshire's no engine idling promotion campaign included banners which are displayed on a locational rota basis on streetlamps and railings. The campaign emphasises the effects of poor air quality from engine idling. The refreshed campaign branding '30 good reasons to switch off your engine' and '11 good reasons to turn off your engine' are in use around schools and sports centres. The new branding has been very well received. An example of the campaign is available here:

https://www.southlanarkshirereview.scot/news/article/1304/pupils_switch_on_to_social_to_ask_you_to_switch_off_your_engine.

Improvements to vehicle emissions

South Lanarkshire increased the numbers of fuel efficient and electric vehicles within the council fleet, including pool cars, sweepers, and a minibus, and expanded the public electric vehicle charging network with 133 charging points now available. Read more here: [Tariff to be introduced for electric vehicle charging – South Lanarkshire View](#)

An ECO Stars fleet scheme has been running since 2014 and aims to raise awareness among companies of the important role they can play in helping improve local air quality by enhancing the performance of their fleet. To date there are 289 members with 10,618 vehicles registered to the scheme. SLC is a member of the scheme. More information is available here:

https://www.southlanarkshire.gov.uk/info/200193/pollution/263/air_quality/11

An Eco Stars Taxi scheme commenced in 2021 and has 13 taxi operators with a total of 174 vehicles registered within the scheme. Three Taxi Operators workshops have also been run as a joint initiative with North Lanarkshire Council. These workshops gave taxi operators information and advice on the Energy Savings Trust Switched on Taxi loan.

Information on the Low Emission Zone (LEZ) scrappage scheme which is open to households within 20km of an LEZ was also provided (several towns within South Lanarkshire fall within this radius). The scrappage scheme provides grants to households to dispose of non-compliant vehicles. Information was also given on Glasgow's LEZ and how it might impact drivers from both North and South Lanarkshire, as well as showcasing some ultra-low emissions taxis from the Glasgow Taxi Centre.

In 2020 an Eco Stars Bus Operators workshop was held. This was also a joint initiative with North Lanarkshire Council to make bus operators aware of the funding incentives from BEAR (Transport Scotland's Bus Emissions Abatement Retrofit programme). This programme aims to fit buses/coaches with Clean Vehicle Retrofit Accreditation Scheme (CVRAS) accredited retrofit technology measures to support the delivery of Scotland's LEZs and neighbouring authorities benefit also by reducing nitrogen dioxide (NO₂) and particulate matter (PM₁₀ and PM_{2.5}) emissions in air. (Please note that PM₁₀ refers to airborne particulate matter with an aerodynamic diameter of 10µm (micrometres or microns) or less. PM_{2.5} refers to airborne particulate matter with an aerodynamic diameter of 2.5µm or less). Three Bus Operators were successfully signed up to this programme following this workshop.

Traffic signal optimisation has been introduced at key locations where possible within areas that impact the flow of traffic to and within the AQMAs. The Split Cycle Offset Optimisation Technique (SCOOT) traffic light system enables groups of traffic signals in busy areas to work together so that traffic flow is smoother, congestion reduced, and emissions minimised.

Funded Vehicle Emissions Testing events have been held during the summer months at locations that include existing, former, and potential AQMAs. Vehicles were randomly selected from the traffic and with Police assistance diverted to a safe site, and those vehicles are tested. These events were delivered in partnership with North Lanarkshire Council and Police Scotland. These events were exclusively funded by Scottish Government (SG) grant award and delivered by SLC certified Environmental Health Staff.

- Funding
Many of the actions as listed above have been supported through funding awarded via Scottish Government's Air Quality Action Plan, Local Air Quality Management as well as Vehicle Emission Testing and Engine Idling grant funds. Scottish Government's previous three air quality funding grant streams have been amalgamated for year 24/25 into Local Air Quality Management as well as Air Quality Resource grant streams. Funding support has also been provided by Smarter Choices Smarter Places although this fund had been discontinued in 24/25. SPT's Active Travel, People and Places Funding opened in 24/25 and has supported delivery of some of the projects listed. South Lanarkshire Council's Climate Emergency Fund has also been utilised to support project delivery.
- Changes to local sources from measures which have been implemented or changes to local circumstances for emission sources
No singular identifiable change to local sources attributed specifically to action plan measures has been identified. The full diverse array of measures was aimed at having a cumulative impact on overall emission levels.

Local Monitoring equipment

Automatic

- Site IDs, designation, address, NGR, dates of operation**
 Site ID EK0. South Lanarkshire East Kilbride Whirlies automatic monitoring station is a roadside unit located at the Whirlies Roundabout, NGR NS 64385 55669. Monitoring for NO_x and PM₁₀ commenced in 2008. PM_{2.5} and PM₁ monitoring commenced March 2017. Distance to relevant exposure 10m. Distance to kerb of nearest road 0.5m. Inlet height 2m.
- Pollutants monitored for**
 Nitric oxide, Nitrogen oxides as nitrogen dioxide, Nitrogen dioxide, PM₁₀, PM_{2.5}, PM₁ and volatile PM₁₀.
- Types of equipment used**
 NO_x analyser model Thermo 42i, instrument serial number CM07460075
 Palas Fidas instrument serial number 8257
- Monitoring techniques used**
 The Thermo 42i measures levels of nitrogen oxide (NO-NO₂-NO_x) in the emissions from a source using chemiluminescent technology, generating three continuous signals: NO, NO₂ and NO_x. All three measurements are independent and have available outputs on the back of the analyser.

 The Fidas uses a counting measuring method – optical light scattering according to Lorenz-Mie from single particles – with the patented T-aperture to allow very precise measurement even at high concentrations without coincidence error.

Non-automatic

- Site IDs, designation, address, NGR, dates of operation**

| Site ID | Designation | Address | NGR | Dates of Operation |
|---------|------------------|---|----------------|---|
| 2 | Kerbside | Greenhills Road, East Kilbride | NS 60052 53785 | 2018 to August 2023 (relocated tube to Site ID 42) |
| 7 | Kerbside | 218 Eaglesham Road, East Kilbride | NS 60711 54205 | 2018 - ongoing |
| 8 | Kerbside | Whirlies (3), East Kilbride | NS 64385 55669 | 2015 - ongoing |
| 9 | Kerbside | Whirlies (3), East Kilbride | NS 64385 55669 | 2015 - ongoing |
| 10 | Kerbside | Whirlies (3), East Kilbride | NS 64385 55669 | 2015 - ongoing |
| 11 | Roadside | 56 Maxwell Drive, East Kilbride | NS 64210 54909 | 2018 to August 2023 (relocated tube to Site ID 41) |
| 41 | Urban background | Cathkin House Nursing Home - Kingsgate Retail Park, East Kilbride | NS 64374 56862 | August 2023 - ongoing |

| | | | | |
|----|------------------|--|----------------|-----------------------|
| 42 | Roadside | Greenhills Road at Lyndsayfield Nursing Home | NS 62030 52031 | August 2023 - ongoing |
| 46 | Urban background | Argosy Drive, East Kilbride | NS 63993 55867 | August 2023 - ongoing |

- Pollutants monitored for
Nitrogen dioxide
- Location in AQMA
8,9 and 10 are all co-located at the continuous air monitoring station located at the Whirlies Roundabout. All other diffusion tubes are located in the East Kilbride wider area.
- Distance to relevant exposure and to kerb of nearest road

| Site Id | Distance to relevant exposure (m) | Distance to kerb of nearest road (m) |
|---------|-----------------------------------|--------------------------------------|
| 2 | 20 | 1.3 |
| 7 | 4.7 | 1.2 |
| 8 | 6.8 | 1.9 |
| 9 | 6.8 | 1.9 |
| 10 | 6.8 | 1.9 |
| 11 | 16 | 30 |
| 41 | 7.0 | 1.7 |
| 42 | 45 | 2.0 |
| 46 | 6.3 | 4.5 |

Local Monitoring data

- Air Quality Standards and Objectives
 PM_{10} annual mean = $18\mu\text{g m}^{-3}$ (Whirlies declared due to this objective)
 PM_{10} 24 hour mean = $50\mu\text{g m}^{-3}$ not to be exceeded more than seven times a year
 $\text{PM}_{2.5}$ annual mean = $10\mu\text{g m}^{-3}$
 NO_2 annual mean = $40\mu\text{g m}^{-3}$
 NO_2 1-hour mean = $200\mu\text{g m}^{-3}$ not to be exceeded more than 18 times a year
- Results and data interpretation from automatic sites

Annual Mean PM_{10} Monitoring Results ($\mu\text{g/m}^3$) uncorrected (Objective = $18\mu\text{g m}^{-3}$)

| Site ID | 2020 | 2021 | 2022 | 2023 |
|---------|------|------|------|------|
| EK0 | 11.0 | 9.9 | 10.8 | 11.1 |

Annual Mean PM_{10} Monitoring Results ($\mu\text{g/m}^3$) corrected (Objective = $18\mu\text{g m}^{-3}$)

| Site ID | 2020 | 2021 | 2022 | 2023 |
|---------|------|------|------|------|
| EK0 | 9.0 | 9.8 | 10.1 | 9.0 |

Annual Mean $\text{PM}_{2.5}$ Monitoring Results ($\mu\text{g/m}^3$) uncorrected (Objective = $10\mu\text{g m}^{-3}$)

| Site ID | 2020 | 2021 | 2022 | 2023 |
|---------|------|------|------|------|
| EK0 | 5.0 | 4.7 | 5.1 | 4.0 |

Annual Mean PM_{2.5} Monitoring Results (µg/m³) corrected (Objective = 10 µgm⁻³)

| Site ID | 2020 | 2021 | 2022 | 2023 |
|---------|------|------|------|------|
| EK0 | 5.3 | 5.0 | 5.4 | 4.2 |

24-Hour-Mean PM₁₀ Monitoring Results (µg/m³), Number of PM10 24 Hour Means > 50 µg/m³ (Objective = 50 µgm⁻³ not to be exceeded more than seven times a year)

| Site ID | 2020 | 2021 | 2022 | 2023 |
|---------|------|------|------|------|
| EK0 | 0 | 0 | 0 | 0 |

Annual Mean NO₂ Monitoring Results: Automatic Monitoring (µg/m³) (Objective = 40 µgm⁻³)

| Site ID | 2020 | 2021 | 2022 | 2023 |
|---------|------|------|------|------|
| EK0 | 22 | 24.8 | 22 | 21 |

1-hour Mean NO₂ Monitoring Results: Automatic Monitoring (µg/m³), Number of 1-Hour Means > 200 µg/m³ (Objective = 200 µgm⁻³ not to be exceeded more than 18 times a year)

| Site ID | 2020 | 2021 | 2022 | 2023 |
|---------|------|------|------|------|
| EK0 | 2 | 4 | 0 | 0 |

- Results and data interpretation from non-automatic sites

Annual Mean NO₂ Monitoring Results: Non-Automatic Monitoring (µg/m³)

| Site ID | 2020 | 2021 | 2022 | 2023 |
|---------|------|------|------|------|
| 2 | 9.9 | 12.0 | 11.9 | 15.7 |
| 7 | 15.0 | 17.0 | 14.4 | 13.6 |
| 8 | 22.8 | 25.1 | 20.6 | 20.2 |
| 9 | 22.8 | 25.1 | 20.6 | 20.2 |
| 10 | 22.8 | 25.1 | 20.6 | 20.2 |
| 11 | 10.2 | 15.1 | 11.4 | 11.1 |
| 41 | N/A | N/A | N/A | 13.7 |
| 42 | N/A | N/A | N/A | 13.1 |
| 46 | N/A | N/A | N/A | 12.1 |

- Results summary

For the previous three years the 18 µg/m³ Scottish PM₁₀ annual mean objective has not been exceeded at the Whirlies East Kilbride continuous air quality monitoring station. No PM₁₀ daily means greater than 50 µg/m³ were measured; compliant with the 24-hour short-term mean objective.

All annual mean NO₂ concentrations measured at automatic and non-automatic monitoring sites within the East Kilbride area were below the annual mean objective of 40 µg/m³ and have been for in excess of three years. No sites measured 1-hour mean NO₂ concentrations in excess of 200 µg/m³ objective more than 18 times between 2020 and 2023; all measurement sites were therefore compliant with the 1-hour short-term mean objective.

All monitoring results were significantly below the air quality objectives giving confidence that future exceedance is unlikely.

Future actions to be retained for the AQMA

- Measures to be continued to ensure future air quality objective compliance is achieved
South Lanarkshire's updated air quality action plan is available here: [Air quality action plan 2024-2029 Environment - South Lanarkshire Council](#). Strategic and Whirlies focused action measures are summarised below. All measures are currently ongoing and will be integral to actions and strategies going forward.
 - Continue to strengthen links with all future Local Transport Strategies
 - Continue to strengthen links with local planning development
 - Continue to integrate air quality where appropriate with other SLC plans, policies or strategies.
 - Develop and adopt an Air Quality Strategy for SLC
 - Continue to review and update SLC AQ guidance and information
 - Work in partnership with SG on air quality matters
 - Work in partnership with SLC traffic and transportation partners on active and sustainable co-benefits projects
 - Continue to invest in traffic signal optimisation to improve traffic flow and decrease traffic emissions
 - Continue to support the uptake of low emission vehicles
 - Continue to support measures to ensure adequate maintenance of current counters and to support measures to increase the traffic counter network over all transport modes.
 - Continue to support ongoing AQ education resources for relevant SLC departments
 - Continue to support rail and bus station improvements
 - Continue to support AQ educational resources with all our education sector partners within SL
 - Continue to support expansion of active travel options.
 - Continue to support active and sustainable travel behaviour change.
 - Continue to monitor and review air quality within South Lanarkshire.
 - Support development control measures that have a positive impact on AQ.
 - Continue to undertake vehicle emission testing and / or awareness raising subject to funding.
 - Continue to undertake anti- engine Idling activities subject to funding.
 - Continue to support real time passenger information via a variety of means over all forms of public transport.
 - Support cycle or other active travel equipment hire / cycle library schemes.
- Development/updating of an air quality strategy
Work has commenced on the development of a South Lanarkshire Air Quality Strategy.

Conclusion

The Whirlies AQMA was declared due to potential exceedance of the Scottish annual mean objective for PM₁₀. Monitoring data for the annual mean PM₁₀ as well as the 24-hour short-term mean PM₁₀ objective, the NO₂ annual mean objective and the 1-hour short-term mean NO₂ objective has been reviewed. No exceedances of any of the PM₁₀ and NO₂ air quality objectives have been measured for in excess of three years. All monitoring results were significantly below the air quality objectives giving confidence that future exceedance is unlikely. On this basis South Lanarkshire are revoking the Whirlies AQMA.

Annexe A

Map of Whirlies Air Quality Management Area

