Local Air Quality Management Across County Durham

Durham County Council

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Presentation Aim

To provide Members with an update on:

- The results from the air quality monitoring network across County Durham for 2023 and 2024 with the focus on locations at which air quality is/has been of concern. (The annual mean data for 2022 has been included for comparative purposes.)
- An update on the Air Quality Action Plan and future priorities.
- Progress on traffic measures to support air quality management.

Local Air Quality Management Across County Durham (Review of Monitoring Results 1)

- This will focus on identified locations at which the measured concentrations of Nitrogen Dioxide (the main pollutant from vehicle exhaust emissions) either have exceeded or at risk of exceeding the national annual mean Air Quality Objective for this pollutant.

  - National Annual Mean Air Quality Objective is 40 µg/m³.

  - There is a risk of exceeding the Objective at a level which is within ten percent (>36 µg/m³).

- The results for 2024 have not yet been corrected for bias and for missing data. (annualised).

Local Air Quality Management Across County Durham (Review of Monitoring Results 2)

A summary of the highest annual mean concentrations measured at the 'hotspot' areas within the Durham City Air Quality Management Area in 2022, 2023 and 2024.

-The annual mean measured by the continuous air quality analyser in 2023 is 39.5 µg/m³. (not located at a residential receptor)

Location	2022	2023	2024
Gilesgate Bank (Eastbound)	**44.1 µg/m³**	**42.5µg/m³**	**42.6µg/m³**
Crossgate (Sutton St)	37.8 µg/m³	34.7µg/m³	37.7µg/m³
New Elvet (Church St)	38.5 µg/m³	35.3µg/m³	36.0µg/m³

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Local Air Quality Management Across County Durham (Review of Monitoring Results 3.)

A summary of the highest annual mean concentrations measured at 2 locations at Neville's Cross, Durham City in 2022, 2023 and 2024.

Location	2022	2023	2024
Neville's Cross Bank Eastbound (Not at a receptor)	39.1µg/m³	36.9µg/m³	33.1µg/m³
Nearest receptor at top of Neville's Cross Bank	28.2µg/m³	26.4µg/m³	26.9µg/m³

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Local Air Quality Management Across County Durham (Review of Monitoring Results 4.)

A summary of the annual mean concentrations measured at 2 locations for 2022, 2023 and 2024 at Menceforth Cottages, Chester le Street.

Location	2022	2023	2024
No 1 Menceforth Cottages	29.6µg/m³	27.1µg/m³	26.1µg/m³
No 5 Menceforth Cottages	29.5µg/m³	26.6µg/m³	25.8µg/m³

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Local Air Quality Management Across County Durham (Review of Monitoring Results 5.)

- The corrected full set of monitoring results are incorporated within and therefore can be viewed in the Appendices of the Annual Air Quality Status Report (ASR) which is submitted to DEFRA annually. (Next report is due to be submitted by end June 2025)

- The most recent Annual Status Report is made available on the following Air Quality page on the Durham County Council website:

  - **https://www.durham.gov.uk/article/2472/How-we-check-air-quality.**

Local Air Quality Management Across County Durham (Future Air Quality Projections 1)

- The prediction of future concentrations is difficult since there are a variety of factors that can impact on air quality.

- These include- Variations in meteorological conditions from one year to the next.; Future working patterns ; Individual Mode of Travel Choices ; and take-up of low and zero emission vehicles.

- The results of modelling and the predicted decrease in annual concentrations of nitrogen dioxide indicates <10 receptors within the modelled area comprising of the Durham City Air Quality Management Area will remain non-compliant after 2024.

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Local Air Quality Management Across County Durham (Air Quality Action Plan for Durham City AQAP 2 Update 1)

In April 2024 :

- A local engagement event had taken place to give feedback on 21 proposed Action Measures within the draft Plan, and various statutory consultees had been consulted. There were plans to hold a wider public consultation exercise

- We had some feedback , from DEFRA , on the draft plan, which required various amendments to be made prior to submission of the final draft .

Local Air Quality Management Across County Durham (Air Quality Action Plan for Durham City AQAP 2 Update 2)

Public Consultation :

- An 8- week public consultation exercise was undertaken in May 2024 which sought to obtain views on the 21 draft action measures and invited suggestions for alternatives.
- Feedback from the public consultation exercise was subsequently reviewed by the Air Quality Corporate Steering Group ,alongside the feedback from the local engagement event and statutory consultees .
- Two new action measures were identified , some actions were re-worded and one action was deleted.
- 23 action measures were taken forward to include within the final draft of AQAP 2 .

Local Air Quality Management Across County Durham (Air Quality Action Plan for Durham City AQAP 2 Update 4)

Action Measures :

- Each action measure has been prioritised and ranked from 1 to 9 (1 being the highest priority for the Council and 9 the least).

- The lead officer and department , responsible for delivering the action measure , the estimated cost of implementing each action , the expected benefits in terms of pollutant emissions and timescale for implementation are also detailed.

- The Plan also describes how progress will be monitored.

Local Air Quality Management Across County Durham (Air Quality Action Plan for Durham City AQAP 2 Update 3)

DEFRA :

- The draft Air Quality Action Plan was amended to incorporate the requirements set out by DEFRA in their appraisal of the draft plan.

- The final version of the Durham City Air Quality Action Plan was submitted to DEFRA on the 19th December 2024.

- Feedback on the revised version of the Durham City Air Quality Action Plan was received on 24th January 2025. The Plan has been **accepted** by DEFRA.

Local Air Quality Management Across County Durham (Future Priorities 1)

Nitrogen Dioxide

- Continue to review & revise the established network of air quality monitors across the County with particular focus on the Durham City Air Quality Management Area.
- Continue to review and report the results of the monitoring in the Annual Status Report to DEFRA and to the Air Quality Corporate Steering Group.
- To review and report the progress on the action measures in the revised Air Quality Action Plan in the Annual Status Report to DEFRA.

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Local Air Quality Management Across County Durham (Future Priorities 2)

$PM_{2.5}$ (Particles with a diameter that is below 2.5 microns).

- The responsibility is to minimize levels of $PM_{2.5}$ across the County to assist with achieving compliance with the national target levels of the pollutant. (Target Level is an annual mean of 10 µg/m³ by 2040.)

- Review locations across the County at which concentrations of $PM_{2.5}$ are likely to be elevated.

  - Look at available sources of information on background levels of $PM_{2.5}$. (DEFRA- predicted modelled levels for each 1km²)

- This has already been completed for Durham City & supplemented with modelling data.

Transport Measures to Improve Air Quality

Transport projects can support local air quality improvements in the following ways:-

- Creating the opportunity for alternative more sustainable travel choices to be made (Active Travel / Park & Ride)
- Managing the highway network to reduce peak hour congestion and improve network resilience (incidents / Streetworks)
- De-carbonisation of the transport network (supporting the shift to ZEV)
- Incentivise more sustainable travel behavior (travel planning, parking policy, integrated PT ticketing;)

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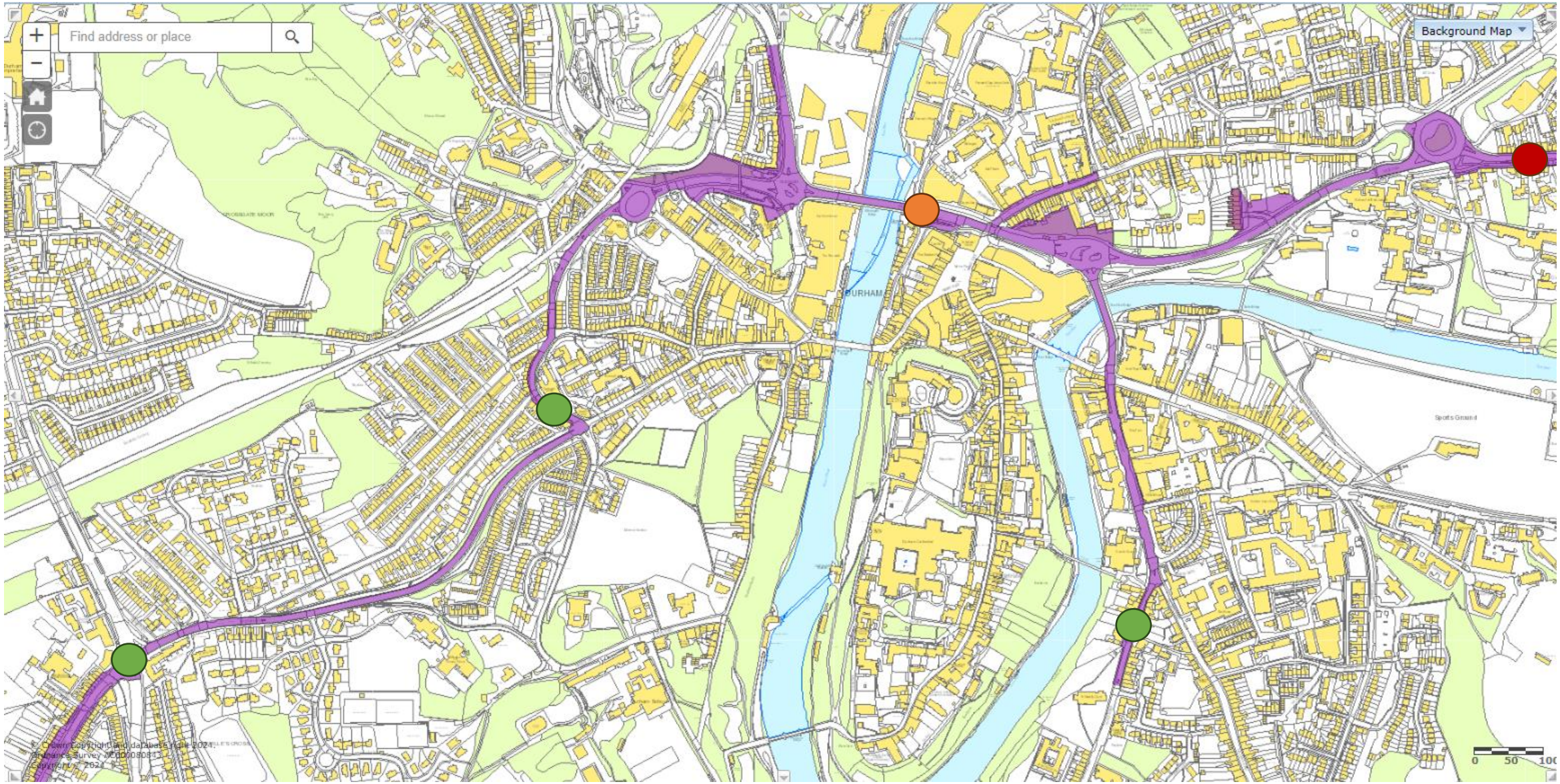
Local Air Quality Management - Transport



AQMA Challenges

The A690 corridor accommodates the highest volume of traffic (approximately 38,000 vehicles) on a daily basis and for the majority of the day, operates without significant congestion. The worst location in terms of NOx where this traffic volume is applicable is Leazes Road.

However, the location within Durham City where Nitrogen Dioxide (NOx) levels are highest does not correspond to the busiest / most congested part of our road network.

There are built environment factors that are contributing to the vehicle emission levels at some locations being exacerbated. For example at Gilesgate Bank, the tight building lines and retaining wall create an urban canyoning effect, and the steep gradient also causes engines to work harder when travelling eastbound.

Durham City Transport Schemes

There are a number of transport projects that will contribute to improved local air quality around Durham City, these include:-

- Durham City Connectivity Project – Active Travel links that connect Aykley Heads to Durham City and connect routes through the Durham City peninsula to key pedestrian/cyclist Bridges.
- Park & Ride Expansion (Sniperley) – Total of 1,500 spaces across all sites now vs 2,000 (DCC) spaces in the City
- ITS initiatives to coordinate traffic signals at peak time and a SCOOT system to improve throughput on the “shoulders” of the Peaks.
- Bus Priority corridors which can extend/accelerate green phases for arms on junctions where a bus (with transponder) is approaching. ZEBRA funding for 32 ZEV buses.
- LEVI EV charging point installations, 57 locations (121 chargers) in Durham City

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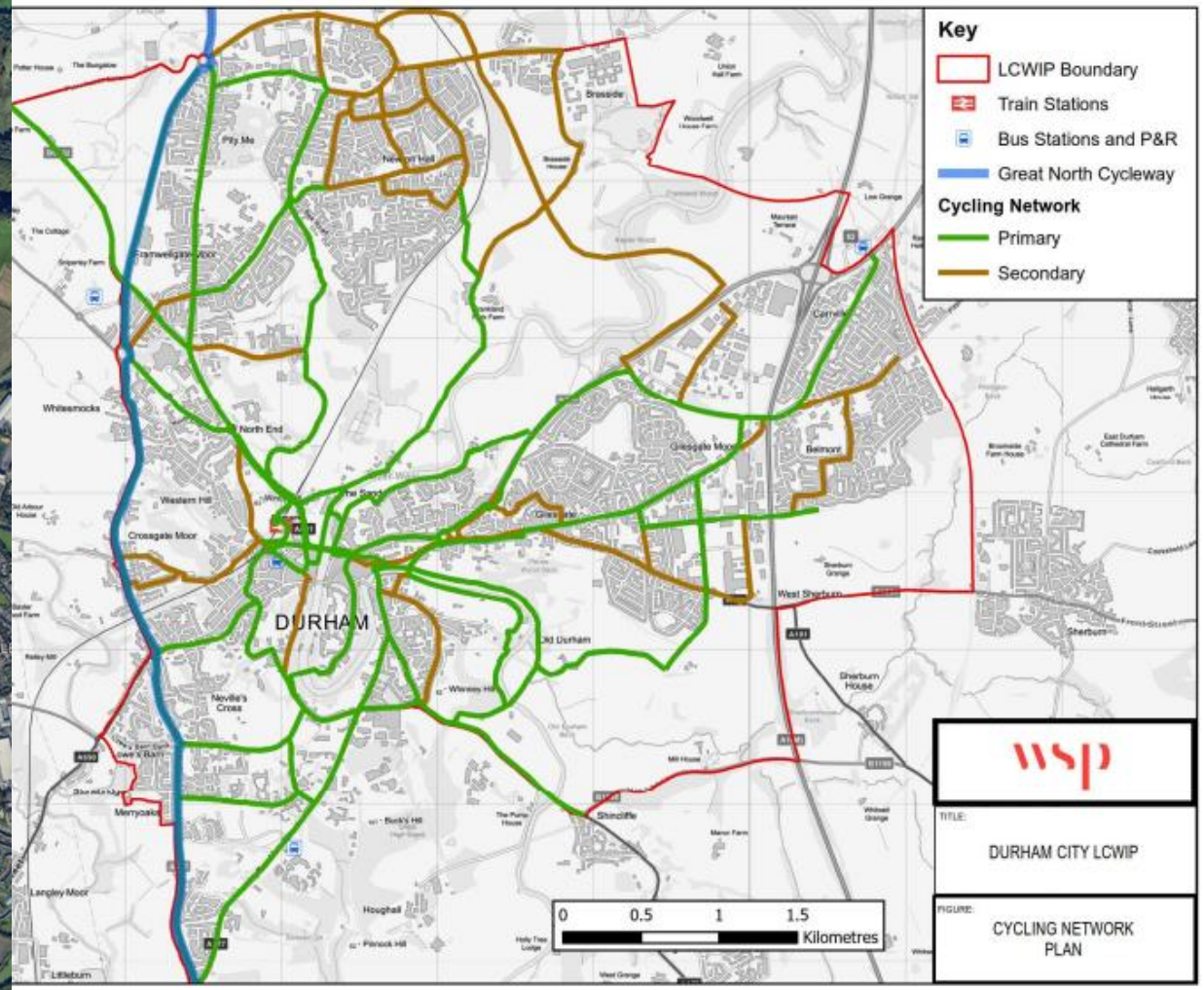
Active Travel – Durham City



Local Air Quality Management - Transport

Park and Ride Sites at:
Sniperley, Belmont and Howlands

Local Air Quality Management - Transport

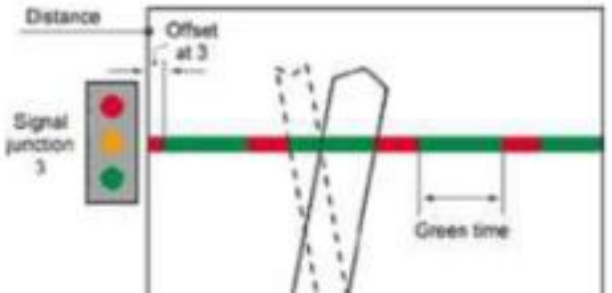
Intelligent Transportation Systems (ITS) is a combination of leading-edge information and communication technologies used in transportation and traffic management systems to improve the safety, efficiency, and sustainability of transportation networks, to reduce traffic congestion and to enhance drivers' experiences.

SPLIT **C**YCLE and **O**FFSET **O**PTIMISATION **T**ECHNIQUE

Introduction

...e Transport Research Laboratory (TRL) in ...oration with the UK traffic systems suppliers ...oped the SCOOT urban traffic control ...UTC). SCOOT is now co-owned by Peek ...td, TRL Ltd and Siemens Traffic Controls ... (**S**plit **C**ycle **O**ffset **O**ptimisation ...e) is adaptive and responds automatically ...uations. It does away with the need ... that are expensive to prepare and ... SCOOT has proved to be an ...l for managing traffic on

Figure 1: An idealised time-distance diagram showing signal co-ordination with a fixed time plan



Local Air Quality Management - Transport

Remove incentivised parking to increase Park & Ride usage.

Parking tariffs structured to encourage/drive modal shift

Implement Sunday parking charges and Park & Ride service.

Specify Euro 6 specification engines (or better) on all our transport contracts

Provide additional Park and Ride spaces.

Countywide Transport Schemes

There are also a number of transport projects that will improve local air quality improvements around the wider County, these include:-

- Active Travel Routes (LCWIPs) being developed and delivered in phases at 12 locations
- Wider ITS initiatives to create UTC corridors along congested routes to improve network resilience and allow remote interventions during events/incidents.
- BSIP bus priority corridors (A167/A688) Croxdale, Spennymoor & Coundon (Gate)
- LEVI EV charging point installations (250 County wide)

Future Transport Schemes & Opportunities

Going forward Transport Funding for the region will be allocated via NECA with a significant increase earmarked for active travel, bus priority, and sustainable transport measures.

As part of Durham's Local Plan review we need to ensure future growth is as sustainable as possible and there are opportunities to "pump-prime" locations with funding from the City Regions Sustainable Transport Settlement (CRSTS).
(Gate)

Durham will be eligible for CRSTS funding from April 2027 and we are working on an ambitious pipeline of schemes across all transport themes that will further positively contribute to improving local air quality.

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Any Questions?