



Local Air Quality Management Across County Durham



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Presentation Aim

To provide Members with an update on:

- Local Air Quality Management across the County, primarily focussing on Durham City where an Air Quality Management Area has been declared for nitrogen dioxide.
- Progress on traffic measures to support air quality management.

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The update will cover the following

- Air Quality monitoring at 'hotspot' locations in Durham City.
- Air Quality monitoring at Menceforth Cottages in Chester le Street.
- The annual review and assessment of air quality.
- The review of the Durham City Air Quality Action Plan.
- Legislation Update- Requirements for Fine Particulates (PM2.5).
- Traffic projects that are either completed , underway or planned which will assist with improving air quality within Durham.

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An update on the Air Quality Monitoring Results 2022:

Current UK Air Quality Objectives for Nitrogen Dioxide

- Annual Mean Air Quality Objective- $40 \mu\text{g}/\text{m}^3$
- Risk of exceedance of the Air Quality Objective – $36 \mu\text{g}/\text{m}^3$
(level that is within ten percent of the objective)
- Monitoring results for 2022 are available from Jan –Sept
(Note: the results have not yet been corrected)

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Monitoring Results in Durham City and Chester le Street (Jan-Sept 2022 (Nitrogen Dioxide)

- A property at Gilesgate exceeds the Air Quality Objective and there is at risk of exceeding the objective at another property.
- There is a risk that the Air Quality Objective will be exceeded at three properties at Church Street, New Elvet.
- There is a risk that the Air Quality Objective will be exceeded at a property on Colpitts Terrace and Sutton Street, Crossgate.
- The levels of nitrogen dioxide monitored at Menceforth Cottages, Chester le Street and other areas across the County are well below the Objective ($40 \mu\text{g}/\text{m}^3$) and the level at which there is a risk of exceeding the objective ($36 \mu\text{g}/\text{m}^3$).

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The Annual Review and Assessment of Air Quality:

- The annual air quality status report 2021 was submitted and feedback was received from DEFRA.
- The report was accepted as providing a detailed representation of the local air quality across the County.
- The Air Quality Status Report 2022 has been submitted and we are now awaiting feedback.
- The report highlights the progress on the action measures in the Durham City Action Plan and also confirms that the plan is currently being reviewed.

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The Review of the Durham Air Quality Action Plan

- Air Quality Action Plans should be reviewed every 5 years.
- The Durham City AQAP was approved and adopted in June 2016 and therefore work was commenced on a project to review the plan in 2021
- The project is being undertaken in 3 stages:
 - (i) Modelling, Identification of Sources & Review
 - (ii) Consultation
 - (iii) Options Development & Appraisal
- The Council has appointed air quality consultants to assist with the project.

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Review of the Durham City Air Quality Action Plan –Stage 1 (Modelling & Identification of Sources)

- Predicted levels will not comply with the annual mean objective for nitrogen dioxide in 2024 at the following ‘hotspot’ locations:
- At Alexandria Cres and Sutton Street, Crossgate – 45.7 $\mu\text{g}/\text{m}^3$
- At Gilesgate close to the roundabout – 47 $\mu\text{g}/\text{m}^3$
- At Church St, New Elvet - 42.1 $\mu\text{g}/\text{m}^3$
- The contribution of Light Goods Vehicles (LGVs), diesel vehicles and buses at some locations were identified as the most significant sources of nitrogen dioxide emissions.

Projected Future Air Quality in 2024

Exposure to Annual Mean NO₂

Annual mean NO ₂ concentration band	Total number of modelled receptors		Number of modelled receptors outside AQMA
<32 µg/m ³	5,824		5,406
32 to 36 µg/m ³	34		3
36 to 40 µg/m ³	39		2
40 to 44 µg/m ³	23	32 receptors >40µg/m ³	2
≥44 µg/m ³	9		0

Annual mean PM ₁₀ concentration band	Total number of modelled receptors		Number of modelled receptors outside AQMA
<32 µg/m ³	5,947		5,413
32 to 36 µg/m ³	0		0
36 to 40 µg/m ³	0		0
40 to 44 µg/m ³	0		0
≥44 µg/m ³	0		0

Exposure to Annual Mean PM_{2.5}

Annual mean PM _{2.5} concentration band	Total number of modelled receptors		Number of modelled receptors outside AQMA
<8 µg/m ³	5576		5,210
8 to 9 µg/m ³	321		203
9 to 10 µg/m ³	47		0
10 to 11 µg/m ³	3		0
>11 µg/m ³	0		0

Projected Future Emissions Sources

Oxides of Nitrogen (NO_x)

Location	Petrol car	Diesel car	Alt-fuel car	LGV	HGV	Bus
Network Average	8%	63%	0%	19%	2%	8%
Gilesgate	6%	53%	0%	25%	4%	11%
Church Street	3%	29%	0%	9%	0%	59%
Hallgarth Street	8%	80%	0%	11%	0%	0%
Alexandria Crescent	5%	45%	0%	15%	7%	28%
Sutton Street	7%	57%	0%	20%	4%	12%

Particulate Matter (PM_{2.5})

Location	Petrol car	Diesel car	Alt-fuel car	LGV	HGV	Bus
Network Average	34%	42%	3%	12%	2%	6%
Gilesgate	30%	37%	3%	16%	6%	9%
Church Street	21%	29%	2%	9%	0%	39%
Hallgarth Street	37%	51%	4%	8%	0%	0%
Alexandria Crescent	27%	38%	3%	13%	5%	14%
Sutton Street	31%	39%	3%	13%	4%	9%

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Review of the Durham City Air Quality Action Plan – Stage 2 (Consultation)

The outcome of Stage 1 demonstrates that:

- We will not achieve compliance with the annual mean objective by 2024 by ‘doing nothing ‘
- Further, there are concerns that by progressing with the existing actions within the plan , and not considering ‘harder actions ‘ that compliance will not be achieved.
- Additional actions are required to target the sources that are contributing to the air pollution (diesel cars and light goods vehicles).

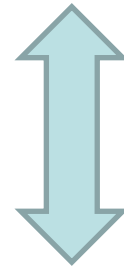
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Review of the Durham City Air Quality Action Plan –Stage 2 (Consultation)

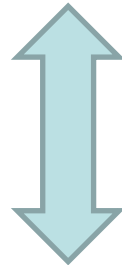
- As a result of the findings of Stage 1 , two additional options were proposed:
 - (i) The micro-consolidation of freight deliveries.
 - (ii) The introduction of variable parking charges for Council owned car parking in Durham City (Based on the emissions from vehicles).
- The consultation, therefore, focussed on initially obtaining the views of internal sections of the Council on these two additional options.
- Further, the purpose of the consultation was to ensure that any options proposed are integrated with other strategies, policies and plans and to obtain any other suggestions .

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**Review of the Durham City Air Quality Action Plan (Stage 2- Consultation)
Sustainable Transport Plan**



Durham City Air Quality Action Plan



Climate Emergency Response Plan (CERP)

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Review of the Durham City Air Quality Action Plan (Stage 2: Consultation)

- Consultations were held with Climate Change, Spatial Policy and Traffic Management.
- The project was also reviewed and discussed by the Air Quality Corporate Steering Group in March 2022 and at a Briefing Meeting with Members & Officers on Tuesday 18th October 2022.
- Further consultation and refinement is now required with stakeholders to ensure all potential options including the two additional proposals are progressed to Stage 3.

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The Review of the Durham City Air Quality Action Plan (Stage 3- Options Appraisal and Completion of the Plan)

This involves :

- appraisal of costs and benefits of each of the options (includes the reduction of levels of nitrogen dioxide).
- compilation of the action plan document and the adoption of the reviewed and revised plan.
- consultation with the public and statutory consultees on the reviewed and revised action plan.

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Legislation Update- Requirements for Fine Particulates (PM2.5)

- Proposed introduction of a Population Exposure Reduction Target
- The World Health Organisation (WHO) Air Quality Limit Value of 10 µg/m expressed as an annual mean and set to be achieved by a target date.
- From Stage 1 (Modelling) there are three receptors identified at which the proposed limit value will not be achieved (Gilesgate close to the roundabout).
- The identified sources contributing to PM2.5 are the same as for nitrogen dioxide but with the addition of petrol cars.

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Traffic Considerations - Strategic Traffic Management

- Remove incentivised parking to increase Park & Ride usage.
- Parking tariffs structured to encourage/drive modal shift
- Implement Sunday parking charges and Park & Ride service.
- Optimise traffic signals to reduce queueing
- Specify Euro 6 specification engines or better on all our transport contracts
- Provide additional Park and Ride spaces.
- Implement walking and cycling initiatives

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Traffic Considerations - Transport and Infrastructure

- Sniperley Park and Ride extension
- New Inn Junction
- Northern Corridor – walking and cycling improvements
- Newton Hall to Framwellgate Peth - walking and cycling improvements
- City Centre Cultural Connectivity project
- Intelligent Transport System Upgrades to junctions
- North Road Durham Bus Station –due to open Summer 23.
- Eastern Corridor -Gilesgate Bank to Belmont Industrial Estate – combination of extended inbound bus priority and new cycle routes, connecting the City Centre with residential and employment nodes.

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Traffic Considerations - Integrated Passenger Transport

- Five contracted daytime bus services that operate through AQMAs are specified to EuroVI standard. Could consider widening use of specifications.
- Work with commercial bus operators, in particular SMEs, to identify barriers to transferring to Zero Emission buses (eg grid capacity constraints, lack of capital funding for charging infrastructure investment etc) and identify funding streams to remedy
- Incentivise increased bus usage through implementation of BSIP measures

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Any Questions?