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Air Quality Action Plan

In fulfilment of Part IV of the Environment Act 1995

Local Air Quality Management

2024

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Glasgow City Council Air Quality Action Plan - 2024

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Executive Summary

This Air Quality Action Plan (AQAP) has been produced as part of our statutory duties required by the Local Air Quality Management framework. It outlines the action we will take to improve air quality in Glasgow between 2024 - 2029.

This action plan replaces the previous action plan which ran from 2009 – 2023. Projects delivered through the past action plan include:

- Revocation of the Citywide AQMA (PM₁₀), revocation of the Parkhead Cross AQMA (NO₂) and revocation of the Dumbarton Rd / Byres Rd AQMA (NO₂ – pending in 2024).
- Delivery of the first phase of Scotland’s first Low Emission Zone (LEZ) at the end of 2018 for buses.
- Delivery of phase 2 of the Glasgow LEZ, expanded to include all vehicle types.
- Enforcement action relating to unnecessary vehicle idling, including general communications campaigns and signage at relevant locations, particularly around schools.
- Vehicle emissions testing (VET). GCC undertook a program of roadside VET focussing on bus, taxi and private hire vehicles but also including general use vehicles. Vehicles found to be exceeding the MOT test emission standards for their vehicle type were issued fixed penalty notices which were cancelled upon evidence of remedial work being conducted to improve the emissions.
- Introduction and adoption of a Workplace Travel Plan for Glasgow City Council.
- Provision of air quality information. GCC continues to publish air quality information on the main Council website and promote the use of the Scottish Air Quality Database “Know & Respond” information service. Ongoing engagement in relation to LEZ and vehicle idling highlights the air quality benefits of these interventions.

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- Provision of Air Quality and Planning guidance and guidance on the adoption of biomass.
- Promotion of Car Clubs. GCC has provided on-road parking spaces for the exclusive use of car club vehicles. Funding has also been provided, including funding of fully electric vehicles and associated charging infrastructure.
- Promotion of cleaner vehicles. GCC has introduced a significant proportion of zero emission vehicles to the Council fleet with associated charging infrastructure. GCC has also installed almost 300 charge points across over 150 units, including significant numbers of rapid chargers, deployed for public use in the city.
- Membership of the Glasgow Eco-stars scheme. The fleet recognition scheme has been operating since September 2014 and has currently recruited 298 members encompassing 11,653 fleet vehicles including three of the largest bus companies operating within Glasgow. Glasgow Taxi's group also joined the Glasgow Eco Stars scheme in 2018.
- Cleaner taxis. GCC has adopted licensing conditions in line with the introduction of the LEZ enforcement. GCC has removed the five year age policy for taxi applications to facilitate the replacement of vehicles with a newer taxi which meets the required emission standard. GCC have reduced testing frequency for newer vehicles and increased testing frequency for older vehicles.
- The Council continues to promote and facilitate improvements in sustainable transport through large scale investment in transport projects including cycling and walking infrastructure, including utilising the Scottish Government's AQAP grant funding for these activities. Initiatives such as the Avenues and City Ways projects, and promotion of behavioural change to active travel modes are also priority activities.

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There is scientific consensus that exposure to air pollution is harmful to people's health in terms of premature mortality and morbidity. Air pollution is associated with a number of adverse health impacts, and particularly affects the most vulnerable in society: children and older people, and those with pre-existing health conditions.

Glasgow City Council is committed to reducing the exposure of people in Glasgow to poor air quality in order to improve health.

We have developed actions that can be considered under eight broad topics:

- Alternatives to private vehicle use
- Promoting low emission transport
- Promoting travel alternatives
- Public information
- Transport planning and infrastructure
- Traffic management
- Vehicle fleet efficiency
- Policy Guidance and Control

Our priorities are to continue the implementation of Phase 2 of the LEZ, supporting policy measures related to strategic transport improvements, promoting behaviour change to reduce single occupancy vehicle use and increasing the uptake of cleaner vehicles more widely. There is also a vast amount of work underway in order to respond to the Climate Emergency declared in 2019 and this will support, and in some cases provide an implementation mechanism, for actions within this Plan.

In this AQAP we outline how we plan to effectively tackle air quality issues within our control to meet statutory air quality objectives within the shortest possible time. However, we recognise that there are a large number of air quality policy areas that are outside of our influence, but for which we may have useful evidence, and so we

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will continue to work with the Scottish Government and partner organisations on policies and issues beyond Glasgow City Council's direct influence.

In accordance with the requirements of air quality policy guidance PG (S) (23) Glasgow City Council expects the Byres Rd / Dumbarton Rd AQMA to be revoked no later than 2024. Glasgow City Council, as a result of the anticipated improvements in air quality resulting from implementation of the Low Emission Zone, expects the City Centre AQMA to be revoked no later than 2029, during the implementation phase of this action plan, and where possible within the shortest possible time.

Responsibilities and Commitment

This AQAP was prepared in collaboration with Air Quality Consultants Ltd and the Sustainability service of Glasgow City Council, with the support and agreement of the following organisations and departments:

GCC – Transport Planning and Delivery

GCC – Roads Asset Management

GCC – Parking Services

GCC – Planning

GCC – Fleet Services

SEPA – Air Quality

Transport Scotland

Following consultation with statutory and other relevant consultees including SEPA, Transport Scotland, and the Scottish Government, this AQAP will be considered by Glasgow City Council's Net Zero and Climate Progress Monitoring City Policy Committee and thereafter ratified by the City Administration Committee and submitted to Defra via the Report and Submission Website (RSW). This AQAP will be formally approved and signed by the Head of Sustainability, Glasgow City Council.

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This AQAP will be formally reviewed and republished on a five-yearly cycle from date of initial publication. Progress each year will be reported in the Annual Progress Report (APR) produced by Glasgow City Council, as part of our statutory Local Air Quality Management duties.

Glasgow City Council will schedule 12 months for the formal action plan review process to take place and ensure the revised action plan is republished within the five-yearly cycle.

If you have any comments on this AQAP, please send them to Dom Callaghan at:

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Introduction

This report outlines the actions that Glasgow City Council will deliver between 2024-2029 in order to reduce concentrations of air pollutants and exposure to air pollution; thereby positively impacting on the health and quality of life of residents and visitors to the City.

Whilst the City Centre AQMA is currently the only AQMA where exceedances of the air quality objectives continue to be observed and not scheduled for revocation, this AQAP adopts a holistic and city-wide approach to reducing emissions and improving air quality across the City Centre and wider City area.

It has been developed in recognition of the legal obligation on the local authority to work towards Air Quality Strategy (AQS) objectives under Part IV of the Environment Act 1995 and relevant regulations made under that part, and to meet the requirements of the Local Air Quality Management (LAQM) statutory process.

Glasgow is the largest city in Scotland, and the focal point of Scotland's motorway network, which link it to the rest of the country. The motorways include the M74 (to the south), the M8 (to the west and north) and the M73 (to the east). Additionally, the M77, M80 and M898 provide further links to the south west and north east of the city. The network is heavily used at peak times, connecting the city centre with the rest of the Glasgow City Region. As such, the main contributor to air pollution in Glasgow, and to exceedances of the air quality objectives, is emissions from road transport sources.

Glasgow has a well-developed network of park and ride sites operated by Strathclyde Partnership for Transport (SPT) and Scotrail. These are located at railway and subway stations across the Glasgow City Region. The Subway has three park and ride sites with a total of 1,180 spaces with at least 10,000 further spaces spread out across the local rail network.

Glasgow has set the ambitious target to become a net-zero carbon city, following the City Council's declaration of a climate and ecological emergency in May 2019.

Transitioning towards a net-zero carbon future will require the city to grow in an environmentally responsible way, such as enabling more people to live in the city centre, better connections to work, education, leisure and cultural opportunities. It will also necessitate a step change in the transformation of the centre's urban environment to be less car-dominated and more people-friendly, (building on the work of the Avenues project to create greener and more attractive pedestrian and cycle friendly streets), and more climate resilient through the creation of multifunctional green/blue infrastructure networks.

Glasgow's first AQMA was declared in 2002 for the City Centre area and subsequently the City Centre AQAP was produced in 2004. Since that time, further work concluded that the boundary of the original AQMA needed to be increased and that new AQMAs were required for both Parkhead Cross and for the Byres Road / Dumbarton Road area. Concentrations of relevant pollutants have since reduced and the Parkhead Cross AQMA has been revoked, with the Byres Rd / Dumbarton Rd AQMA scheduled for revocation in 2024. In the city centre, exceedances of the annual mean nitrogen dioxide objective remain mainly in a small area around Central Station, where buildings form canyons, reducing dispersion of pollutants. The streets which have remaining exceedances are typically those with high numbers of buses. Figure 1.1 shows nitrogen dioxide diffusion tube monitoring sites within and just outside of the LEZ boundary, showing in red those above the annual mean objective in 2022.

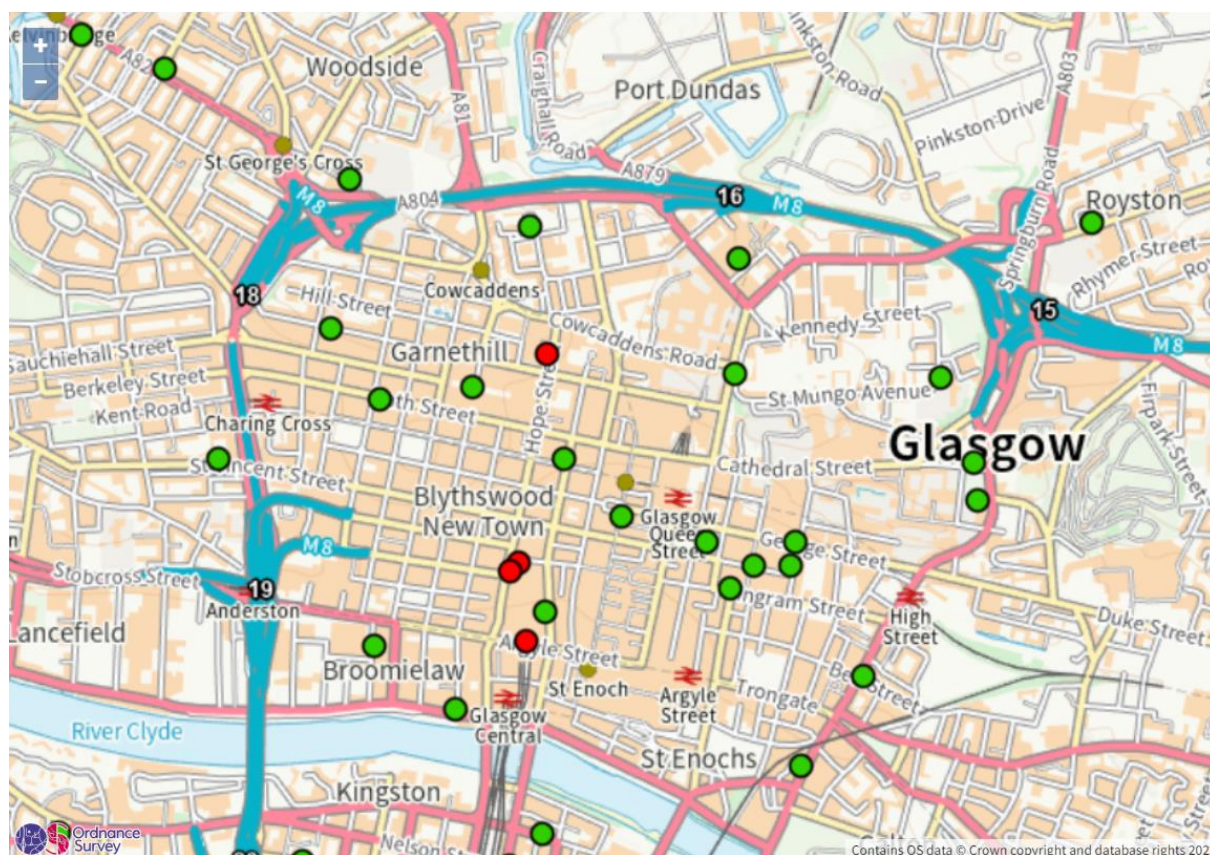


Figure 1.1 Map of 2022 nitrogen dioxide monitoring in central Glasgow showing exceedances of the annual mean NO₂ objective

It should be noted that whilst the air quality objective for nitrogen dioxide (under the Environment Act 1995) and the Limit Value (under Directive 2008/50/EC Ambient Air Quality and Cleaner Air for Europe) are numerically the same ($40 \mu\text{g}/\text{m}^3$ as an annual mean), there are important differences in how they are assessed and reported. Compliance with the Limit Values is largely determined via the national monitoring network and the national model (the Pollution Climate Mapping (PCM) model) and reported to the EU by the UK Secretary of State for the Environment. In locations such as Glasgow, where extensive LEZ feasibility work has been undertaken as part of the Cleaner Air for Scotland (CAFS) strategy, local modelling under the National Modelling Framework (NMF) has also been undertaken. The model predicted concentrations in a base year, at kerbside locations (i.e. very close to the road carriageway) and

assesses a number of scenarios for different levels of LEZ. There are clearly large overlaps between the two systems, and both are designed to improve public health, but throughout this report the term ‘objectives’ is used to denote the criteria under the Environment Act 1995, while the term ‘Limit Value’ is used to denote the criteria under the Directive.

Additionally, whilst not forming part of the current legislative and policy framework, the World Health Organisation (WHO) guidelines are a set of evidence-based recommendations of limit values for specific air pollutants developed to help countries achieve air quality that protects public health. In respect of levels of nitrogen dioxide and particulates, these guidelines set lower limits on pollution levels than the current objectives or EU limit values. Glasgow City Council shares the ambition of the Scottish Government to achieve the best air quality possible and this report will therefore take cognisance of these guidelines and where appropriate these will be referred to by the term “WHO guidelines”.

This Plan will be reviewed every five years at the latest and updated for the following five year period where appropriate. Progress on measures set out within this Plan will be reported on annually within Glasgow City Council’s air quality APR.

Summary of Current Air Quality in Glasgow

This section includes a summary of the latest air quality information available. For more detail, please refer to the latest Annual Progress Report from Glasgow City Council, available at <https://www.glasgow.gov.uk/localairqualitymanagement>.

NO₂ levels are recorded by automatic monitoring stations and by diffusion tubes across Glasgow and monitored levels have shown a decrease in recent years with the City Centre AQMA remaining the only area in which exceedances of the annual mean NO₂ objective are observed.

In 2020 all automatic monitoring within, or adjacent to, the City Centre AQMA observed a significant fall in levels of NO₂ due to pandemic restrictions and were within the annual mean objective. In 2021, as pandemic restrictions lessened, the Glasgow Kerbside monitoring station returned to exceeding the annual mean objective before falling below the objective level in 2022. However, it should be noted that the compliance recorded in 2022 at Glasgow Kerbside was marginal, with an annual mean of 39.1ug/m³ against an objective level of 40ug/m³. Most automatic stations recorded a slight decrease in NO₂ levels between 2021 and 2022, maintaining a significant decrease on the pre-pandemic levels. See Figure 1.2 below.

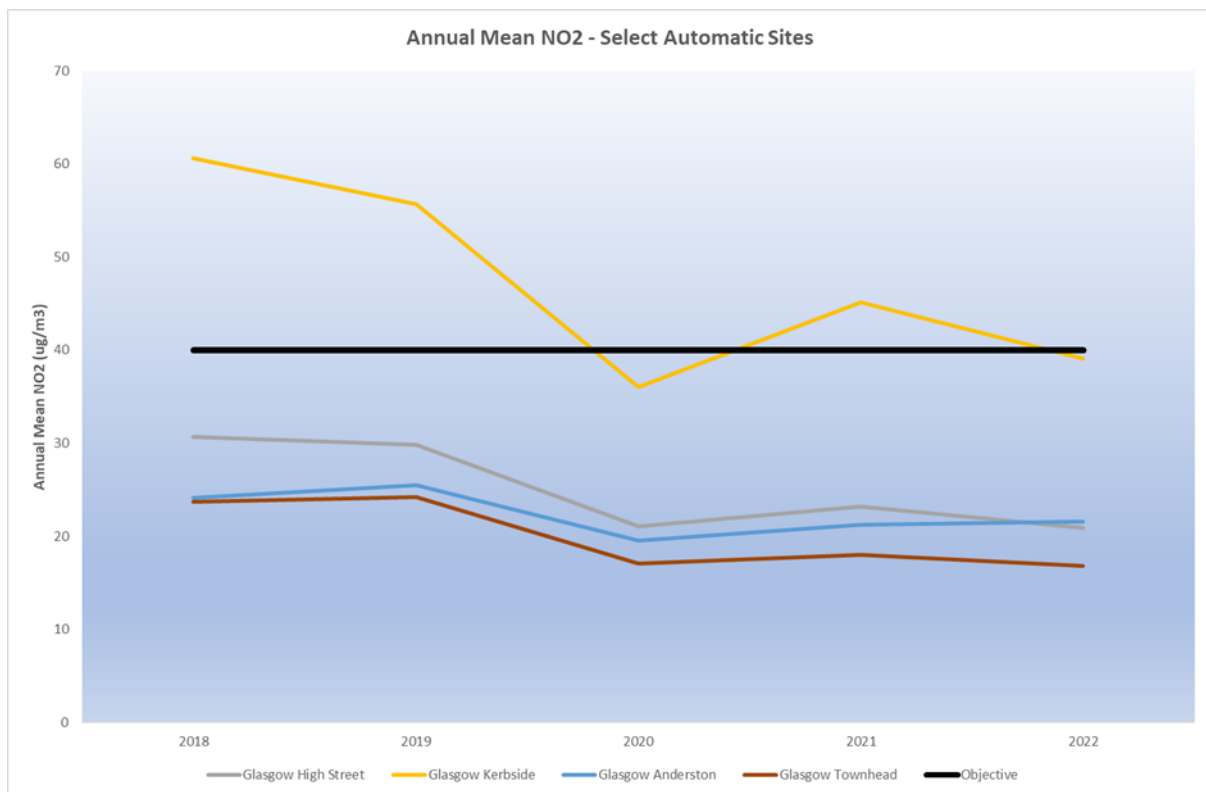


Figure 1.2 Annual mean NO₂ at city centre automatic monitoring stations

Diffusion tube monitoring displayed similar significant falls in levels of NO₂ in 2020 due to the impact of the pandemic, with only one marginal exceedance recorded which was within the margin for error for this form of monitoring. In 2021, as pandemic restrictions lessened, this had increased to exceedances at two diffusion tube locations in the city centre, with a further four locations within 10% of the objective, indicating the potential for exceedances.

In 2022 the NO₂ annual mean objective recorded by diffusion tubes was exceeded at four locations within the city centre, with a further four locations within 10% of the objective. See Figure 1.3 below.

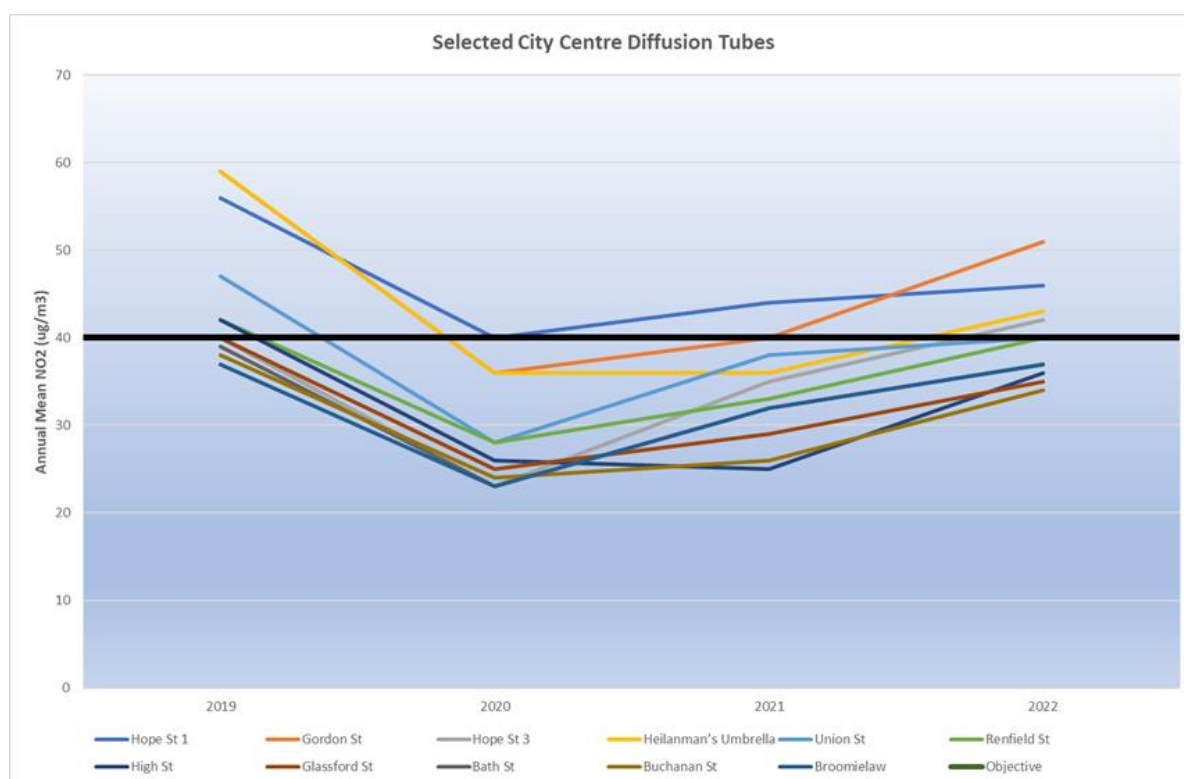


Figure 1.3 Annual mean NO₂ at selected city centre diffusion tubes

It should be noted that the WHO guidelines for annual mean NO₂ (10ug/m³) remain ambitious, with only three locations across the city, located at Urban Background locations at distance from road traffic sources, falling under these guidelines.

Levels of NO₂ pollution have been on a downward trend in recent years, as a result of improvements in vehicle emissions and the phased introduction of the Glasgow Low Emission Zone (LEZ) for scheduled bus services since 2018. As discussed, NO₂ levels dropped significantly in 2020 as a result of the pandemic restrictions, before increasing in 2021 as these restrictions lessened.

The NO₂ Hourly Mean Objective was not exceeded at any of the automatic monitoring stations in 2022. This was consistent with measurements from previous years.

Levels of PM₁₀ recorded across the city in 2022 were satisfactory with both the daily mean and annual mean objectives being met at all monitoring locations. This continued

the trend of compliance in respect of this pollutant which has been observed for several years. It should be noted that the Scottish annual mean objective for this pollutant is set at $18\mu\text{g}/\text{m}^3$, just under half that of the UK and EU limits. All locations also met the WHO guideline values and the city is therefore doing relatively well in this area.

For Scottish Local Authorities particulates at $\text{PM}_{2.5}$ have now been prescribed in regulations with an annual mean objective of $10\mu\text{g}/\text{m}^3$ to be achieved by 2020. This objective was not exceeded at any monitoring location in Glasgow during 2022. All locations were also very close to the WHO guideline levels in respect of this pollutant.

Glasgow City Council's Air Quality Priorities

1.1 Source Apportionment

The AQAP measures presented in this report are intended to be targeted towards the dominant sources of emissions within Glasgow City Council's area.

A source apportionment exercise was carried out as part of the feasibility work for the LEZ by SEPA in 2020. This exercise will be repeated in 2024 to establish the impact of the LEZ on traffic related pollution sources. This identified that at the locations within the AQMA that are still exceeding the annual mean nitrogen dioxide objective, the percentage source contributions were as shown in Figures 1.4 to 1.7

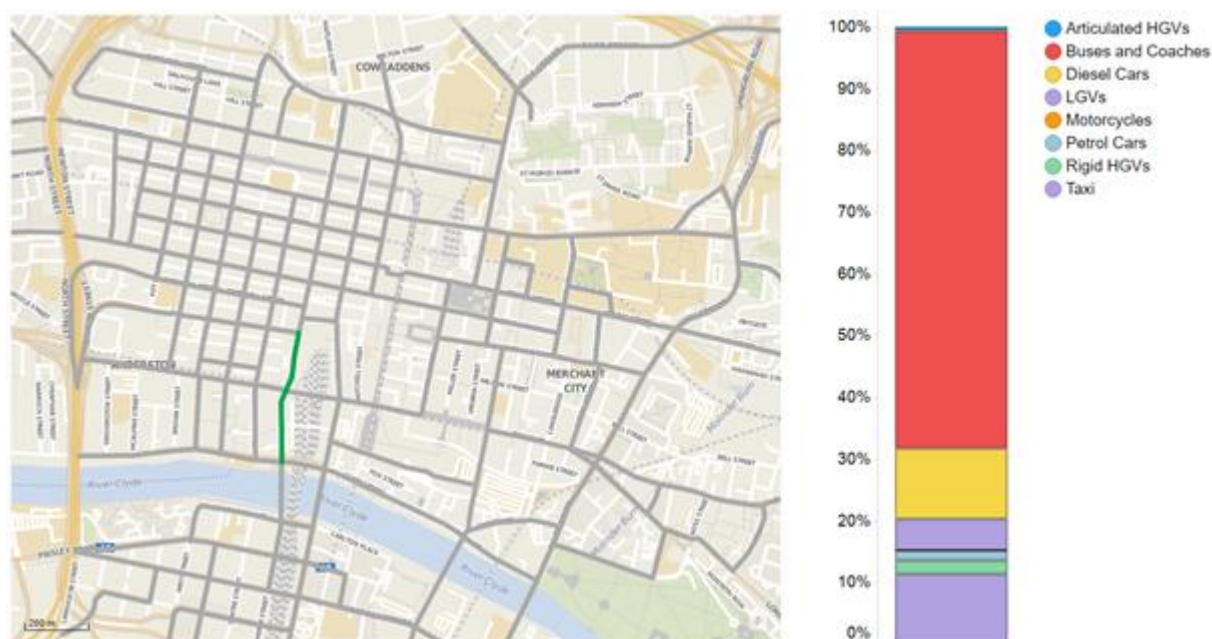


Figure 1.4 Source Apportionment for NOx for Oswald Street and Hope Street

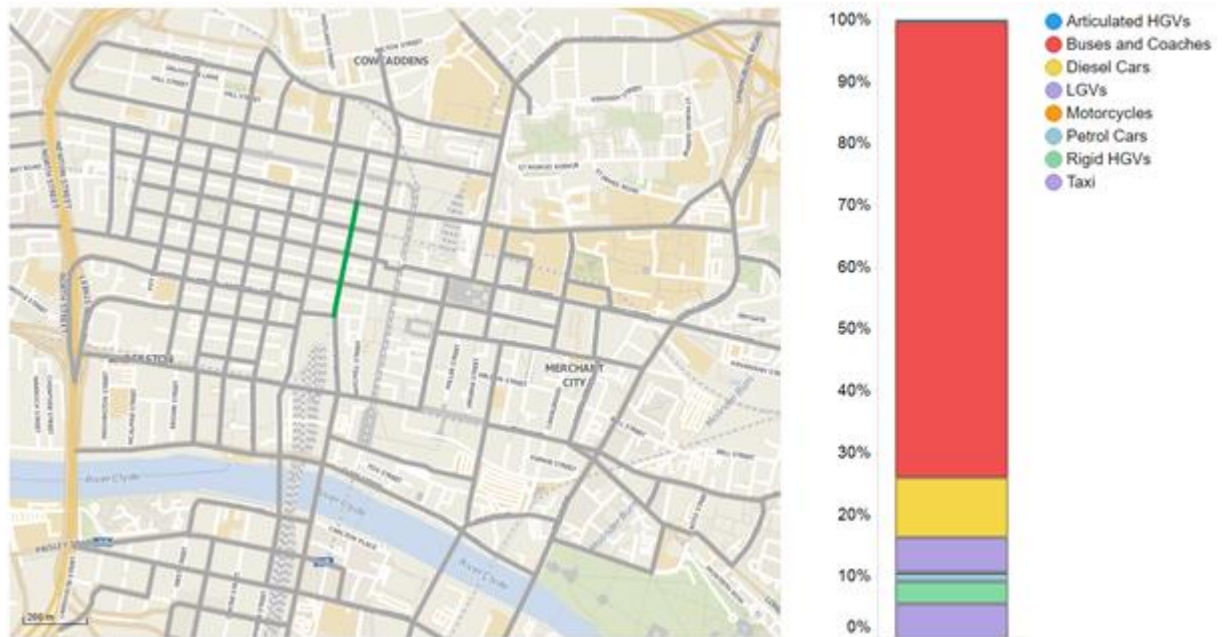


Figure 1.5 Source Apportionment for NOx for Renfield Street

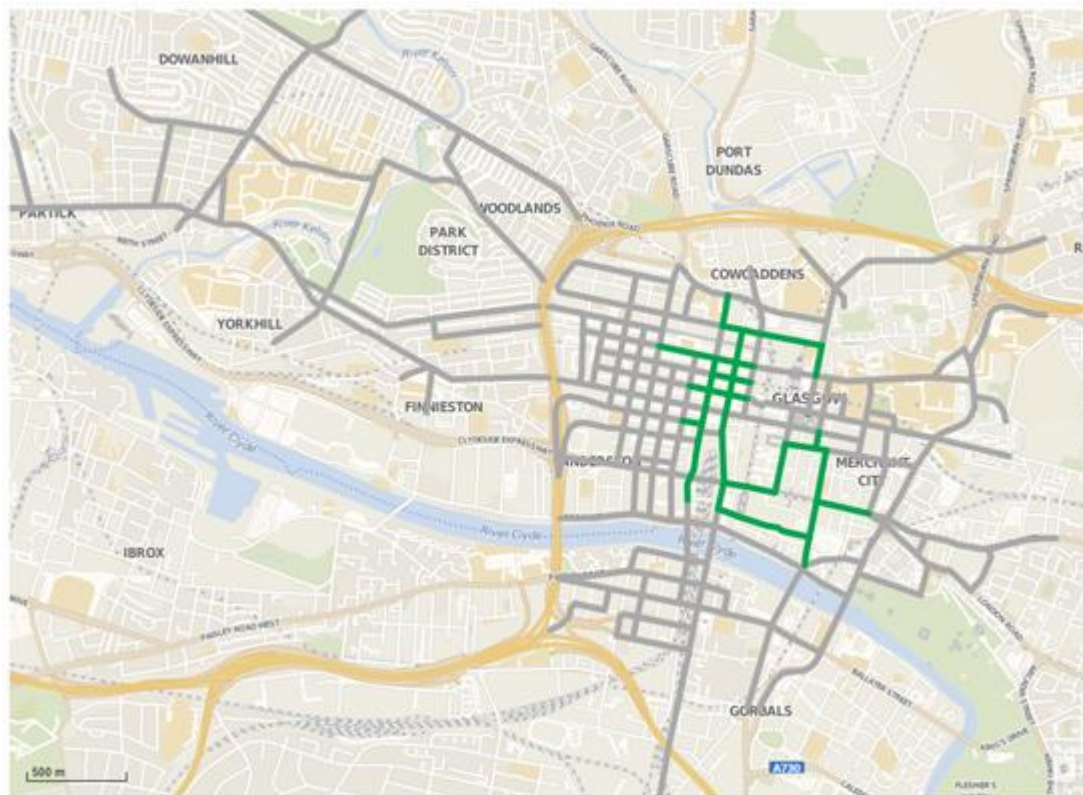


Figure 1.6 Map illustrating roads in central Glasgow which have over 70% bus contribution to road NOx emissions

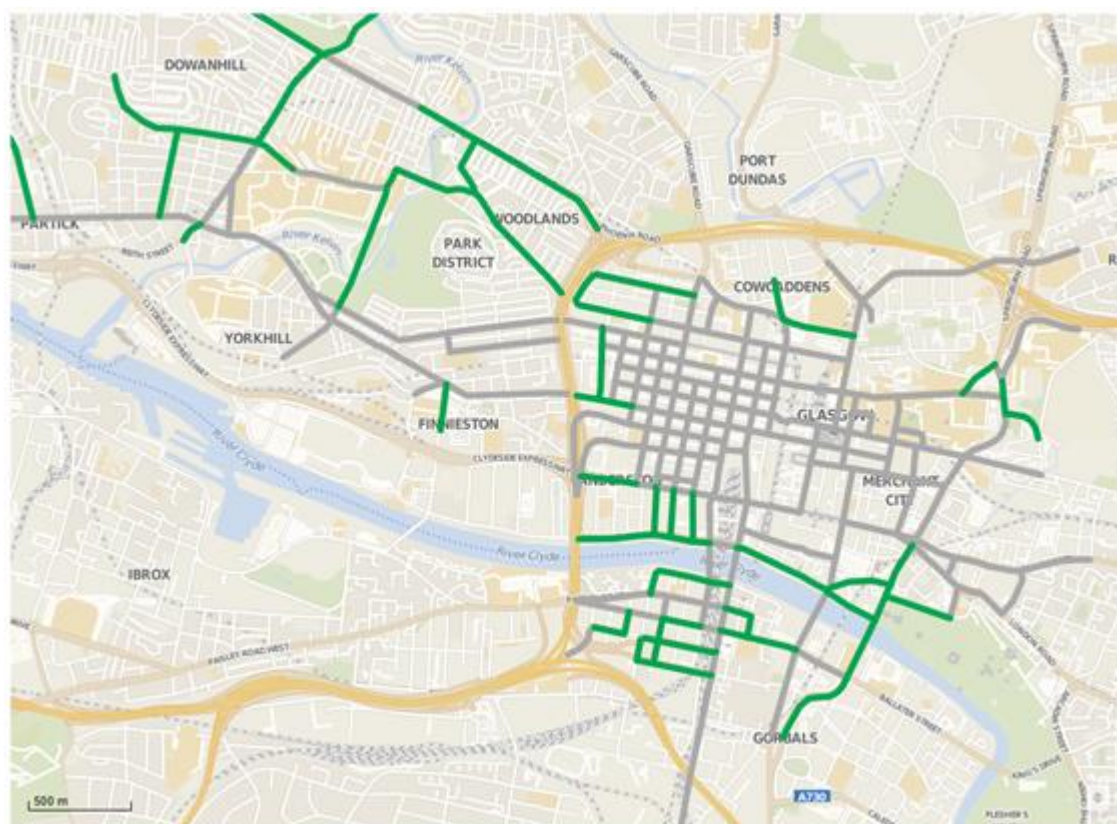


Figure 1.7 Map illustrating roads in central Glasgow which have over 40% diesel car contribution to road NO_x emissions

The source apportionment (Figures 1.4 and 1.5) show that for the roads around Central Station (Oswald Street, Hope Street and Renfield Street), in the region of 70% of NO_x¹ emissions are attributable to buses. Figure 1.6 shows those areas where emissions from buses dominate whilst Figure 1.6 shows that outside of the central area, the diesel car contribution rises and in a number of streets is over 40% of local transport NO_x emissions. Whilst petrol cars contribute fewer NO_x emissions than diesel cars, overall

¹ Oxides of nitrogen are a mixture of gases that are composed of nitrogen and oxygen. Two of the most toxicologically significant compounds are nitric oxide (NO) and nitrogen dioxide (NO₂). NO emissions can react in the atmosphere to form NO₂

contributions to NO_x emissions from private car sources are significant within the AQMA.

1.2 Required Reduction in Emissions

The required reduction in emissions is an estimate in the improvement in air quality required to achieve compliance with the National Air Quality Strategy (NAQS) objectives for NO₂, PM₁₀ and PM_{2.5} within the City Centre AQMA. As detailed previously and within the Glasgow APR for 2023, monitoring of PM₁₀ and PM_{2.5} in 2022 indicated that the objectives were being met. However, monitoring of NO₂ exceeded the objective at four locations with a maximum annual mean measurement of 50ug/m³. Therefore, at this location, a reduction of 10ug/m³ is required to achieve compliance with the objective.

1.3 Key Priorities

The priorities set out in the plan aim to minimise emissions from road traffic, the main emission source leading to current exceedances of the objectives. Reducing short journeys and increasing and promoting low emission public transport and active travel alternatives also play an important role in this AQAP. Reducing air pollution from heating sources is of considerable importance, particularly in relation to longer-term achievement of the WHO guidelines. Therefore, the following actions have been identified as priority areas:

- Priority 1 – Continue to implement the Low Emission Zone and Mitigation Measures. The LEZ has been enforced since June 2023. The additional year grace period available to residents of the zone and sector specific time-limited exemptions will expire in June 2024. Therefore, continuous improvements in the annual mean NO₂ levels, due to increased scope of vehicles subject to the LEZ, is expected through to 2025.

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- Priority 2 - Support the development and implementation of the Glasgow Transport Strategy (GTS) and associated City Centre Transport Plan (CCTP) and People First Zone (PFZ). These will introduce a range of transport initiatives with the potential to benefit air quality, particularly in relation to the target reduction in peak-hour private car traffic in Glasgow City Centre by 2030.
- Priority 3 – Support the development of an appropriate model to successfully deliver the Local Heat and Energy Efficiency Strategy (LHEES). This is principally relevant to the ambition to accelerate the deployment of heat networks in the city, reducing the contribution to background pollution levels from fossil fuelled heating systems.
- Priority 4 – Improve the emissions of GCC vehicles by implementing the Council's Fleet Strategy. As a major employer with approximately 1200 vehicles servicing the city, reducing emissions from this fleet serves as an example of best practice and can contribute significantly to improving air quality.
- Priority 5 – Undertake a comprehensive review of air quality monitoring in Glasgow with a focus around schools, hospitals and care homes. This action fulfils one of the additional recommendations from the ESS report. Whilst existing knowledge indicates that all sensitive receptors of this type currently meet the air quality objectives, the provision of this information will help quantify the progress required for longer term ambitions such as meeting the WHO guideline levels.
- Priority 6 – Support the expansion of Glasgow's active travel network and supporting infrastructure through the Active Travel Strategy.

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- Priority 7 – Continue to undertake vehicle idling awareness campaigns and enforcement, particularly around sensitive locations, and explore options for improving effectiveness of enforcement.

Development and Implementation of Glasgow City Council’s AQAP

1.4 Consultation and Stakeholder Engagement

In developing/updating this AQAP, we have worked with other local authorities, agencies, businesses and the local community to improve local air quality. Schedule 11 of the Environment Act 1995 requires local authorities to consult the bodies listed in Table 1. The consultation was actively promoted through direct contact with relevant organisations, individuals and business representatives, including those provided through the Consultation Hub contacts. The consultation was also promoted publicly through GCC social media platforms and website.

The online consultation included a questionnaire asking respondents to indicate their level of support for the 7 key priority actions, the full 19 AQAP actions, and indicate whether they believed there were further actions within the remit of Glasgow City Council which should be included within the Plan.

The online questionnaire resulted in 174 responses, with 160 from individual members of the public and 14 from organisations, with a further 8 responses received from statutory or organisational respondents.

The response to our consultation stakeholder engagement is provided in Appendix A: Response to Consultation.

Table 1 – Consultation Undertaken

Consultee	Consultation Undertaken
The Scottish Government	Yes

Consultee	Consultation Undertaken
The Scottish Environment Protection Agency (SEPA)	Yes
Transport Scotland	Yes
All neighbouring local authorities	Yes
Other public authorities as appropriate, such as NHS Scotland and Health Boards	Yes
Bodies representing local business interests and other organisations such as community groups as appropriate	Yes

1.5 Steering Group

A Steering Group was set up in order to take this Action Plan revision forward. The meetings of the Steering Group have involved collaborating with the consultees listed in table 1, initially setting out the background to the air quality issue in Glasgow, the process of the Action Plan, as well as gaining input and insight into existing and future policy measures within Glasgow, and how these may assist in the implementation of measures within this Plan (and vice versa). The Steering Group also discussed the evaluation of the measures included in the plan. Additional meetings with specific members of the Group (and others) were also held to discuss specific policy areas such as planning, taxi licensing and climate emergency work. The provision of specific information on the LEZ from SEPA, including source apportionment work, has been critical to the development of the AQAP. Following these meetings, a draft AQAP was developed. However, progress on finalising the AQAP was delayed due to the ongoing development and delivery of phase 2 of the Glasgow LEZ. The AQAP draft was further adapted to reflect the findings of the Environmental Standards Scotland (ESS)

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investigation and the resulting changes to the AQAP methodology and template. The Steering Group continued to contribute and be consulted on the draft plan. Several members of the Group will further be involved in delivery of the actions.

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AQAP Measures

Table shows the Glasgow City Council AQAP measures. It contains:

- A list of the measures that form part of the plan.
- Expected or actual completion year for measures.
- Status of measure (whether the measures are planned, in progress, completed or delayed)
- The organisations responsible for delivery.
- How the measure will be funded (Scottish Government or other).
- Estimated cost of implementing each measure (overall cost and cost to the local authority).
- Expected benefit in terms of pollutant emission and/or concentration reduction.
- Key milestones towards delivery.

NB: Please see future Annual Progress Reports published on the GCC [Local Air Quality Management](#) website for annual updates on implementation of these measures.

In accordance with the requirements of PG (S) (23) Glasgow City Council expects the City Centre AQMA to be revoked no later than 2029 and where possible in the shortest possible time.

Table 2 – Air Quality Action Plan Measures

Measure No.	Measure	Category and Classification	Expected/Actual Completion Year	Measure Status	Delivery Organisation(s)	Funding Source	Funding Status	Estimated Cost of Measure	Target Reduction in Pollutant / Emission from Measure	Key Milestones	Comments
1	Continue to implement the Low Emission Zone and Mitigation Measures	Promoting Low Emission Transport	2024	In progress	GCC	Transport Scotland LEZ Grant Self-funded through penalty charges	Fully funded for development and implementation phases	£1 million - £10 million	20% reduction (10ug/m ³ at 2022 worst case location)	June 2023 – implement LEZ for all vehicle types. June 2024 – resident grace period and sector specific exemptions end. Statutory annual reporting	The Glasgow LEZ has been in effect since 2018 (buses only) and expanded to all other vehicle types in June 2023. The grace period for residents and the exemption for taxis will expire in June 2024.
2	Implement the Council's Fleet Strategy		2030	In progress	GCC	Internal	Funded	>£10 million	Unknown. As a significant fleet operator, GCC fleet improvements will have a benefit, particularly within the AQMA	As detailed in Fleet Strategy	
3	Conduct a pilot project to install a combined solar PV, battery storage and EV charging facility open to public use.		2024	In progress	GCC	European Union and Transport Scotland funding	Funded	£100k - £500k	Unknown	Procurement of PV panels and battery storage complete	Locations for pilot project actively being explored
4	Transition the fleet of private hire vehicles to zero emission vehicles		2030	Planned	GCC	N/A	N/A	Unknown – expected through changes to license conditions and fleet renewal as vehicles age out of use	Unknown. Over 3000 private hire vehicles currently licensed in Glasgow.	Annual proportion of zero emission private hire vehicles	

Measure No.	Measure	Category and Classification	Expected/Actual Completion Year	Measure Status	Delivery Organisation(s)	Funding Source	Funding Status	Estimated Cost of Measure	Target Reduction in Pollutant / Emission from Measure	Key Milestones	Comments
5	Develop new Staff Travel Plan for GCC employees	Promoting Travel Alternatives	2024	In progress	GCC	N/A	N/A	N/A	No target reduction in emissions	Staff travel survey completed – analysis in early 2024	
6	Support hybrid and remote working		Ongoing	In progress	GCC	N/A	N/A	N/A	No target reduction in emissions	Hybrid working ongoing since pandemic. Increased provision of hybrid meeting rooms to facilitate remote working	
7	Establish a pilot example school for the promotion of good air quality and travel practices.		2024	Planned	GCC	Various – School street program / active travel funding / Scottish Government	In planning	TBD	Unknown. Reduction will be estimated from analysis of completed project	Identification of pilot school. Preparation of educational material	Project will include current best practice in respect of the “School Streets” program, combined with active travel infrastructure provision and educational material for staff, parents and students and help with School Travel Plans.
8	Vehicle Idling Awareness and Enforcement	Traffic Management	Ongoing	In progress	GCC	Scottish Government	Funded	£100k - £500k (staffing and communications costs)	Unknown. Vehicle idling is unnecessary and contributes to overall emissions, especially at sensitive locations	N/A	GCC will undertake vehicle idling awareness campaigns and enforcement, particularly around sensitive locations, and explore options for improving effectiveness of enforcement.
9	Emission based parking permits		2024	In progress	GCC	N/A	N/A	£10k-£50k	Whilst focussed on CO ₂ emissions, this measure is expected to have co-benefits in respect of LAQM pollutants	Consultation completed end 2023 Publication of Proposals to be carried out in first quarter of 2024	

Measure No.	Measure	Category and Classification	Expected/Actual Completion Year	Measure Status	Delivery Organisation(s)	Funding Source	Funding Status	Estimated Cost of Measure	Target Reduction in Pollutant / Emission from Measure	Key Milestones	Comments
10	Implement city wide 20mph speed limit and explore with Transport Scotland the potential for actions benefitting air quality in relation to the trunk road network. Where appropriate, and in line with Action 17, update air quality monitoring at suitable locations close to the trunk road network.		2024	Planned	GCC	N/A	N/A	N/A	Unknown. Minor emission reduction expected due to reduction in due to smoother traffic flow and reduced congestion. This measure will encourage more walking, wheeling and cycling in quieter and less congested neighbourhoods	Network assessment completion – March 2024.	
11	Support the development and implementation of the Glasgow Transport Strategy (GTS) and associated City Centre Transport Plan (CCTP) and People First Zone (PFZ)	Transport Planning and Infrastructure	2030	In progress	GCC	Various sources - GCC / Scottish Government / Transport Scotland / Sustrans	Annual or ongoing funding required	>£10 million	Unknown but significant due to target of 30-40% reduction in peak-hour private car traffic in city centre	To be determined within delivery plan and delivery framework. PFZ strategic case and emerging options March 2024	Various aspects of the GTS and CCTP are expected to have significant impact on vehicle emissions, particularly within the AQMA Glasgow Transport Strategy City Centre Transport Plan
12	Support the expansion of Glasgow's active travel network and supporting infrastructure through the Active Travel Strategy including promoting behavioural change to encourage modal shift to sustainable transport options		2031	Partially completed	GCC	GCC / Scottish Government / Sustrans	Annual or ongoing funding required	£1 million - £10 million	Unknown – reduction in emissions expected due to transition to zero emission transport modes	Annual targets for number of key locations connected to city network (schools, healthcare centres etc.) to inform City Network delivery.	Glasgow Active Travel Strategy

Measure No.	Measure	Category and Classification	Expected/Actual Completion Year	Measure Status	Delivery Organisation(s)	Funding Source	Funding Status	Estimated Cost of Measure	Target Reduction in Pollutant / Emission from Measure	Key Milestones	Comments
13	Public Cycle Hire Scheme		N/A	In progress	GCC / Nextbike	GCC / Scottish Government	Funded	£10k - £50k	Unknown – reduction in emissions expected due to transition to zero emission transport modes	GCC will continue to explore potential for expansion of the cycle hire scheme, including provision of e-bikes and charging infrastructure.	
14	Support for Glasgow Car Club	Alternatives to Private Vehicle Use	Ongoing	In progress	GCC / Co Wheels	Dependent on future requirements	Not funded	Dependent on future requirements	Each car club vehicle is estimated to remove the equivalent of 12 vehicles from private use	Dependent on future requirements	Potential future measures include increased vehicles / locations and zero emission vehicles where appropriate
15	Continue to support and expand the Eco Stars Fleet Recognition Scheme	Vehicle Fleet Efficiency	Ongoing	In progress	GCC / TRL	GCC / Scottish Government	Funded	£10k - £50k	Eco Stars helps fleet operators improve efficiency, reduce fuel consumption & emissions and make cost savings	Annual increase in membership and fleet numbers	
16	Revoke Byres Rd / Dumbarton Rd AQMA	Public information	2024	In progress	GCC	N/A	N/A	N/A	N/A – target reduction has been achieved in this AQMA		
17	Undertake a comprehensive review of air quality monitoring in Glasgow with a focus around schools, hospitals and care homes		2024	Planned	GCC	N/A	N/A	N/A	N/A		This action fulfils one of the additional recommendations from the ESS report. Whilst existing knowledge indicates that all sensitive receptors of this type currently meet the air

Measure No.	Measure	Category and Classification	Expected/Actual Completion Year	Measure Status	Delivery Organisation(s)	Funding Source	Funding Status	Estimated Cost of Measure	Target Reduction in Pollutant / Emission from Measure	Key Milestones	Comments
											quality objectives, the provision of this information will help quantify the progress required for longer term ambitions such as meeting the WHO guideline levels
18	Develop an appropriate model to successfully deliver the Local Heat and Energy Efficiency Strategy (LHEES)	N/A	2024	In progress	GCC	N/A for model development stage	N/A	N/A	The deployment of heat networks in the city will reduce the contribution to background pollution levels from fossil fuelled heating systems.		
19	Aligning Planning and Air Quality Guidance and Placemaking Targets outlined in CAFS 2 Ensuring air quality is a material consideration in developments compatible with National Planning Framework (NPF) 4 and that air quality is included in any revisions to the City Development Plan	Policy Guidance and Control	Ongoing	Ongoing	GCC	N/A	N/A	N/A	Unknown	Providing air quality updates as required for changes in GCC Planning Policy and Guidance	
20	Explore pathways towards the achievement of World Health Organisation (WHO) guideline values, including interim guidelines, and liaise with the Scottish Government in relation		Ongoing	In progress	GCC	N/A	N/A	N/A	New target values of themselves will not result in pollutant reductions		

Measure No.	Measure	Category and Classification	Expected/Actual Completion Year	Measure Status	Delivery Organisation(s)	Funding Source	Funding Status	Estimated Cost of Measure	Target Reduction in Pollutant / Emission from Measure	Key Milestones	Comments
	to potential changes to the statutory Scottish objectives.										
21	Support the Council Tree Plan and pursue planting at locations where additional trees have the potential to maximise air quality co-benefits.	N/A	Ongoing	Planned	GCC	Various / Potential LEZ surplus funding	Unconfirmed	£100k - £500k	Unknown - Dependent on location / species etc.	Annual reporting on new tree planting, particularly within AQMA	

Appendix A: Response to Consultation

Air Quality Action Plan Consultation – Summary Report

Statutory and Organisational Responses

Eight emailed responses were received from statutory stakeholders including the Scottish Government, SEPA, Nature Scotland and neighbouring local authorities.

A further 14 response on behalf of organisations were submitted via the online questionnaire. The full list of statutory / organisational respondents can be found below:

Scottish Government

Scottish Environment Protection Agency

NatureScot

North Lanarkshire Council

East Dunbartonshire Council

West Dunbartonshire Council

Renfrewshire Council

The Glasgow Centre for Population Health

Strathclyde Partnership for Transport (SPT)

University of Glasgow

Sustrans Scotland

Scottish Ambulance Service

Paths for All

Broomhill Community Council

Downhill, Hyndland and Kelvinside Community Council

Love Thornwood

CoMoUK

Co Wheels Car Club

Road Haulage Association
Stove Industry Association
Parents for Future Scotland
GCC – Transport Planning and Delivery

Responses have been generally supportive. Where suggestions have been made, these have included:

- Graphs showing air pollution trends using concentration levels derived from monitoring data should be included.
- Various comments / recommendations on wording of specific actions from internal consultees
- National Planning Framework (NPF4) and the Council's Local Development Plan (LDP) should be more explicitly referenced.
- An assessment should be made of future development likely to impact on air quality within the AQMA.

Actions to address points raised: All of the above suggestions will be addressed and incorporated in the revised plan before submission to relevant committees and plan adoption.

Responses also praised:

- The comprehensive nature of the plan, in accordance with Policy Guidance and the latest Scottish Government guidance note.
- The links with other strategies and plans where statutory consultees have previously provided input.
- The commitment to undertaking a review of the monitoring network within the city to reflect the recommendations in the ESS report advocating assessing air pollution levels at sensitive receptors such as schools, nurseries and hospitals.
- The use of source apportionment modelling to highlight emission sources.

Public Consultation

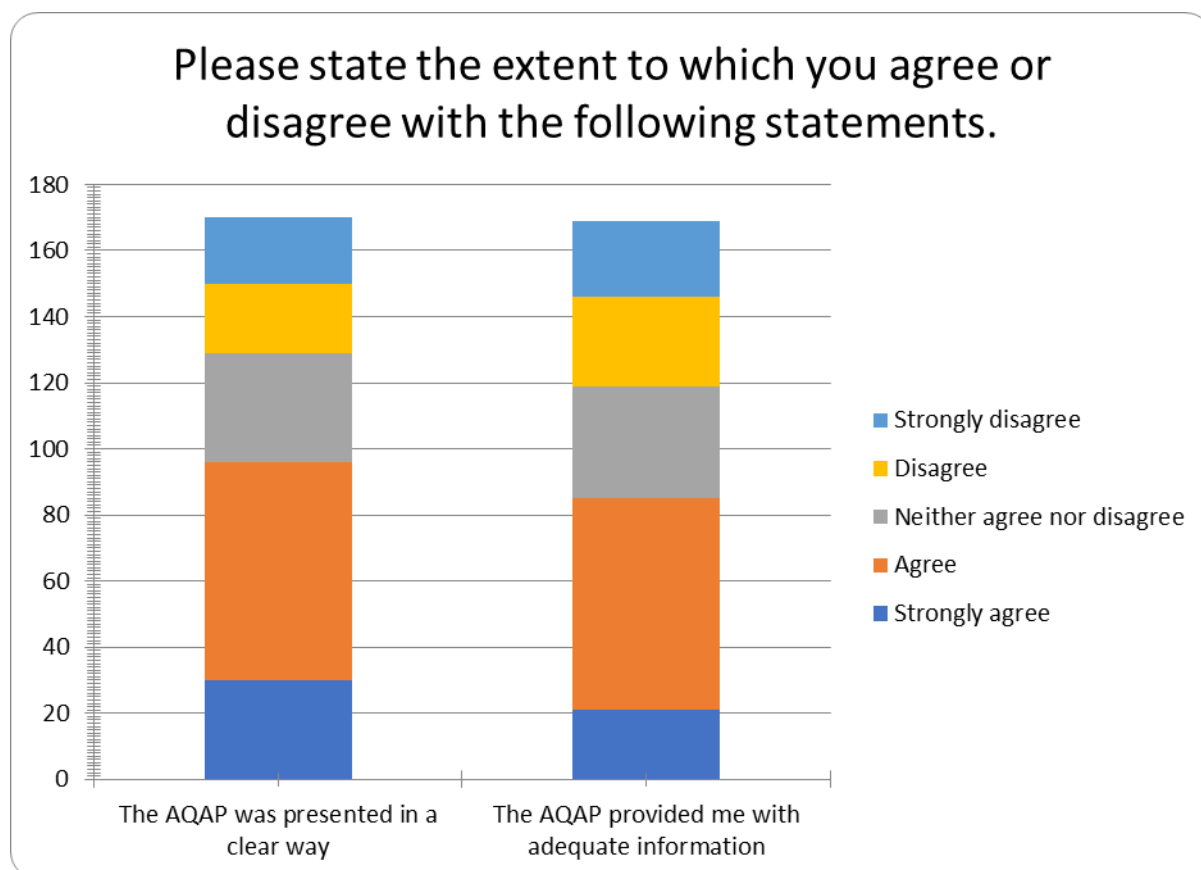
The consultation ran for a period of 6 weeks, from 13/2/24 to 20/3/24. There have been 174 completed responses registered on the online consultation portal.

The majority of the responses have been received from individuals, with 14 claiming to respond on behalf of organisations.

Most said they had read the AQAP, with 2 respondents stating they had not read the plan.

Question 1

The majority of respondents agreed or strongly agreed with the statements “**The AQAP was presented in a clear way**” (56.4%) and “**The AQAP provided me with adequate information**” (50.3%). Those who disagreed or strongly disagreed with these statements number 24.2% and 29.6% respectively.



40 respondents took the opportunity to provide further comment on the reasons for their response to the above questions. Responses were varied, with some responses giving more detail on why they gave a positive answer to this question.

Of those who expressed a negative opinion, some cited the technical language used within the report as being difficult to understand. Other criticisms included the report format, the use of tables, the requirement for more data or that the report was too long. Others used the opportunity to express non-specific negative views or that the AQAP was targeting motorists.

Some respondents used this opportunity to comment on specific aspects of the plan.

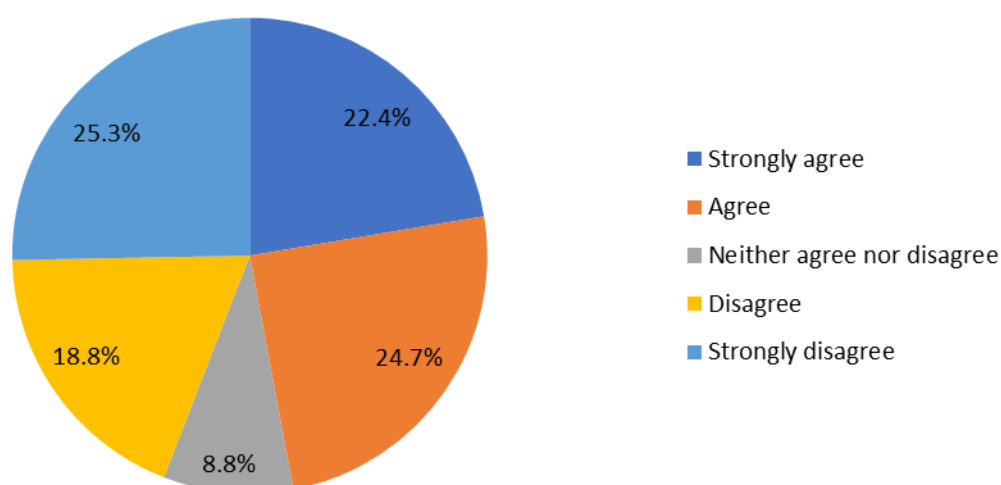
Actions to address points raised: The actions in respect of the statutory and organisational responses previously noted will serve to address some of the points also raised in the online responses.

In respect of points regarding the AQAP format or language, it should be noted that the AQAP is a statutory document and follows the Scottish Government's approved template in both structure and language. Therefore the scope to amend is limited. The template structure provides a fair balance between detailed technical delivery and non-technical summary.

Question 2

On the question **“Do you agree that the seven key priority actions identified within the AQAP are the main actions in respect of reducing air pollution levels within the City Centre Air Quality Management Area?”** 47.1% agreed or strongly agreed whilst 44.1% disagreed or strongly disagreed.

Do you agree that the seven key priority actions identified within the AQAP are the main actions in respect of reducing air pollution levels within the City Centre Air Quality Management Area?



61 respondents chose to provide reasons for their choice. Again, these were varied with some response providing general praise for the actions. Others indicated support but suggested stronger actions in respect of public and sustainable transport, tackling motorway emissions, expansion of the LEZ, completely removing vehicles from the city centre, banning SUVs, providing more public information and adopting the WHO guidelines for air pollution. Some indicated support for actions excluded from the plan such as action on domestic wood burning.

Of those who expressed a negative view, the main themes were the AQAP was an attack on motorists, there is no air quality problem requiring an action plan, opposition to the LEZ, opposition to active travel policies, opposition to electric vehicle adoption, opposition to 20mph limits, air quality issues are due to buses only, the AQAP will affect businesses, disbelief in air quality statistics and climate change

and conspiracy theories relating to the purpose of air quality or environmental actions.

Actions to address points raised: The consultation advised respondents that “the Glasgow Low Emission Zone, the Glasgow Transport Strategy and the Local Heat and Energy Efficiency Strategy are adopted Glasgow City Council policies and have been subject to their own consultation processes. Therefore, this consultation will not impact upon these specific actions.” As detailed above, some respondents chose to provide comment in support or opposition to these actions.

Other comments requested actions either outwith the scope of a local authority, such as in respect of the motorway or trunk road network or banning SUVs, or in respect of actions not taken forward within the AQAP, such as domestic solid fuel burning. The reasons for such actions not being taken forward were clearly stated within the plan.

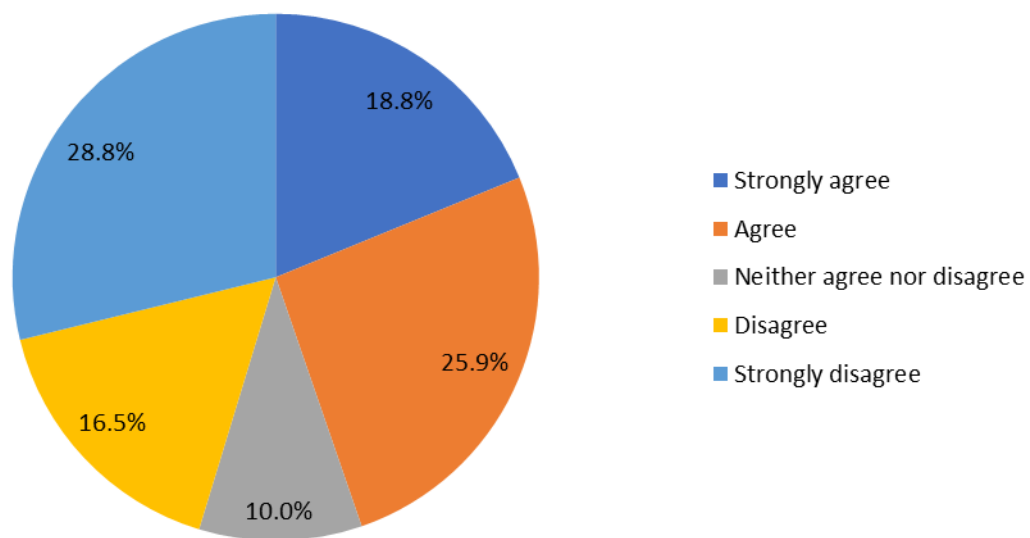
The AQAP also stated that the World Health Organisation Guidelines were recognised as longer term ambition. However, the AQAP is a statutory document in respect of the Scottish air quality objectives.

It is therefore not proposed to make changes to the 7 key priority actions based on consultation responses.

Question 3

On the question “**To what extent do you agree that the 18 actions set out in the AQAP will contribute to a suitable reduction in air pollution levels?**” 44.7% agreed or strongly agreed whilst 45.3% disagreed or strongly disagreed.

To what extent do you agree that the 18 actions set out in the AQAP will contribute to a suitable reduction in air pollution levels?



62 respondents chose to provide reasons for their choice. These closely mirrored or re-iterated the reasons as discussed in the previous question. However, new comments in general favourable of the AQAP expressed support for more monitoring, reduction in parking availability, a weight-based permit scheme or more pedestrianisation.

Of those who expressed a negative view, new comments cited congestion as the cause of pollution and requested measures to improve traffic flow, blamed air travel for pollution, cited incorrect air quality statistics or that the priorities were wrong in some way.

Actions to address points raised: Responses received closely mirrored those of the previous question. Where new comments were received, these generally related

to comment on actions already incorporated in the plan or outwith the remit of GCC or the AQAP to deliver.

It is therefore not proposed to make changes to the 18 actions based on consultation responses beyond those identified within the responses from statutory consultees.

Question 4

Respondents were asked “**Do you believe there are any actions, within the remit of Glasgow City Council to deliver, which should be included within the AQAP?**”. 159 respondents answered with 56% answering yes and 44% answering no.

85 respondents took the opportunity to provide further information on their response. These tended to follow the same themes or re-iterate previous answers. The main themes of responses received and actions to address these, where relevant, are shown in the table below.

Theme	Action
Expansion of area or scope of LEZ / revocation of the LEZ	Discounted from the consultation due to being adopted policy subject to previous consultation. The process of declaring, expanding or revoking an LEZ is prescribed by the Transport Act 2019 and associated Regulations. Any changes to the Glasgow LEZ would require to meet conditions in relation to exceedances of the objectives which do not currently apply.
Actions relating to the Glasgow Transport Strategy	Discounted from the consultation due to being adopted policy subject to previous consultation. Noted that some requests were already features of, and supported by, the GTS.

	<p>Calls for increased pedestrianisation or restrictions on vehicle access for example, already fall within aspects of the GTS such as the City Centre Transport Plan or People First Zone.</p>
<p>Actions relating to the motorway and trunk road network.</p>	<p>Outwith the remit of GCC and the AQAP.</p> <p>Modelling indicates that emissions from the trunk road network are a minor contributor to areas within the City Centre AQMA experiencing the highest pollution levels.</p> <p>As the motorway and trunk road network fall within the remit of Transport Scotland and the Scottish Government, GCC will continue to liaise with these agencies in respect of potential changes / improvements to the network within the Glasgow area.</p> <p>An additional action has been included in the AQAP to reflect this.</p>
<p>Wood burning stoves / low emission plant</p>	<p>Discounted from AQAP due to limited impact within AQMA and focus on national measures for improvement actions.</p> <p>GCC will liaise with and contribute to any review and actions from the Scottish Government in respect of domestic solid fuel sources.</p>
<p>Improve public transport provision.</p>	<p>Supported within various AQAP actions, specifically actions 1,4,5,11,12,13 and 14.</p>
<p>Bring public transport under public ownership</p>	<p>Outwith the remit of the AQAP.</p> <p>GCC continues to address public transport improvements through the organisations such as the Bus Improvement partnership. Recent announcements by SPT in relation to a franchising model for bus services relate to this theme. SPT are currently consulting on this at https://www.spt.co.uk/media/tsnchnh0/spt-</p>

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	srbs-consultation-document-april-2024.pdf
Adopt the WHO guidelines	<p>Local Authorities are required to follow the LAQM process which sets mandatory objectives for pollutants. WHO guidelines are explicitly referenced within the introduction of the AQAP as a longer-term ambition with cognisance of guidelines included in certain actions.</p> <p>GCC will liaise with the Scottish Government as it continues to review the statutory requirements in respect of objective levels.</p> <p>An additional action has been included in the AQAP to reflect this.</p>
Help for businesses with costs	<p>The AQAP does not introduce any direct costs on businesses at this stage. Actions arising from associated strategies will be subject to full analysis and potential mitigation measures</p>
Weight based vehicle permit scheme / ban on SUVs	<p>Outwith the remit of GCC and the AQAP.</p> <p>Determination of which vehicles are licensed to use public roads falls within the remit of the UK Government and DVLA.</p> <p>Local restrictions on vehicle types may apply where allowed by legislation (bus lanes / gates, LEZ etc). However, no such legislation applies in respect of these vehicle types.</p> <p>All vehicle types, including SUVs and heavy vehicles, must meet the LEZ emission standards to enter the city centre.</p>
Include emissions from air travel	<p>Previously screened as not significant within existing AQMAs</p>
Specific requests relating to climate change activities	<p>Outwith the remit of the AQAP.</p> <p>Whilst the AQAP is expected to provide co-benefits in respect of climate change</p>

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	emissions, actions specific to climate change fall within the remit of the Glasgow Climate Plan.
Comments regarding indoor air pollution	Outwith the remit of the AQAP. LAQM does not include indoor air pollution and therefore AQAPs are not designed to include actions on the sources of indoor air pollution levels except where these are contributed to by outdoor emissions.
General complaints regarding road network condition, opposition to provision of active travel measures, opposition to electric vehicles, opposition to 20mph zones, general opposition to air quality improvement actions or other non-specific complaint.	Outwith the remit of the AQAP. A significant number of responses which could be considered negative used the AQAP consultation as an opportunity to comment on areas of complaint or opposition to factors outwith the scope of the AQAP.

Actions to address points raised: As with previous questions, responses received focussed on actions already within the AQAP, or outwith the remit of GCC / the AQAP.

It is therefore not proposed to include any additional actions based on consultation responses.

However, where contributions included relevant additional actions which have been assessed as appropriate, these have been included in the AQAP. Therefore the final version of the AQAP includes 21 actions compared to the 18 within the consultation draft version.

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Appendix B: Reasons for Not Pursuing Action Plan Measures

Table B.1 – Action Plan Measures Not Pursued and the Reasons for that Decision.

Action category	Action description	Reason action is not being pursued (including Stakeholder views)
Environmental Permits	Various permitting schemes	Measures within this category were not considered appropriate due to predicted impact within the AQMA
Freight and Delivery Management	Various	Actions within this category were not pursued individually at this stage. However, many of the actions such as Delivery and Service Plans, delivery scheduling etc will be considered under the actions relating to the CCTP and PFZ and may be incorporated into these as they are developed.

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Policy Guidance and Development Control	Air Quality Planning and Policy Guidance	Planning and policy guidance has already been developed in Glasgow along with guidance on the use of biomass
Promoting Low Emission Plant	Actions relating to fuel type for Plant	It was considered that policy development and enforcement would best be developed at a national level. GCC will support any developments of this nature.
Domestic Solid Fuel Burning	Gathering evidence on the contribution of domestic burning to key pollutants in the local area Promoting the uptake of lower emission appliances Promoting the use of lower emission domestic fuels Developing and promoting educational material and schemes.	Domestic solid fuel burning is not considered a significant contributor to pollutant levels in respect of the AQMA. It was considered that policy development and enforcement would best be developed at a national level. GCC will support any developments of this nature.

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Glossary of Terms

Abbreviation	Description
AQAP	Air Quality Action Plan - A detailed description of measures, outcomes, achievement dates and implementation methods, showing how the local authority intends to achieve air quality limit values'
AQMA	Air Quality Management Area – An area where air pollutant concentrations exceed / are likely to exceed the relevant air quality objectives. AQMAs are declared for specific pollutants and objectives
AQS	Air Quality Strategy
APR	Annual Progress Report
EU	European Union
LAQM	Local Air Quality Management
NO ₂	Nitrogen Dioxide
NO _x	Nitrogen Oxides
PM ₁₀	Airborne particulate matter with an aerodynamic diameter of 10µm (micrometres or microns) or less
PM _{2.5}	Airborne particulate matter with an aerodynamic diameter of 2.5µm or less

SEPA	Scottish Environment Protection Agency
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