



# Dundee City Council

## Air Quality Action Plan

In fulfilment of Part IV of the Environment Act 1995

Local Air Quality Management

2025

## Dundee City Council

Information	Dundee City Council
Local Authority Officer	Jamie Landwehr (Environment / Public Health Manager)
Department	Regulatory Services Planning & Economic Development City Development
Address	Floor 6, Dundee House, 50 North Lindsay Street, Dundee DD1 1QE
Telephone	01382 436280
E-mail	<a href="mailto:pollution.control@dundeecity.gov.uk">pollution.control@dundeecity.gov.uk</a>
Report Reference Number	DCC-AQAP-2025_NOV2025
Date	November 2025

## Executive Summary

This Air Quality Action Plan (AQAP) has been produced as part of our statutory duties required by the Local Air Quality Management (LAQM) framework. It outlines the action we will take to improve air quality in Dundee between 2025 - 2029.

This action plan replaces the previous action plan which ran from 2011. Projects delivered through the past action plan include:

- Infrastructure improvement schemes to reduce congestion and bus idling, improve road safety and reduce pollutant concentrations. Specific locations have included Union Street, Lochee Road and Meadowside.
- Upgraded traffic control systems to improve junction efficiency and reduce congestion. Upgrades include the installation of fibre optic connections to the Urban Traffic Management and Control (UTMC) system, expansion of the UTMC, traffic light refurbishment at Seagate / Commercial Street and the introduction of a Bluetooth Traffic Speed Monitoring System on all major arterial routes leading into the city centre.
- Provision of active travel schemes to encourage the uptake of cycling and other active travel alternatives. Measures include the Dundee Cycle Hub at the Waterfront and the expansion of the Active Travel Schools Bikeability scheme.
- Introduction of School Streets projects to exclude vehicles from entering roads surrounding schools to reduce idling and emissions where there are particularly vulnerable populations.
- Promotion of low emission transport through the ECO Stars fleet management recognition scheme, Drive Dundee Electric campaign and new taxi and private hire car licences restricted to electric vehicles from an approved list.
- Upgrades to the Council's own fleet, replacing older vehicles with electric vehicles.
- Publication of Air Quality & Land Use Planning Supplementary Guidance to ensure air quality is accounted for in the planning process for new developments; and

- Invested £47m in the External Wall Insulation programme, improving energy efficiency and thus reducing emissions for thousands of residents.

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.

Dundee City Council (DCC) is committed to reducing the exposure of people in Dundee to poor air quality in order to improve health.

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

- Alternatives to private vehicle use
- Policy guidance and development control
- Low emission plant
- Domestic solid fuel burning
- Promoting low emission transport
- Promoting travel alternatives
- Public information
- Transport planning and infrastructure
- Traffic management
- Vehicle fleet efficiency

Our priorities are:

- To maintain air pollutant concentrations below current air quality objectives and where practicable, reduce emissions further to improve health across the city;
- Continue the implementation of the Low Emission Zone (LEZ) scheme to protect public health through improving air quality in Dundee and achieving air quality compliance under section 87(1) of the Environment Act 1995, as well as to develop an environment that helps promote more active and sustainable

travel choices in Dundee and contributes to meeting emission reduction targets set out in Part 1 of the Climate Change (Scotland) Act 2009.

- Work collaboratively with Scottish Government, Transport Scotland and regional organisations to ensure that wider transport measures are delivered: in particular to increase the use of active travel and public transport and reduce the use of private vehicles and to increase the proportions of low and zero emission vehicles where modal shift is not feasible.
- Ensure that plans being developed and implemented for placemaking and climate change are closely co-ordinated and aligned with those for air quality in order to maximise co-benefits.
- Develop a Communications Strategy to provide a more strategic approach to public awareness and behaviour change, particularly for domestic solid fuel burning and vehicle idling; and
- Report on an annual basis to Scottish Government the implementation of the measures set out in this report, as well as monitored concentrations within the AQMA and the effects of the LEZ.

In this AQAP we outline how we plan to effectively tackle air quality issues within our control to meet statutory Air Quality Objectives (AQO) 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 will continue to work with the Scottish Government and partner organisations on policies and issues beyond DCC's direct influence.

In accordance with the requirements of Local Air Quality Management Policy Guidance (Scotland) (2023) (LAQM PG(S)(23)), DCC began the process for amending the Dundee AQMA Order to remove the hourly nitrogen dioxide (NO<sub>2</sub>) objective element of in 2024, and expects the amended AQMA Order (containing annual mean NO<sub>2</sub> and Particulate Matter (PM)(PM<sub>10</sub>)) to be revoked in 2028, or no later than the end date of this AQAP and where possible in the shortest possible time.

## Responsibilities and Commitment

This AQAP was prepared by Regulatory Services of DCC with the assistance of Air Quality Consultants Ltd. and the support and agreement of the following officers and departments:

- Environment / Public Health Manager
- Senior / Environmental Health Officer
- Climate Change and Sustainability Manager
- Senior Sustainability and Climate Change Officer
- Senior Manager Planning
- Low Carbon Project Manager
- Corporate Fleet Manager
- Parking & Sustainable Transport Team Leader
- Traffic & Road Safety Team Leader

Draft and final versions of the AQAP have been presented to the Climate, Environment and Biodiversity (CEB) Committee of DCC for approval. The report was circulated to the Council Management Team prior to going to Committee.

This AQAP will be formally reviewed and republished on a five yearly cycle from the date of initial publication. Progress each year will be reported in the Annual Progress Report (APR) produced by DCC, as part of our statutory LAQM duties.

A local authority should allow 12 months for the formal action plan review process to take place and to ensure the revised action plan is republished within the five yearly cycle.

For enquiries regarding this AQAP, please contact Regulatory Services at:

Dundee City Council, Floor 6, Dundee House, 50 North Lindsay Street, Dundee DD1 1QE

[pollution.control@dundeecity.gov.uk](mailto:pollution.control@dundeecity.gov.uk)

## Table of Contents

<b>Executive Summary .....</b>	<b>i</b>
Responsibilities and Commitment .....	iv
<b>1. Introduction .....</b>	<b>1</b>
<b>2. Summary of Current Air Quality in Dundee .....</b>	<b>2</b>
<b>3. Dundee City Council's Air Quality Priorities.....</b>	<b>4</b>
Policy Context.....	4
Source Apportionment .....	6
Nitrogen Dioxide (NO <sub>2</sub> ).....	6
Particulate Matter (PM <sub>10</sub> and PM <sub>2.5</sub> ) .....	11
Required Reduction in Emissions .....	16
Key Priorities .....	16
<b>4. Development and Implementation of Dundee City Council AQAP .....</b>	<b>18</b>
Consultation and Stakeholder Engagement .....	18
Steering Group .....	19
<b>5. AQAP Measures .....</b>	<b>21</b>
<b>Appendix A: Response to Consultation .....</b>	<b>30</b>
Air Quality Action Plan Consultation – Summary Report .....	30
<b>Appendix B: Reasons for Not Pursuing Action Plan Measures .....</b>	<b>43</b>
<b>Glossary of Terms .....</b>	<b>44</b>

## List of Tables

Table 1	Consultation Undertaken .....	18
Table 2	Air Quality Action Plan Measures .....	22
Table 3	Action Plan Measures Not Pursued and the Reasons for that Decision. ..	43

## List of Figures

Figure 1	Roads in City Centre where emissions from buses predominated prior to LEZ Implementation (taken from SEPA Spotfire tool) .....	7
Figure 2	Source apportionment of NO <sub>x</sub> emissions by fuel type and Euro standard based on real-world emission factors and fleet composition at Lochee Road in 2021 .....	9
Figure 3	Source apportionment of NO <sub>x</sub> emissions by fuel type and Euro standard based on real-world emission factors and fleet composition at Blackscroft in 2021 .....	9
Figure 4	Map of monitoring sites selected for source apportionment analysis of PM <sub>10</sub> , PM <sub>2.5</sub> and NO <sub>2</sub> .....	12
Figure 5	Average concentration distribution between 'background' and 'local' sources at roadside monitoring sites .....	12
Figure 6	Source apportionment of background PM <sub>10</sub> concentrations .....	14
Figure 7	Source apportionment of background PM <sub>2.5</sub> concentrations .....	15
Figure 8	“How important to you / your business / organisation / other is the need to reduce air pollutant levels in Dundee?” .....	32
Figure 9	“Do you consider that there is sufficient information in the draft 2024 AQAP for you to understand the need for the Action Plan?” .....	34
Figure 10	“Do you consider that the 6 key priorities identified within the AQAP are the main actions in respect to maintaining and reducing air pollutant levels within Dundee?” .....	35
Figure 11	“To what extent do you agree or disagree with the proposed package of actions to further improve air quality in Dundee?” .....	36



**Dundee City Council**

Figure 12 “Do you consider that there are other actions, within the remit of Dundee City Council to deliver, which could be included within the action measures proposed in Table 2 within Section 5 of the draft AQAP?” .....	37
--	----

# 1. Introduction

This report outlines the actions that Dundee City Council (DCC) will deliver between 2025-2029 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 of Dundee.

It has been developed in recognition of the legal requirement 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.

While not legally binding standards or currently within the Scottish legislative or policy framework, the 2021 World Health Organisation (WHO) Global Air Quality 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 terms of NO<sub>2</sub> and PM's, these guidelines set lower limits on pollution levels than the current AQOs or EU limit values. In respect to NO<sub>2</sub> and PM<sub>2.5</sub>, the level that the annual mean limit values are set at are ambitious. DCC shares the ambition of the Scottish Government to achieve the best air quality possible so will take cognisance of the new guidelines and refer to them in this document by the term "WHO guidelines". DCC is not proposing though that these ambitious levels will be achieved across all monitoring sites in Dundee in the timescale of this plan.

Detailed information on the health impacts of outdoor air pollution can be found on the Public Health Scotland website : <https://publichealthscotland.scot/population-health/environmental-health-impacts/outdoor-air-pollution-and-health/overview/scale-of-the-problem/> .

This Plan will be reviewed every five years at the latest and progress on measures set out within this Plan will be reported on annually within DCC's air quality Annual Progress Report (APR).

## 2. Summary of Current Air Quality in Dundee

In 2006 Dundee City Council (DCC) declared the whole of the DCC local authority area as an Air Quality Management Area (AQMA) for the annual mean nitrogen dioxide (NO<sub>2</sub>) Air Quality Objective (AQO). In 2010, DCC amended the initial AQMA to include the annual mean AQO for particulate matter (PM<sub>10</sub>), and in 2013 DCC further amended the AQMA to include the 1-hour mean AQO for NO<sub>2</sub>. Historically, the predominant source of pollution in Dundee has been from road transport.

DCC currently monitors concentrations of NO<sub>2</sub>, PM<sub>10</sub> and PM<sub>2.5</sub> through a network of over 80 passive diffusion tube sites and 10 automatic (continuous) monitoring sites. Concentrations have declined considerably since the AQMA was first declared in 2006; concentrations at all monitoring sites were below the NO<sub>2</sub> annual mean and 1-hour mean AQOs in 2024. The last recorded exceedance of the 1-hour mean NO<sub>2</sub> AQO was in 2013 on Lochee Road, and the last recorded exceedance of the annual mean NO<sub>2</sub> AQO was in 2021 at the Victoria Road / Hilltown site. Concentrations of PM<sub>10</sub> and PM<sub>2.5</sub> at all automatic monitoring sites were also below the annual mean AQO in 2024. The most recent exceedances of the 24-hour mean PM<sub>10</sub> AQO were in 2018 at the Logie Street monitoring site (an extension of Lochee Road), and in 2022 at the Albert Street monitoring site. These exceedances are to be treated with caution as they were identified using indicative air quality monitors (OSIRIS), while the 2022 exceedance was greatly influenced by a transboundary pollution event (i.e. not one which was caused by local emissions). No exceedances of the 24-hour mean PM<sub>10</sub> AQO or the PM<sub>2.5</sub> annual mean objective were observed in 2024.

Travel restrictions put in place during 2020 due to the Covid-19 pandemic resulted in reduced concentrations of NO<sub>2</sub>. In 2022 monitored NO<sub>2</sub> concentrations fell even further to be lower than those measured during 2020 at many locations. This significant decrease compared to pre-pandemic concentrations could largely be attributed to the implementation of the Dundee Low Emission Zone (LEZ) scheme and in particular, improvements in the bus fleet. The two major bus operators in Dundee, Xplore Dundee and Stagecoach, introduced fully electric and EURO VI standard retrofitted buses ahead of the LEZ scheme introduction on 30<sup>th</sup> May 2022 and continued to update their fleets with LEZ compliant vehicles in preparation for the commencement of enforcement of the LEZ on 30 May 2024.

**Dundee City Council**

It should be noted that the WHO guidelines for annual mean NO<sub>2</sub> (10ug/m<sup>3</sup>) is very ambitious. When comparing the 2024 monitoring data to the new guideline value, only four monitoring locations within Dundee achieved this limit, with these being at 'urban background' locations where there are no known pollutant sources, i.e. near road traffic or other combustion source.

Comparison of 2024 corrected annual mean PM<sub>2.5</sub> data showed that compliance with the WHO Guideline value (5ug/m<sup>3</sup>) was not met at any of the monitoring locations, including the Urban Background site, however all sites were compliant with the Scottish AQO level (10ug/m<sup>3</sup>). All PM<sub>10</sub> monitoring locations met both the PM<sub>10</sub> annual mean WHO Guideline value (15ug/m<sup>3</sup>) and Scottish AQO level (18ug/m<sup>3</sup>).

For more detailed information on current air quality, please refer to the [latest APR](#) from Dundee City Council.

### 3. Dundee City Council's Air Quality Priorities

The priority for this revised AQAP is meeting the statutory air quality objectives but also, where practicable and feasible, to reduce local air pollutant emissions across the city. These priorities are consistent with Cleaner Air for Scotland 2 (CAFS2), in which the first theme is adopting a precautionary public health approach to air pollution reduction, with compliance with domestic and international air quality standards being a minimum.

#### Policy Context

The City Centre - Strategic Investment Plan 2050 sets out a long-term vision and identifies a wide variety of opportunities, including radical ideas for our future city centre, and conceptual plans and visuals for seven strategic development opportunity sites. The next stage of the city centre's journey will be led by people – to encourage more people to live in the city centre, more people to work in the city centre and more people to travel sustainably to the city centre via active travel (walking, cycling, wheeling) and clean public transport. The plan includes ambitions to double the resident population living in and around the city centre, as well as double the number of visitors, while supporting the creation and safeguarding of 3,000 jobs in the city centre. Low emission private cars and delivery vehicles will play a continuing, but more limited role in the future and pedestrians will be given priority where feasible. Although the Strategic Investment Plan is a long-term plan, this AQAP will support the themes and alignment with local air quality management will be crucial to ensuring sustainable economic growth.

In June 2019, the Council declared a Climate Emergency, recognising the serious and accelerating environmental, social and economic challenges faced by climate change. To respond to this challenge, a partnership Climate Action Plan has been prepared which has been the culmination of collaborative work, led by DCC and co-designed with public, private and community organisations, recognising that a concerted city-wide effort is required. The Plan contains 64 actions in a long-term pathway to a target of 40% reduction in greenhouse gas emissions (GHG) by 2030 and then to achieve net-zero GHG emissions by 2045 or sooner.

The actions are under the themes of Energy, Transport, Waste and Resilience with each theme including an initial set of actions to reduce emissions or adapt to a changing climate, taking into account existing projects, stakeholder priorities and national initiatives. The actions include measures to:

- reduce the consumption of energy, promote energy efficiency and increase the proportion of power and heat from low and zero carbon technologies;
- encourage active travel through walking, cycling and public transport and deploy sustainable alternatives to decarbonise transport;
- manage waste sustainably by reducing, reusing, recycling and recovering waste to improve resource efficiency whilst working towards a circular economy; and
- ensure our communities, green networks and infrastructure are adaptable to a changing climate and reduce the risks and vulnerability to unavoidable impacts.

Local air pollutants and climate change gases often have the same sources and as such, within the Climate Action Plan there are numerous actions which will work towards reducing air pollution. Actions relevant to air quality have been incorporated into Section 5 and are outlined in Table 2. Collaborative working across the Climate Change Action Plan and the AQAP will be strengthened. To help inform the plan, a Climate Risk and Vulnerability Assessment has been carried out. It determines the nature and extent of climate-related risks by analysing potential hazards and assessing the vulnerability that could pose a potential threat or harm to people, property, livelihoods and the environment of Dundee.

Other policies and documents key to the delivery of this AQAP which will help shape the Council's priorities over the duration of this AQAP include:

- the Sustainable Transport Delivery Plan 2024-2034 : Approved by committee in 2023, this plan showcases how infrastructure will be provided for a sustainable mobility future, outlining how Dundee's plan ties in with national and regional strategies, and details potential investment from external sources of approximately £245 million in a number of projects over the ten-year period.

- Dundee Local Development Plan (LDP) 2019 : The Dundee Local Development Plan 2019 sets out the land use strategy that will guide development across Dundee up to 2029 and beyond.
- Net Zero Transition Plan (NZTP) 2024 - 2030 : This Plan outlines the Council's organisational approach and emissions reduction programmes to achieve our goal of net zero by 2038.

## Source Apportionment

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

Source apportionment exercises were carried out for DCC during the development, and since the introduction, of the Dundee LEZ. These exercises were focused on NO<sub>2</sub> as the primary pollutant of concern as it is largely a result of NO<sub>x</sub> emissions<sup>1</sup> from road vehicles. For the preparation of this Plan, further source apportionment has been completed for PM<sub>10</sub> and PM<sub>2.5</sub> as the importance with regards to health effects has grown and the focus is likely to move further to PM over the timescale of this plan, as concentrations of NO<sub>2</sub> decrease further. Summaries of the findings from the source apportionment exercises are presented in the following sections, grouped by pollutant.

### Nitrogen Dioxide (NO<sub>2</sub>)

#### LEZ feasibility study

Before the Dundee LEZ was proposed, there were exceedances of the NO<sub>2</sub> annual mean AQO at 11 monitoring locations across Dundee but no exceedances of the PM<sub>10</sub> AQO (based on 2019 monitoring data). Therefore, the LEZ focused on reducing

---

<sup>1</sup> Nitrogen oxides (NO<sub>x</sub>) refers to nitric oxide (NO) and nitrogen dioxide (NO<sub>2</sub>), both of which are mainly formed during the combustion of fossil fuels. The dominant gas is NO. NO can react with other gases in the atmosphere to form NO<sub>2</sub>. These reactions take place very quickly and are reversible, so the two gases are referred to together as NO<sub>x</sub>.

concentrations of NO<sub>2</sub>, as outlined in the National Low Emission Framework (NLEF) report.

Transport Scotland commissioned Automatic Number Plate Recognition (ANPR) surveys in 2017 to understand the fleet composition in Dundee for the development of the National Modelling Framework (NMF) Dundee City Air Quality Model. The source apportionment report produced by the Scottish Environmental Protection Agency (SEPA) identified that NO<sub>x</sub> emissions on some roads in the Dundee city centre were largely dominated by buses and coaches, which accounted for approximately 80% of emissions. Figure 1 shows the roads where bus emissions predominated prior to the LEZ implementation.



**Figure 1 Roads in City Centre where emissions from buses predominated prior to LEZ Implementation (taken from SEPA Spottfire tool)**

Meanwhile, on roads surrounding the city centre such as West Marketgait on the inner ring road and Lochee Road leading into the city centre, the predominant source of NO<sub>x</sub> emissions was identified to be from diesel cars.

The modelling undertaken as part of the NLEF assessment showed that the introduction of the Dundee LEZ would result in a 70% decrease of NO<sub>x</sub> emissions inside the LEZ boundary and a 20% decrease of NO<sub>x</sub> emissions on Lochee Road.

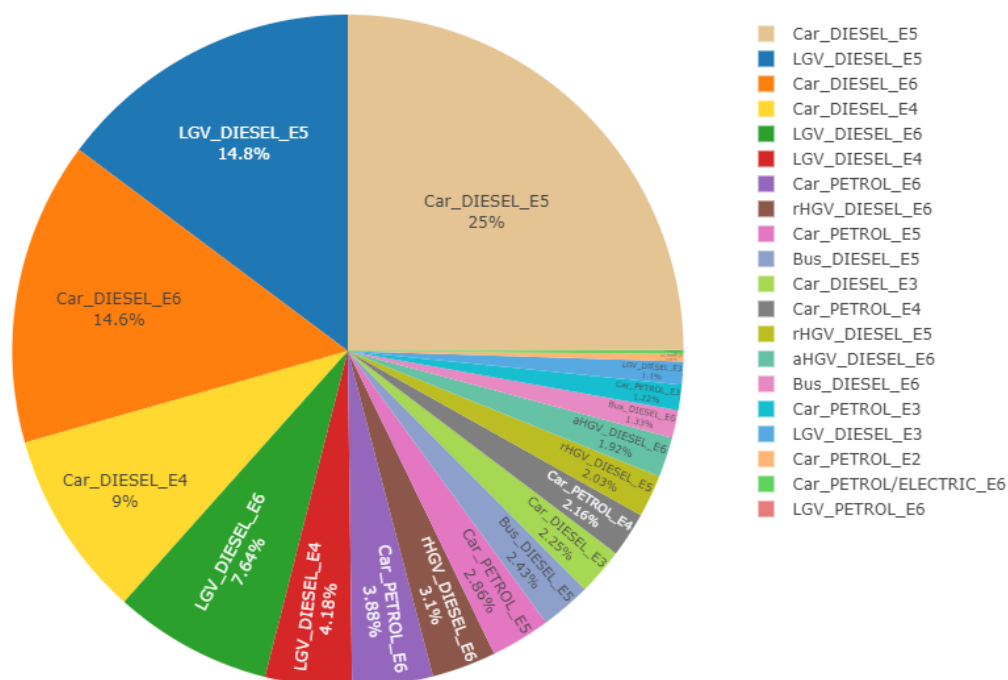


The air quality model results indicated that at all of the locations where exceedances annual mean NO<sub>2</sub> were identified in 2019, the exceedance would be removed as a result of the LEZ. Further air quality modelling will be undertaken by SEPA using the NMF Dundee City Air Quality Model post commencement of LEZ enforcement to assist with annual reporting on the LEZ scheme.

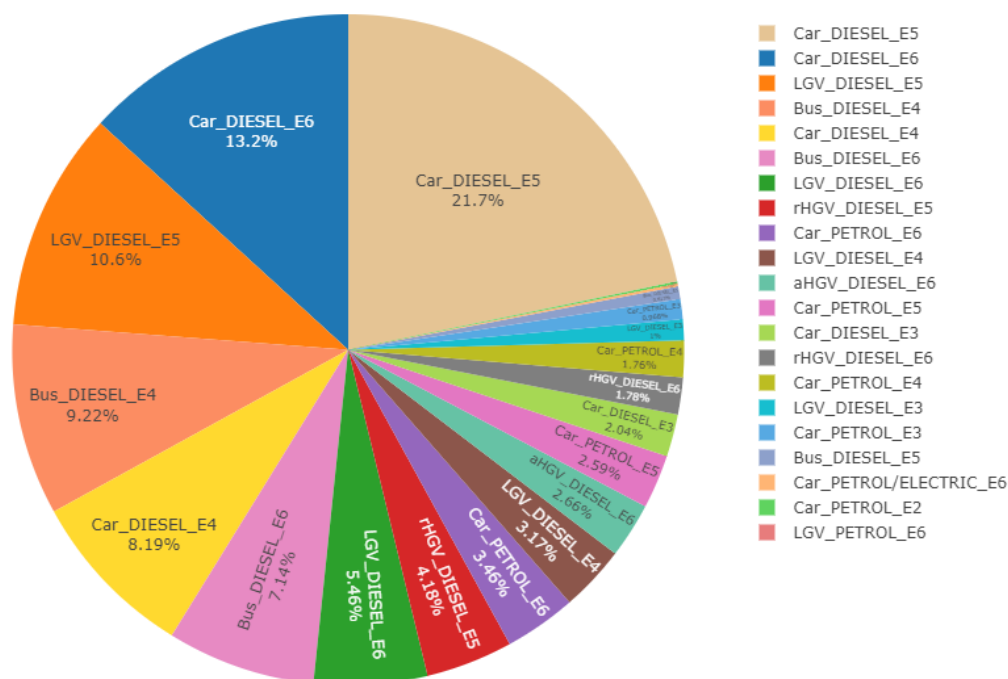
### **Remote Sensing (2021)**

For eight days in April and May 2021 a remote sensing campaign monitored real-world emissions from vehicles at two locations outside the LEZ boundary (Lochee Road and Blackscroft). The campaign measured emissions from 29,000 vehicles and matched the number plate of vehicles to Driver & Vehicle Licensing Agency (DVLA) and Society of Motor Manufacturers & Traders (SMMT) databases to determine Euro standard and fuel type (amongst other characteristics).

The findings showed that emissions in both locations were found to be dominated by diesel cars and diesel LGVs. The results for Lochee Road are shown in Figure 2 and the results for Blackscroft shown in Figure 3. This presented a more recent and finer resolution dataset than the 2017 fleet composition which the initial LEZ development was based upon. With regards to cars, there is a predominance of emissions from Euro 5 diesel vehicles, which should, as the LEZ is enforced, decrease, even outside the zone.



**Figure 2 Source apportionment of NOx emissions by fuel type and Euro standard based on real-world emission factors and fleet composition at Lochee Road in 2021**



**Figure 3 Source apportionment of NOx emissions by fuel type and Euro standard based on real-world emission factors and fleet composition at Blackscroft in 2021**

### Lochee Road Options Study

Lochee Road was highlighted in the initial LEZ development as an area of historic exceedance of the hourly and annual mean NO<sub>2</sub> AQOs. However, it was not feasible

to include the Lochee Road within the LEZ boundary as all scenarios tested led to traffic displacement and re-routing to roads with limited capacity. Therefore, while not included within the LEZ scheme, an additional study on part of Lochee Road was completed to explore stand-alone road improvement options in the area of exceedance. While the additional study did identify air quality improvements being made with the stand-alone road improvement options, these have now been superseded by the Active Freeways project within the Sustainable Transport Delivery Plan.

To complete the study, updated traffic data was collected in February 2022. The modelling accounted for the bus fleet upgrades in recent years, such as Xplore Dundee introducing an electric bus fleet on routes operating along Lochee Road in early 2022. Additionally, the Scottish urban national fleet (based on Emissions Factor Toolkit (EFT) v10.1) was adjusted based on ANPR data; the Lochee Road fleet was found to be similar to the national fleet, but slightly older. For example, the national 2022 fleet assumes 65% of cars and 69% of LGVs are Euro 6, while ANPR data for Lochee Road showed this was 55% and 53%, respectively. The study identified that approximately 80% of total NO<sub>x</sub> emissions along Lochee Road were from cars and LGVs.

## **NO<sub>2</sub> Summary**

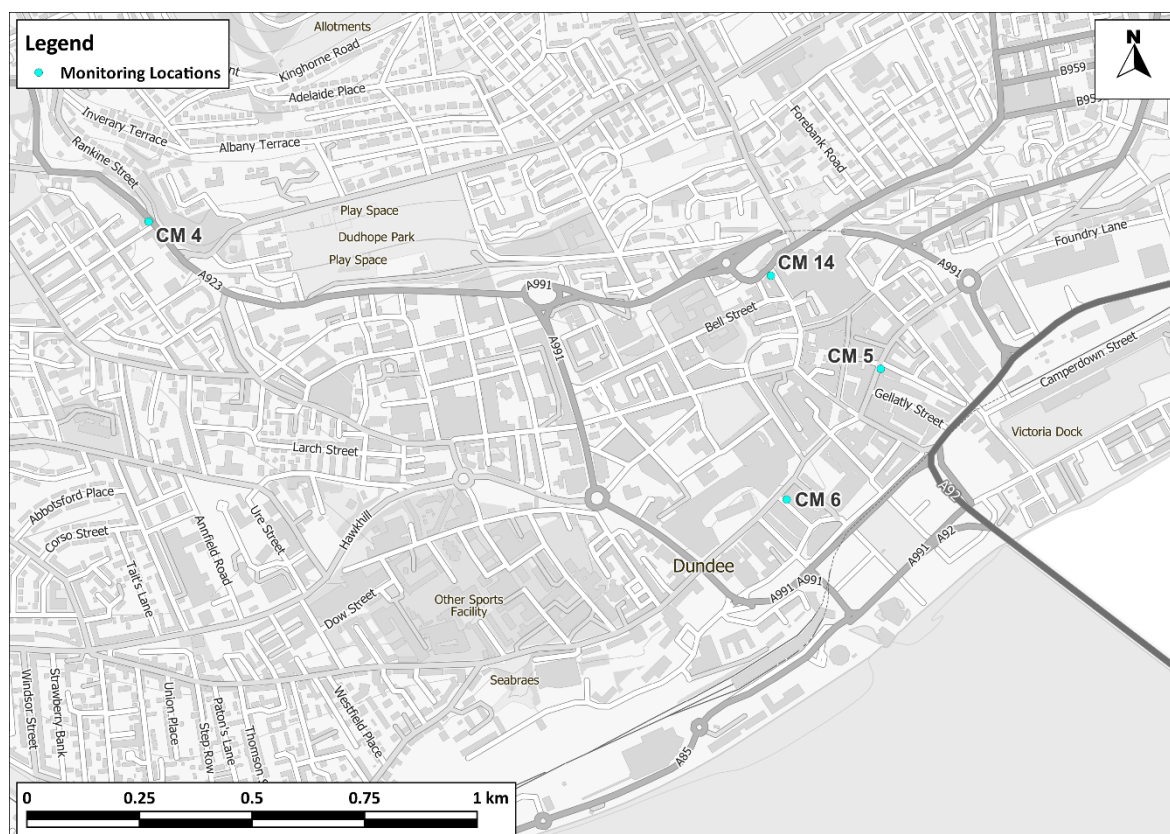
There have been several recent and detailed studies into the sources of NO<sub>x</sub> emissions in different areas of Dundee. The key findings are:

- Road vehicles are the predominant source of NO<sub>x</sub> emissions.
- Different roads have different vehicle fleet distributions that influence NO<sub>x</sub> emissions.
- Buses and coaches were identified as the predominant source of NO<sub>x</sub> emissions within the city centre before the LEZ was introduced. However, there have recently been significant upgrades to the bus fleet to be LEZ-compliant, which has contributed to reduced NO<sub>2</sub> concentrations in the city centre.

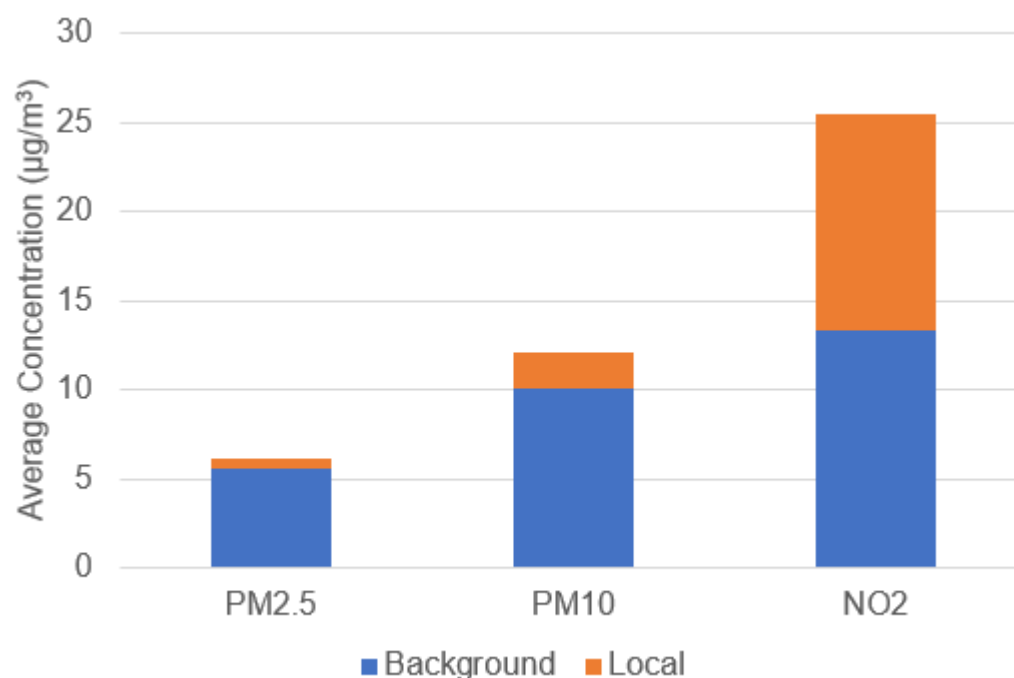
- Diesel cars and LGVs were found to be the predominant source of NO<sub>x</sub> emissions on the inner ring road and other 'feeder' roads, such as Lochee Road.
- Due to the significant improvements in the bus fleet, diesel cars and LGVs are now, proportionally, the largest sources of road traffic NO<sub>x</sub> emissions; and
- The LEZ is likely to have led, and continue to lead, to improvements in emissions from diesel cars and LGVs, by shifting towards a fleet of higher Euro classes (and therefore result in lower emissions) and electric vehicles.

### **Particulate Matter (PM<sub>10</sub> and PM<sub>2.5</sub>)**

In contrast to NO<sub>2</sub>, the primary source of fine particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>) in Dundee is not road transport. Four monitoring sites (CM14, CM4, CM5, CM6) measure both PM<sub>10</sub> and PM<sub>2.5</sub>, and have been selected for further analysis. Figure 4 shows where the four monitoring sites are located within Dundee.



**Figure 4** Map of monitoring sites selected for source apportionment analysis of  $\text{PM}_{10}$ ,  $\text{PM}_{2.5}$  and  $\text{NO}_2$



**Figure 5** Average concentration distribution between 'background' and 'local' sources at roadside monitoring sites

Figure 5 shows the source distribution between background and local sources of PM<sub>2.5</sub> and PM<sub>10</sub> at these monitoring sites. Modelled background concentrations were obtained from Air Quality Scotland (PM<sub>10</sub>) and Defra (PM<sub>2.5</sub>). The average measured concentration across the four sites in 2022 is represented in Figure 5 as the total bar (6.2 µg/m<sup>3</sup>, 12.1 µg/m<sup>3</sup> and 25.4 µg/m<sup>3</sup> for PM<sub>2.5</sub>, PM<sub>10</sub> and NO<sub>2</sub> respectively), which is proportioned into the average modelled background concentration (blue), and the remaining local concentration (orange).

On average, the local sources only account for 10% of PM<sub>2.5</sub> concentrations and 16% of PM<sub>10</sub> concentrations. Therefore, any actions which affect local sources will not have a large effect on overall concentrations. This is in contrast with NO<sub>2</sub>, which at these sites, local sources account for approximately half of the concentration (48%).

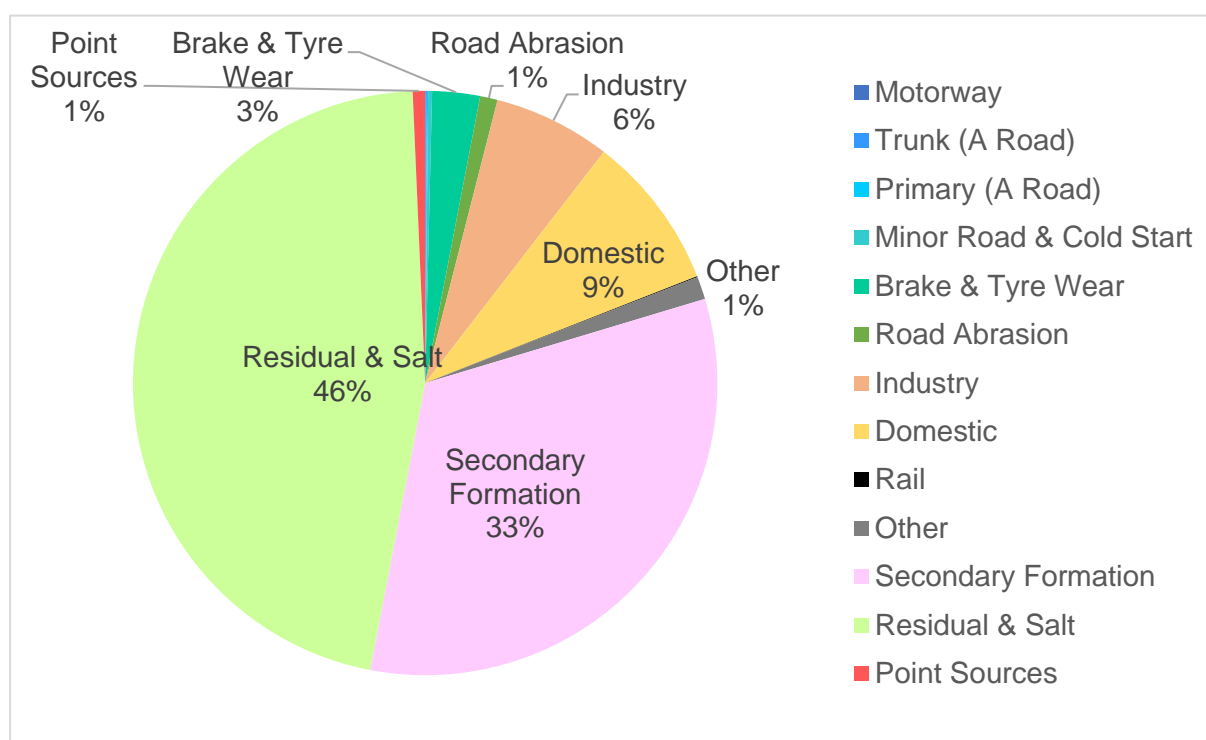
The majority of particulate matter concentrations in Dundee are classed as being derived from 'background' sources. The background maps user guide defines background concentrations as:

*"The total concentration of a pollutant comprises those from explicit local emission sources such as, roads, chimney-stacks, etc., and those that are transported into an area by the wind from further away. If all the local sources were removed, all that would remain is that which comes in from further away; it is this component that is called 'background'."*

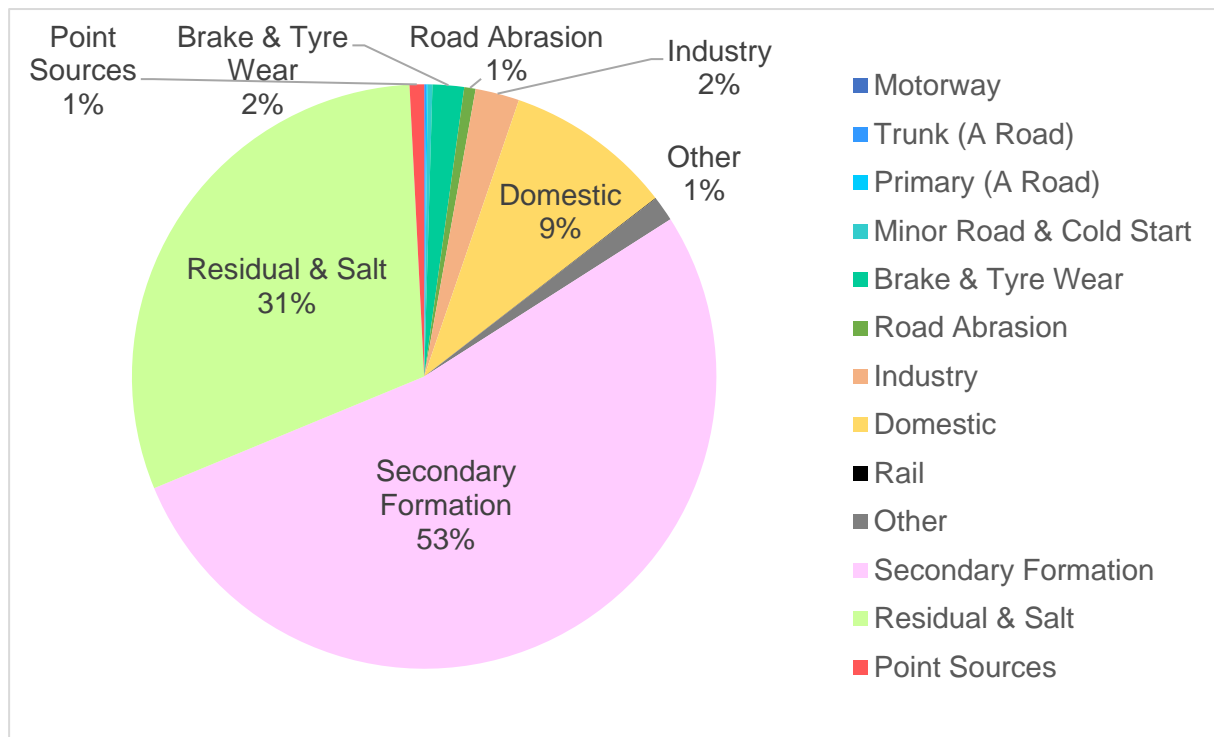
The average contribution of different background sources across all 1 km x 1 km grid cells in the Dundee region are shown in Figure 6 for PM<sub>10</sub> and Figure 7 for PM<sub>2.5</sub> (taken from mapped backgrounds published at <https://uk-air.defra.gov.uk/data/laqm-background-home>). The background component for both PM<sub>10</sub> and PM<sub>2.5</sub> is largely attributable to the 'secondary formation' and 'residual & salt' categories. There are very limited actions that DCC can incorporate within the Dundee AQAP to reduce concentrations from these sources. The next largest category within the control of DCC is that from domestic sources, such as solid fuel burning, which accounts for 9% of the background component of both PM<sub>10</sub> and PM<sub>2.5</sub>. Some of this background component will originate outside of the Dundee area.

Although at this stage we do not have any quantified source contributions for local emissions, they are likely to be made up of domestic solid fuel burning, industrial sources, commercial heating and transport. In relation to road transport related

sources the predominant source of PM<sub>2.5</sub> and PM<sub>10</sub> is 'brake & tyre wear' and 'road abrasion', which are not affected by reductions in tailpipe emissions and, therefore, wider changes in the vehicle fleets, such as moving towards more stringent Euro standards and/or electric vehicles, will have a minimal effect on PM<sub>10</sub>/PM<sub>2.5</sub> concentrations in Dundee. In terms of PM<sub>10</sub> and PM<sub>2.5</sub> this plan needs to focus on non-transport sources and, for road transport emissions, the emphasis should be on taking vehicles off the road (i.e. modal shift to active travel and public transport). Actions for PM<sub>10</sub> and PM<sub>2.5</sub> are often co-beneficial with climate change actions.



**Figure 6 Source apportionment of background PM<sub>10</sub> concentrations**



**Figure 7 Source apportionment of background PM<sub>2.5</sub> concentrations**

### PM<sub>10</sub> and PM<sub>2.5</sub> Summary

- The majority of PM<sub>10</sub> and PM<sub>2.5</sub> in Dundee is from background sources rather than local (e.g. road) sources.
- Of the background sources, the largest sources are 'secondary formation' and 'residual & salt', which DCC have very little control over.
- Although no quantified information on local emissions is available, they are likely to be made up of domestic solid fuel burning, industrial sources, commercial heating and transport.
- In relation to road transport related sources the predominant source of PM<sub>2.5</sub> and PM<sub>10</sub> is 'brake & tyre wear' and 'road abrasion', which are not affected by reductions in tailpipe emissions.



## Required Reduction in Emissions

Trends in pollutant concentrations outlined annually in DCC's APRs indicate that NO<sub>2</sub> is reducing considerably; in 2024 there were no exceedances of the AQO across Dundee and the last recorded exceedance of an NO<sub>2</sub> AQO was in 2021.

It should also be noted that, although compliance with air quality objectives is important, from a health perspective a general reduction in emissions of the key pollutants (including PM<sub>10</sub> and PM<sub>2.5</sub>) may provide better health outcomes than focussing on hotspot locations. For this reason, wider, more strategic measures have been included.

## Key Priorities

Based on the source apportionment set out in section 3 and a proportionate approach to actions in relation to the air quality concentrations, whilst recognising the ambition to reduce concentrations further than the current air quality objectives when taking cognisance of the ambitious 2021 WHO Guideline Values, the following priorities have been identified:

- Priority 1: To maintain air pollutant concentrations below current air quality objectives and, where practicable, reduce emissions further to protect health across the city.
- Priority 2: Continue the implementation of the LEZ to protect public health through improving air quality in Dundee and achieving air quality compliance under section 87(1) of the Environment Act 1995, as well as to develop an environment that helps promote more active and sustainable travel choices in Dundee and contributes to meeting emission reduction targets set out in Part 1 of the Climate Change (Scotland) Act 2009.
- Priority 3: Work collaboratively with Scottish Government, Transport Scotland and regional organisations to ensure that wider transport measures are delivered: in particular to increase the use of active travel and public transport and reduce the use of private vehicles and to increase the proportions of low and zero emission vehicles where modal shift is not feasible.

**Dundee City Council**

- Priority 4: Ensure that plans being developed and implemented for placemaking and climate change are closely co-ordinated and aligned with those for air quality in order to maximise co-benefits.
- Priority 5: Develop a Communications Strategy to provide a more strategic approach to public awareness and behaviour change, particularly for domestic solid fuel burning and vehicle idling; and
- Priority 6: Report on an annual basis to Scottish Government the implementation of the measures set out in this report, as well as monitored concentrations within the AQMA and the effects of the Low Emission Zone.

## 4. Development and Implementation of Dundee City Council AQAP

### Consultation and Stakeholder Engagement

During the process of developing and updating the Dundee AQAP, neighbouring local authorities and key agencies were consulted to seek feedback on means to improve local air quality. This is in line with Schedule 11 of the Environment Act 1995 which requires local authorities to consult the bodies listed in Table 1 when developing or updating existing AQAPs.

Following approval by Dundee City Council's Climate, Environment and Biodiversity (CEB) Committee in June 2024, a six-week statutory consultation period on a draft AQAP was undertaken. All statutory consultees (listed in Table 1) and other relevant groups were informed of the consultation through direct contact by email. The consultation was hosted on the consultation pages of the DCC website. Consultees were given the option to respond using the online questionnaire or by emailing feedback directly to [pollution.control@dundeecity.gov.uk](mailto:pollution.control@dundeecity.gov.uk). The public consultation was advertised through a DCC media release and through various social media channels during this six-week period.

A consultation summary report containing feedback on the responses submitted by the statutory consultees, organisations and the public is provided in Appendix A.

**Table 1 Consultation Undertaken**

Consultee	Consultation Undertaken
The Scottish Government	YES
The Scottish Environment Protection Agency (SEPA)	YES
Transport Scotland	YES
Neighbouring local authorities	YES

Consultee	Consultation Undertaken
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

## Steering Group

The development of the AQAP was taken forward through the existing Corporate Air Quality Steering Group (CAQSG), with meetings held specifically for the AQAP update. Prior to the June 2024 consultation, two main steering group meetings were held (29<sup>th</sup> February and 22<sup>nd</sup> March 2024), which involved the collaboration of officers across the Council in different disciplines.

The CAQSG was made up of the following members:

- Environment / Public Health Manager
- Senior / Environmental Health Officer
- Climate Change and Sustainability Manager
- Senior Sustainability and Climate Change Officer
- Senior Manager Planning
- Low Carbon Project Manager
- Corporate Fleet Manager
- Parking & Sustainable Transport Team Leader
- Traffic & Road Safety Team Leader

The meetings involved setting out the background to the air quality issue in Dundee, the process of updating the AQAP, previous work undertaken on air quality and gaining input and insight into existing and future policy measures within Dundee and how these may assist in the implementation of the aims of this Plan (and vice versa). Discussions focused on each of the categories of actions with updates on current

actions and new actions also discussed. The CAQSG will continue to be fully involved and consulted as the process continues.

Separate meetings were held if required, for example if a particular stakeholder could not attend the main meeting or where additional detail on measures needed to be discussed. A third CAQSG meeting was held prior to the consultation on 12<sup>th</sup> June 2024 to discuss matters for the consultation, such as format and clarification on who is required to be consulted.

Through the duration of the plan, external agencies, such as NHS Tayside and TACTRAN, will be invited to attend future meetings of the CAQSG to assist with the delivery of actions contained within the plan where applicable.

## 5. AQAP Measures

Table 2 shows the Dundee City Council AQAP measures. It contains:

- A list of the measures that form part of the plan.
- Expected or actual completion year for measures.
- Measure status (whether the measures are planned, in progress, completed or delayed)
- The responsible departments / organisations who will deliver these measures.
- 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:** Future air quality Annual Progress Reports will contain annual updates on the implementation of these measures. The DCC APRs are published on the “[Air Quality Reports page](#)” of the DCC website.

In accordance with the requirements of PG (S) (23), Dundee City Council expects the process for amending the current AQMA order to remove the hourly NO<sub>2</sub> objective element to be completed in 2025, and for the annual mean NO<sub>2</sub> and PM<sub>10</sub> AQMA to be revoked in 2028, or no later than the end date of this AQAP and, 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 work with the Tayside Bus Alliance to increase patronage on buses within Dundee, through reducing variability in journey times	Transport Planning and Infrastructure: Bus Route Improvements	2029 (across the delivery of this Plan)	In Progress	Transport Scotland, Tayside Bus Alliance, Dundee City Council	Transport Scotland	Initial Assessment funded – Funding awarded for design stage through the Places for Everyone (PfE) programme.	>£10 million	Very difficult to quantify at this stage.	<p>An initial Detailed Assessment of bus improvement measures has been undertaken: <a href="#">Tayside - Detailed Options Appraisal - Summary (6.8MB PDF)</a></p> <p>Two packages of transport options assessed at a detailed level. Both packages scored positively overall. This study will now progress into a Strategic Business Case. Bus Priority Fund (BPF) now on hold.</p> <p>Arbroath Road and Lochee Road - funding bid for design stage grant awarded by Sustrans through the PfE programme.</p>	Bus priority funding has been put on hold by Transport Scotland. Likely to be funded through Active Freeways process (see Action 2).
2	Support delivery of six Active Freeways to encourage a greater number of journeys by walking, wheeling and cycling	Promoting Travel Alternatives: Promotion of cycling / Promotion of walking	Ongoing - medium term delivery in Sustainable Transport Development Plan (4-6 years)	In Progress	Transport Scotland, TACTRAN and Dundee City Council	Transport Scotland Active Travel Transformation Fund	Transport Scotland, TACTRAN and Dundee City Council are funding the £325,000 for the preparation work towards creating the various routes.	>£10 million	Not quantifiable at this stage but could reduce concentrations along specific corridors by a measurable amount.	<p>“Active Freeways” aim to encourage people to make their journeys by walking, wheeling and cycling by providing active travel infrastructure on high-demand travel routes. The six routes will link:</p> <ul style="list-style-type: none"> <li>• City centre to Hawkhill and Perth Rd area;</li> <li>• Lochee to Stobswell via Harefield Road, Strathmore Avenue, Dens Road corridor;</li> <li>• Stobswell and Fintry/Whitfield with the city centre via the Pitkerro Road corridor;</li> <li>• City centre and Broughty Ferry via the Arbroath Road corridor;</li> <li>• City centre with Strathmartine via the Hilltown / Strathmartine Road corridor; and</li> <li>• Coupar Angus Road / Lochee Road.</li> </ul>	<p>Funding for detailed design required. Statutory consultation / committee approval etc. may be required for parts which may extend time to deliver.</p> <p>Some areas have had funding for outline design but will need further funding for detailed design work (incorporating bus priority measures).</p>

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
3	Increase the use of car clubs through promotion of existing clubs and encouragement of expansion through planning system.	Alternatives to Private Vehicle Use: Car Clubs	2029 (ongoing through plan period)	Planned	Dundee City Council	External funding not required, will be undertaken through planning system and comms strategy (see Action 24)	Not funded	<£10K for comms.	Not quantifiable at this stage	Number of active members (they have used the car club at least once in the preceding 12 months): April 2025 - 587 April 2024 - 541 April 2023 - 514 April 2022 - 483 April 2021 - 414	Co-wheels and Enterprise are currently the two car sharing businesses operating in Dundee. Co-wheels currently oversees seven base locations including West Hilltown, Nethergate, Perth Road, South Tay Street, Dock Street, Trades Lane and Meadowside, while Enterprise operates from three locations – Enterprise Dundee West at Kinnoull Road, Olympia multi-storey car park and Courthouse Square.
4	Monitor and evaluate the effect of the LEZ through traffic counts, fleet data and, where feasible, the NMF modelling framework.	Promoting Low Emission Transport: Low Emission Zone (LEZ)	2028	Planned	Dundee City Council	Within Council budgets Scottish Government	Fully funded for implementation. Funding will be sought to assist with aspects such as road traffic counts if ANPR surveys needed	£10k - £50K per annum	Monitoring the effectiveness of LEZ will not in itself reduce emissions.		Guidance from Transport Scotland: <a href="#">Low Emission Zone Guidance October 2021 (PDF)</a> .  Existing AQ monitoring includes long term locations that are within the / adjacent to the LEZ so impact in terms of AQ improvements can be monitored through trends. Enforcement of the LEZ commenced on 30 May 2024 so reporting on the effect of the LEZ will be from 2025.  Due to the "soft start" to the LEZ, a proportion of non-compliant vehicles will have already been replaced in years leading up to enforcement commencing.
5	Support longer term changes to the City Centre to reduce emissions further, through processes including the City Centre Strategic Investment Plan, future Local	Traffic Management: Strategic Highway Improvements	2029 (ongoing through plan period)	Planned	Dundee City Council with partners	Transport Scotland	Not yet funded	>£10 million	Not quantifiable at this stage	<a href="#">City Centre Strategic Investment Plan (CCSIP)</a> was approved in 2023 and includes transport and connectivity technical note which sets out transport schemes to support plan.	CCSIP is not statutory. However, it is a material consideration in the determination of planning applications. The LDP is part of the statutory land use development plan; and is currently being reviewed.



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
	Development Plan (LDP).										
6	Ensure the emerging LDP integrates air quality considerations into future planning policy.	Policy Guidance and Development Control: Air Quality Planning and Policy Guidance	2028	Planned	Dundee City Council	Within Council budgets	Funded through staffing budgets	Unknown	Emission reductions will be over timescale longer than this plan.	The DPS requires to be approved annually, and outlines expected timescales for the review of the LDP. Adoption forecast to be during 2028. New LDP requires evidence report, which will include Air Quality.	Planning legislation does not allow supplementary guidance. Air Quality policies will be contained in LDP. Technical guidance outside planning would still apply.
7	Ensure that, where relevant, air quality assessments are submitted with planning applications and mitigation negotiated where required.	Policy Guidance and Development Control: Air Quality Planning and Policy Guidance	2029 (ongoing through plan period)	In Progress	Dundee City Council	Within Council budgets	Funded through staffing budgets	Unknown	Emission reductions will be over long timescale		Include Travel Plan conditions. In line with current Supplementary Guidance Air Quality & Land Use Planning.
8	Improve the Council's vehicle fuel consumption efficiency by better management of fleet activities.	Vehicle Fleet Efficiency: Fleet efficiency and recognition schemes	2026	In Progress	Dundee City Council	Within Council budgets	Partially Funded	Unknown	Difficult to quantify. Only relevant to Council fleet.		The council has continued to increase the deployment of its GIS route optimisation system to further increase efficiency across the council corporate fleet. Upgrading to EV fuel fobs has been successful in collecting data on the efficiency of EVs within the fleet, such as charging habits, locations and chargers' downtime, resulting in improved 'fuel' efficiency.
9	Support the expansion of Electric Vehicle (EV) charging hubs and infrastructure across the City.	Promoting Low Emission Transport: Procuring alternative Refuelling infrastructure to promote Low Emission Vehicles, EV recharging, Gas fuel recharging	2029 (ongoing through plan period)	In Progress	Dundee City Council	Scottish Government Electric Vehicle Infrastructure Fund (EVIF). Bell Street Infrastructure Hub awarded £14.4 million from Department for	Partially Funded	>£10 million	Difficult to quantify as a measure, likely to have significant benefit for NOx emissions as part of overall shift to EVs. Not as much	Work has started onsite at Bell Street Car Park. This Low Carbon Hub will prioritise active travel and accommodate a new active freeway through the heart of the facility providing connections to the north of the city. The facility will also provide EV charging for city centre residents and commuters and cycle parking for onward travel.	More overnight on-street chargers needed. 43% of homes have access to off-street parking so home charging will continue to have a significant role in transport energy refuelling. Procurement tender for the next 10 - 20 years in the final stages of being published. It is envisaged that the successful contractor for each lot will work in partnership with

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
						Transport Levelling Up Fund.			benefit for PM <sub>2.5</sub> .	DCC currently have 114 depot chargers spread across the estate. Clepington Road Depot currently has 21 x 7kW, 1 x 100kW and 2 x 50kW to support the over 200 electric vehicles currently within the DCC fleet. At present, the charging infrastructure deployed in Dundee can support 11.6% of the city's vehicles being electric.	Dundee City Council to deliver an attractive and industry leading network in the city ensuring that customers have a positive experience while using the Dundee City Council owned network. Lot 1 will have a focus on new on-street and community solutions and existing on-street charge points.
10	Consider the introduction of taxi licensing conditions to include a policy with an age limit for taxis.	Promoting Low Emission Transport: Taxi Licensing conditions	2027	Planned	Dundee City Council	Within Council budgets	Funded through staffing budgets	>£10K	Minimal improvement in emissions as taxis already covered by LEZ.		At the end of 2024 there were 232 pure electric taxis in Dundee (36% of taxi fleet). The introduction of Dundee's LEZ has helped to accelerate EV taxi adoption.
11	Continue the ECO Stars Fleet Recognition Scheme.	Vehicle Fleet Efficiency: Fleet Efficiency and Recognition Schemes	2029 (ongoing through plan period)	In Progress	Dundee City Council	Scottish Government	Funded Annually	£10k- £50K per annum	Not quantifiable	Membership of the commercial fleet scheme increased by 3 to 279 members in 2024. This increased number of vehicles included in the scheme by 43, bring the total number of vehicles included to 10,129.  At the end of 2024, the number of members of the Taxi / Private Hire scheme was 20, with the number of vehicles included being 576.	Any reduction in Scottish AQ Grant Funding will limit the amount of work that the scheme operators can put towards each of the Scottish LA schemes. No funding for the Taxi / Private Hire scheme was awarded in 2024/25 which prevented new members being able to join during that year.
12	Implement key actions within the Sustainable Transport Delivery Plan and support Active Travel initiatives, improving cycle infrastructure across the city and the perception of cycling as a safe and positive mode of transport.	Promoting Travel Alternatives: Promotion of cycling/ Promotion of walking	2029 (ongoing through plan period)	In Progress	Dundee City Council	Transport Scotland, Tactran	Not yet funded	>£10 million	Not quantifiable, but potential for large reductions in pollutant emissions		Challenge to provide secure, accessible bike storage, not just the bikes themselves. Co-benefits for climate change gases.  Non-cycling forms of active travel, such as walking & wheeling will also need to be promoted.

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	Promotion of the local living concept to reduce the need for travel and encourage active travel such as walking, wheeling and cycling.	Promoting Travel Alternatives: Other	2029 (ongoing through plan period)	Planned	Dundee City Council	Developments, Dundee City Council	Not yet funded	Unknown	Emission reductions will be over long timescale	Local Living and 20-minute neighbourhoods already in policy within NPF4 Policy 15. Scottish Government have consulted on guidance covering 20-minute neighbourhoods. DCC has developed a GIS tool already to assist with implementation.	This action relates to policy support for local living - not implementation of projects. LDPs should support local living, including 20-minute neighbourhoods within settlements, through the spatial strategy, associated site briefs and masterplans. Should be incorporated into next LDP.
14	Adopt and Implement a Sustainable Procurement Strategy	Policy Guidance and Development Control: Sustainable Procurement Guidance	2025 for the Strategy, ongoing implementation	Planned	Dundee City Council	Within Council budgets	Fully funded	£10-£50K	Not quantifiable	The Council will collect data on its supply chain and construction activities, identify emissions reduction action plans and include those emissions and emissions reduction actions when the current Net Zero Transition Plan (NZTP) is reviewed. A Corporate Procurement Strategy Group will be established.	
15	Support work underway on the Local Heat and Energy Efficiency Strategy, Local Area Energy Plan, District Heat Network Zones.	Promoting Low Emission Plant: Other Policy.	2029 (ongoing through AQAP period and beyond to 2045)	Planned/ In progress	Dundee City Council	Scottish Government funding - £750,000 over 5 years.	Partially funded	>£10 million (Estimated total cost of all domestic tenures is £539 million)	Not quantifiable in terms of local pollutants. Target net zero GHG emissions by 2045	<u>Local Heat and Energy Efficiency Strategy (LHEES) (97MB PDF)</u> received approval at the Climate, Environment and Biodiversity (CEB) Committee on 22 April 2024. The Local Area Energy Plan received CEB committee approval on 23 September 2024.	Local Area Energy Planning is crucial to ensure the grid network is optimised for future challenges (electric vehicles etc).
16	Undertake work to provide a better evidence base for domestic solid fuel burning and change behaviour to reduce solid fuel burning where it is not a primary source of fuel.	Domestic solid fuel burning: Gathering evidence on the contribution of domestic burning to key pollutants in the local area	2027	Planned	Dundee City Council	Scottish Government	Not funded	£10K-£50K	Better evidence base required to work out what level of emissions could be reduced.	A high percentage of Dundee is within a Clean Air Act 1993 declared 'Smoke Control Area' (SCA) Permitted development rights for new flues for biomass / wood burning stoves do not apply within AQMAS. Domestic (household) combustion is a focus within the Scottish Government's CAFS2 air quality strategy, with potential measures such as the ban on house coal, sulphur content of smokeless fuels to be limited, and the sale of certain types of wet wood all proposed.	Enforcement of SCAs difficult and time consuming due to wording of legislation. Behaviour change is often difficult without large input to change culture around burning wood for aesthetic reasons, rather than being the primary source of heating for the property. The Clean Air Act 1993 is proposed to be revised as outlined in CAFS2 and it is within this legislation that local authorities are provided with SCA enforcement powers.

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
17	Continue work promoting sustainable travel options to schools, including support for school streets.	Promoting Travel Alternatives: School Travel Plans	2027	Partially complete d / In Progress	Dundee City Council	Transport Scotland	Not yet funded	not known at this stage	Localised emission reductions likely - <a href="https://www.aqconsultants.co.uk/case-studies/school-streets">https://www.aqconsultants.co.uk/case-studies/school-streets</a>	<u>13 School Streets zones implemented across Dundee during 2022 – 2024.</u>	Drivers complying with road closures around schools can be problematic. Police Scotland are responsible for enforcing the restrictions.  Schools hosting a School Streets Zone on average have an 8% higher level of journeys made by active travel compared to a school that does not host a School Streets Zone.
18	Ensure effective co-ordination between climate change and air quality strategies and action plan measures.	Policy Guidance and Development Control: Other policy	2029 (ongoing through plan period)	In Progress	Dundee City Council	Within Council budgets	Funded through staffing budgets	<£10K	Potential for significant emissions reductions in long term	There is a reporting template for the Net Zero Transition Plan (NZTP). Climate leadership team meets 6-monthly and there is an Officer working group.  Climate and Vulnerability Risk Assessment (CVRA) is being updated. Will engage internal and external stakeholders. New CVRA will be based on 2-degree and 4-degree scenarios to identify actions to help Dundee adapt to predicted climate change.	Working with Perth and Kinross and Angus Councils to establish wider nature networks.
19	Work regionally as part of TACTRAN to provide integrated solutions for regional transport issues.	Policy Guidance and Development Control: Other policy	2029 (ongoing through plan period)	In Progress	Dundee City Council, TACTRAN	Within Council budgets	Funded through staffing budgets	Unknown	Potential for significant emissions reductions in long term	<u>New Regional Transport Strategy (RTS)</u> received Ministerial approval and was adopted by the Tactran Board in June 2024.  New RTS covers reducing carbon emissions and improving air quality - specifically to reduce transport emissions in AQMAs.	RTS Action 20: Tactran and the Councils will work with industry, the port authorities and the rail industry to identify and promote opportunities to reduce road freight. Detail will be covered in RTS Delivery Plan which is in process of being developed.
20	Review DCC Staff Travel Plan on a 3 yearly basis.	Promoting Travel Alternatives: Workplace Travel Planning	2027	Planned	Dundee City Council	Not known	Not yet funded	<£10K per review		Staff travel plan launched in March 2023.	This action is to review and update the staff travel plan on a 3-yearly basis (or more often if required).
21	Complete Non-Domestic Energy Efficiency (NDEE) retrofit and heat decarbonisation of DCC public buildings.	Promoting Low Emission Plant: Other Policy	2029 (ongoing through plan period)	In progress for NDEE and planned for heat decarbon	Dundee City Council	Mixture of funding - will seek external funding where possible - for example SG heat	Partially Funded	£1 million - £10 million	Not quantifiable at this stage in terms of local pollutants. Target net zero GHG emissions.		Needs further work before funding applications can go in for heat decarbonisation grants.

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
				isation plan		decarbonisation fund					
22	Enforce relevant legislation, and provide information, to reduce the burning of commercial and domestic waste.	Domestic Solid Fuel Burning: Other	2029 (ongoing through plan period)	In Progress	Dundee City Council, SEPA	Within Council budgets	Funded through staffing budgets	Unknown	Contribute to reduction in particulates from combustion.		DCC offer a home composting bin as an alternative to the annual garden waste collection permit. A charge was for the collection of garden waste was introduced in 2020. Cost increasing annually meaning some people burn garden waste instead.
23	Ensure that monitoring information is available to the public and use to assist evidence-based decision making.	Public Information: Via the internet	2029 (ongoing through plan period)	In Progress	Dundee City Council	Within Council budget	Funded Annually	£10K-£50K	No pollutant / emissions reduction	Comprehensive AQ monitoring network in place which is reviewed on an annual basis. Details available on DCC website : <u>AQ Monitoring Network</u> Amendment of Dundee AQMA to remove 1-hour NO <sub>2</sub> objective element to be completed in 2025.	Maximise public information through a specific Communications Strategy.
24	Develop a Communications Strategy to provide a more strategic approach to public awareness and behaviour change	Public Information: Other	2025 / 26 for Strategy, ongoing for implementation	Planned	Dundee City Council	Scottish Government, Council budget	Funded Annually	£10K-£50K	Emissions reductions will be dependent on level of behaviour change	Recent work has included annually promoting Clean Air Day, and the awareness raising campaign "Hello Dundee" which includes conversations on air quality and the LEZ.	Strategy to include areas such as: <ul style="list-style-type: none"> <li>domestic solid fuel burning,</li> <li>vehicle idling,</li> <li>active / sustainable travel,</li> <li>energy awareness,</li> <li>Clean Air Day etc.</li> </ul>
25	Complete improvements to domestic Council stock (and ex-Council properties in mixed tenure blocks) to achieve energy efficiency standard.	Promoting Low Emission Plant: Other Policy	2029 (ongoing through plan period)	In Progress	Dundee City Council	Energy Efficiency Scotland: Area Based Schemes and Dundee City Council	Funded Annually	>£10 million	NOx emissions reduction, but difficult to quantify	External Wall Insulation programme (EWI) started in 2013/14 and has been carried out on properties that are either solid wall or of non-traditional construction (without a treatable cavity). Between 2013/14 and 2020/21 5,227 properties (2,229 private, 2,998 Council) were insulated.	Following EWI work, work will start on the cavity-wall stock of almost 5,000 properties (with a further 1,500 of private flats embedded within blocks). All this stock has CWI but much of it is more than 40 years old and needs to be replaced.
26	Ensure safer streets that enable active travel in Dundee including identifying suitable locations for	Promoting Travel Alternatives: Promotion of cycling/ Promotion of walking.	2029	In Progress	Dundee City Council	Transport Scotland Cycling, Walking, Safer Routes Fund	Partially funded	£500k - £1 million	Difficult to quantify, probably neutral as reductions in speeds could	Approximately 75% of the road network is assessed as suitable for 20mph. At present 38% of the road network identified for 20mph in Dundee is now within a 20mph zone and this will increase to	Detailed proposals for 20mph zones are subject to statutory consultation, public notice and advertisement as part of the Traffic Regulation Order process which can be lengthy.



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
	20mph zones and off road / segregated active travel networks								increase emissions, but smoothing of traffic flow will be beneficial, as well as encouraging active travel	approximately 50% when the 2025 / 2026 areas are implemented.	The Council also supports 20mph speed limits within new residential developments and through the planning process requires new residential road networks to be designed to limit traffic speeds. The remaining roads will be assessed and future 20mph zones will be brought forward subject to resources.
27	Undertake an audit of the existing air quality monitoring network and ensure we have adequate air quality monitoring around appropriate DCC schools (i.e. where potential interventions are likely etc), installing further monitoring if necessary.	Public Information: Other	2026	Planned	Dundee City Council	Within existing Council budgets	Initial audit within current staff costs	<£10k for audit, costs unknown for additional monitoring	Monitoring itself will not reduce emissions, but interventions will have localised benefits	The location of AQ monitors are reviewed on annual basis which is reported on in the Annual Progress Report on Air Quality.	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.  This action fulfils one of the additional recommendations from the ESS report.

# Appendix A: Response to Consultation

## Air Quality Action Plan Consultation – Summary Report

### **Statutory and Organisational responses**

Eight responses were received via email or via the online questionnaire from the statutory stakeholders. One further response on behalf of an organisation in Dundee was received through the online questionnaire.

Those that responded included:

- Scottish Government
- Scottish Environmental Protection Agency
- Sustrans Scotland
- Historic Environment Scotland
- Angus Council
- Fife Council
- Perth & Kinross Council
- Tayside and Central Scotland Transport Partnership (Tactran)
- Dundee Rep and Scottish Dance Theatre Limited

Responses from the Statutory Consultees were generally supportive of the AQAP with amendments to the draft AQAP being made where considered necessary based feedback obtained.

### **Public Consultation**

The public consultation on the draft AQAP ran for approximately 6-weeks, from 19<sup>th</sup> June 2024 to 2<sup>nd</sup> August 2024. A total of 14 completed online questionnaire responses were received during this period. Most were complimentary of the draft AQAP, however a small number of submissions were considered negative towards the need for an AQAP.

The online questionnaire consisted of two parts:

- Part 1 covering details of the person completing the questionnaire and if responding as an individual or on behalf of an organisation;
- Part 2 being set around five (5) main questions on air quality in Dundee and the content of the AQAP. Respondents were given the option to provide comments after each question, with an opportunity to provide any further comments on the draft AQAP also available at the end of the questionnaire.

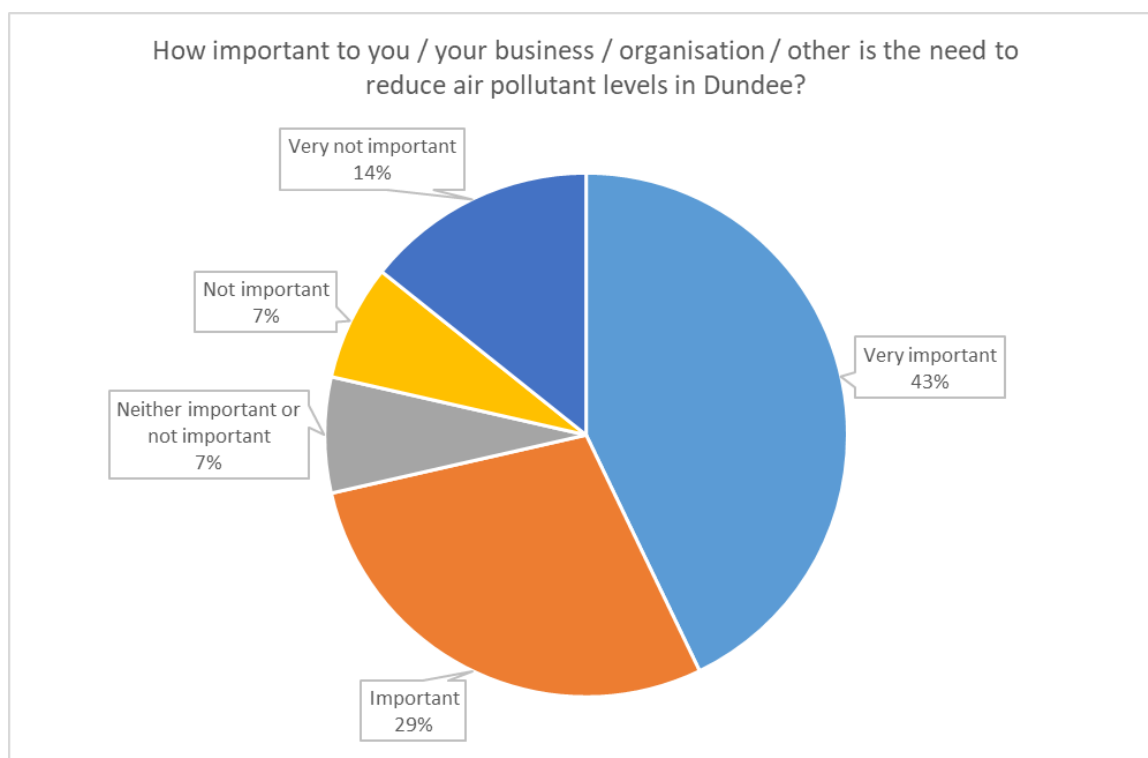
### **Part 1**

Fourteen (14) respondents indicated that they were responding as individuals. Of these, 13 were from within postcodes DD2 to DD5, whilst one was from DD6. No individuals were outside of the DD postcode area. The organisation who was not a statutory consultee was one located within DD1.

### **Part 2**

This part included questions on the respondents view on air quality in Dundee, the information on Dundee's air quality contained in the draft AQAP, the proposed main priorities for the 2024 – 2029 AQAP, the proposed actions, and if they considered if there were other actions that the council has remit over to deliver that could have been included in the AQAP. A final question was a free text box for allowing respondents to provide any further comments on the draft AQAP that they wished to give.





**Figure 8 “How important to you / your business / organisation / other is the need to reduce air pollutant levels in Dundee?”**

Comments from the 72% of respondents who responded that the need to reduce air pollutant levels is ‘Important’ or ‘Very Important’ included:

*“Poor air quality containing toxic particulates are dangerous to health, particularly in children’s development.”*

*“Albert Street in Stobswell is frequently used by coaches and lorries. These vehicles idle owing to the traffic and lights, which emits a lot of fumes. There are also a lot of “boy racers” using Arbroath Road that make it unsafe and contribute to pollution.”*

*“The pollution from intercity buses and HGV’s travelling up and down Albert Street and Forfar Road could be stopped if drivers were encouraged to travel on the routes they should take and not through a residential area including right past a High School.”*

*“Clean air will make the city a more attractive place to live and visit. I don’t personally have any underlying respiratory issues, but friends who do will benefit directly from cleaner air.”*

*“It is very important as it has a direct impact on the health of Dundee residents.”*

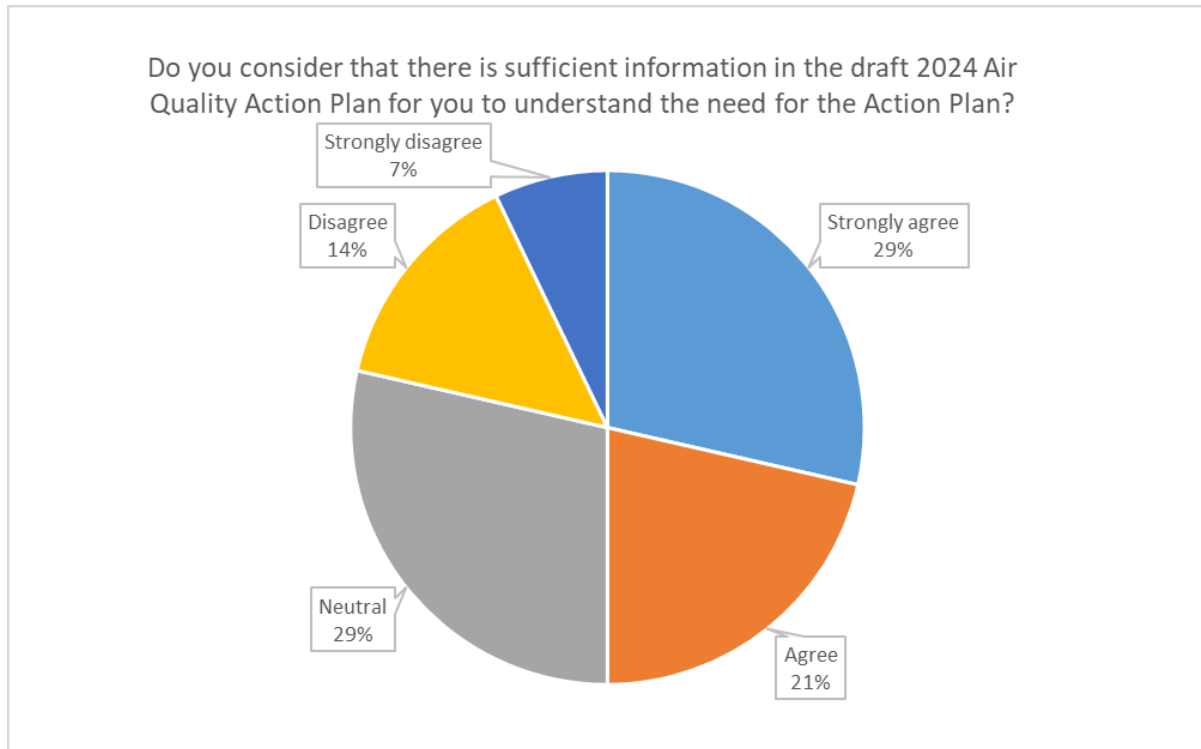
Comments from the 21% who responded with 'Not important', or 'Very not important' included:

*"I don't think the air quality is important as the areas around the city centre are going to be affected by increasing the LEZ area as the air quality was already improved by buses going electric."*

*"The air is clean, the goals have been achieved."*

This question was asked to help gauge the perceived need for reducing air pollutant levels across Dundee. Some respondents used this question though to highlight their concerns on activities that may be contributing to poor air quality, such as the Albert Street / Forfar Road / Arbroath Road use by HGVs and intercity buses.

While concerns have been raised as to the impact on air pollutants from these vehicles on Albert Street, ongoing monitoring of air pollutant levels in this area has not shown exceedances of the air quality objectives. Pollutant levels will continue to be monitored here though. The measures in the AQAP are not intended to be location specific, with wider, more strategic measures preferred to support a general reduction in emissions proposed rather than focussing on any hotspot locations.



**Figure 9 “Do you consider that there is sufficient information in the draft 2024 AQAP for you to understand the need for the Action Plan?”**

Comments from the 50% of respondents who responded ‘Agree’ or ‘Strongly agree’ included:

*“Clearly signposted by the Council”*

*“My only concern would be that there appears to be no up to date data from 2023. e.g. remote sensing data was from April/May 2021 , before everyone had returned to work/office in person . Also, not clear how much of reduction in air quality was due to COVID.”*

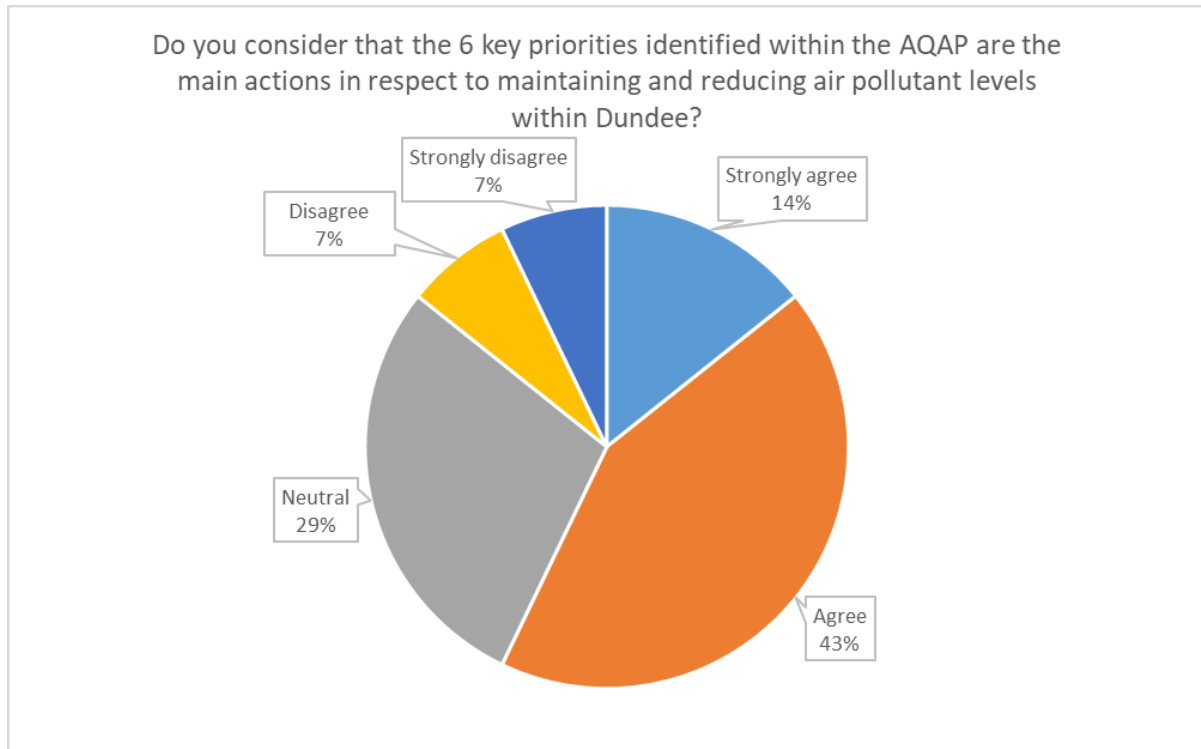
The 21% who were either ‘Disagree’ or ‘Strongly Disagree’ included as comments:

*“I think motorists are being singled out, especially diesels drivers”*

*“What we don’t get to know is who sets the standards, who’s paying for it all?”*

In response to comments received regarding the use of ‘old data’, it is understood that traffic levels decreased during 2020 – 2021 however in many areas, pre-pandemic levels are again present. Future traffic and air quality modelling is due to be undertaken as a part of monitoring of the LEZ, and this is included as an action within the AQAP.

In respect to 'who sets the standards', and 'who is paying for it all?', details of the proposed sources of funding measures are included in Table 2 – Air Quality Action Plan Measures, under the column 'funding source'.



**Figure 10 “Do you consider that the 6 key priorities identified within the AQAP are the main actions in respect to maintaining and reducing air pollutant levels within Dundee?”**

Comments from the 57% who responded with either 'Strongly Agree' or 'Agree' included:

*“The Plan relies a lot on a modal shift from private car use to active travel and bus use based on positive incentives. This modal shift has been a local and Scottish government ambition for over 10 years, but cycle rates in Dundee have hardly changed, bus use is declining and car ownership has increased.”*

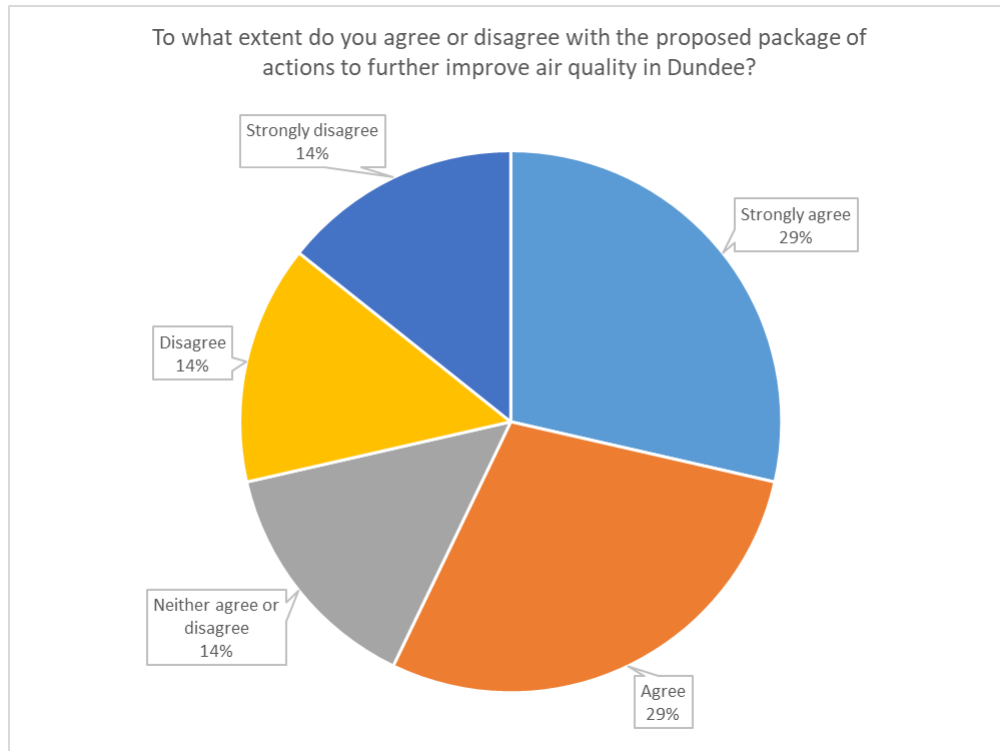
*“I appreciate the focus on the city centre, but other areas require attention. Lochee is mentioned, why not Stobswell.”*

The only comment from the 14% who answered this question as 'Strongly Disagree' or 'Disagree' included:

*“It’s pointless”*

While Stobswell is not directly referenced in the Action Plan or the six key priorities, there are many actions that would bring air quality benefits to this area. As previously

mentioned, the measures in the AQAP are not intended to be location specific, with wider, more strategic measures to support a general reduction in emissions proposed rather than focussing on any hotspot locations.



**Figure 11 “To what extent do you agree or disagree with the proposed package of actions to further improve air quality in Dundee?”**

Comments from the 58% who provided a ‘Strongly agree’ or ‘Agree’ response included:

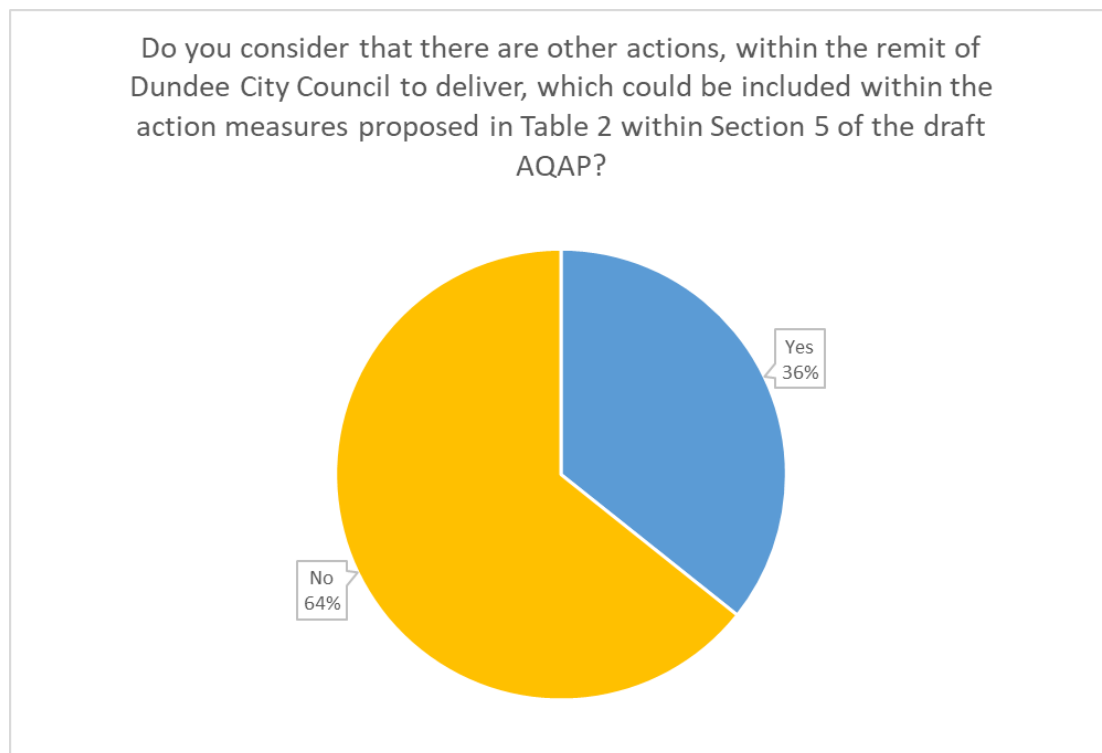
*“Many of the actions will have wider benefits beyond simply improving air quality, for example any measures to reduce motor traffic, particularly around schools, improve safety, and the health benefits of increasing active travel are well known”*

*“common sense and necessary. Action 24, relating to the Communications Strategy is vitally important as still too many residents unaware of the health implications and why measures are necessary”*

Comments from the 28% who provided a ‘Disagree’ or ‘Strongly disagree’ response included:

*“Not needed” and “The air is clean”.*

While some respondents believe that there is no need for such a plan due to already meeting objective levels, the 2021 WHO Global Air Quality Guidelines recommends limit values which are significantly lower than the current objective levels to help countries achieve air quality that protects public health. DCC shares the ambition of the Scottish Government to achieve the best air quality possible however we are not proposing that the very ambitious 2021 WHO levels will be achieved in the timescale of this plan.



**Figure 12 “Do you consider that there are other actions, within the remit of Dundee City Council to deliver, which could be included within the action measures proposed in Table 2 within Section 5 of the draft AQAP?”**

Those answering ‘Yes’ to this question were able to provide suggestions on other measures. Of those who responded, the following were suggested:

*“Why hasn’t Dundee got a Park and Ride, to prevent more cars coming into city centre ? The ‘ride’ section could also include access to bikes.”*

*“The plan could also highlight where changes to council procedures could provide incentives to reduce car use and ownership. This includes a switch from seasonal subsidised free car parking (e.g. near Christmas and Summer 2024) to cheaper bus*

*travel. Free parking on Sunday mornings and around shopping areas could also be stopped.”*

The provision of a Park & Ride serving Dundee has been considered in previous years with DCC supporting a bid from Fife Council to secure Levelling Up funding for a new Park & Ride on the south side of the Tay Road Bridge. Local ‘Park & Choose’ sites are mentioned with the latest TACTRAN Regional Transport Plan for which DCC will continue to explore with TACTRAN and our neighbouring local authorities. DCC’s Sustainable Transport Action Plan also has many references to ‘Park and Choose’ facilities within that Plan and therefore there is no need to include a specific measure on this within this AQAP.

A final option to leave comments or raise issues in respect to the draft 2024 Air Quality Action Plan was available at the end of the questionnaire. Comments provided included:

*“Fully supportive of the LEZ”*

*“Very perceptive about the aesthetics of wood burning stoves being a culture change needed!”*

*“Although the LEZ in Dundee is a big change for people, as a driver, a public transport user and a pedestrian I support it.”*

### **Statutory Consultees Consultation**

Responses from the statutory consultees utilising the online questionnaire feedback included:

#### **How important to you / your business / organization / other is the need to reduce air pollutant levels in Dundee?**

*“The action plan is right to make the links between air pollution and health and there could be more detailed reference to an increase in cancer, strokes and respiratory conditions.”*

*“.. considers reducing air pollution a priority and welcomes the actions Dundee City Council will take to reduce air pollution and raise awareness of its health impacts over the next five years..”*

A link to where further information on the health impacts of outdoor air pollutants on the Public Health Scotland has been added to the AQAP in response to feedback.

#### **Do you consider that there is sufficient information in the draft 2024 Air Quality Action Plan for you to understand the need for the Action Plan?**

*“The information provided is sufficient to understand the need for an action plan.”*

*“...notes that the levels for the relevant pollutants - NOx and particulate matter (PM10 and PM2.5) - are not set into context, i.e. whether the levels of pollutants in Dundee are, for example, exceeding the recommendations of the World Health Organisation. Providing this information would help to better understand the urgency of addressing the problem when working with (strategic) partners.”*

In response to the comment relating to the WHO recommendations, the final AQAP has been amended to include reference to the ambitious levels contained within the 2021 WHO document.

#### **Do you consider that the 6 key priorities identified within the AQAP are the main actions in respect to maintaining and reducing air pollutant levels within Dundee?**

*“The six key priorities neatly encapsulate the main actions in respect to maintaining and reducing air pollutant levels within Dundee.”*



*“We think that priority 3 is vital and are pleased to see this become a key feature in the new plans across Scotland. It will help us to reduce emissions in transport – the sector with the largest emissions as well as making walking, wheeling and cycling safer, more pleasant and healthier. In this priority there is a reference ‘to increase the proportions of low and zero emission vehicles where modal shift is not feasible’. While electric vehicles are important for decarbonisation of transport it is important to point out that these are not currently affordable to many residents of Dundee so the increase of these vehicles should be of lower priority in line with sustainable transport hierarchy.”*

*“... agrees in principle with the six priorities identified within the AQAP. The Partnership would suggest that the AQAP would benefit from raising awareness of the air pollution and respective health issues.”*

An action within the AQAP is to carry out a review of monitoring locations in respect to schools. An updated modelling exercise is proposed to be carried out post LEZ by SEPA which will also assist this task.

**To what extent do you agree or disagree with the proposed package of actions to further improve air quality in Dundee?**

*“The package of actions is both comprehensive and pragmatic in terms of improving air quality in Dundee.”*

*“We are pleased to see a wide range of measures and key milestones and costs factored in and the action to ‘implement key actions within the Sustainable Transport Delivery Plan and support Active Travel initiatives, improving cycle infrastructure across the city and the perception of cycling as a safe and positive mode of transport’. We also commend the draft action plan on acknowledging that the Low Emissions Zone is just one action needed to reduce air pollution that will need to come with significant modal shift to public transport and active travel.”*

*“The important role that the historic environment will play in Delivering the Transition to Net Zero is reflected as a priority in Scotland's historic environment strategy Our Past, Our Future. It is recognised that reducing carbon emissions from historic environment assets will be a key outcome from this priority. It is therefore welcomed*

*that continued focus on non-domestic energy efficiency retrofit and heat decarbonisation of DCC buildings is set out as a measure of action plan..”*

*“... supports Dundee City Council’s in focussing on areas where air quality is worst, while maintaining a focus on reducing emissions across Dundee. Actions should focus on areas where vulnerable members of the community are most at risk, and where planned developments risk introducing further exposure to poor air quality..”*

In addition to the above, one organisation provided comment on a selection of proposed measures in the AQAP. These included suggestions on ensuring that measures relating to active travel do not solely focus on cycling and should contain measures that support walking (and wheeling).

**Do you consider that there are other actions, within the remit of Dundee City Council to deliver, which could be included within the action measures proposed in Table 2 within Section 5 of the draft AQAP?**

*“Action 27 refers to the potential future need for adhering to WHO guidelines on air quality around schools. We recommend looking at this to see if any interim action could be taken sooner.”*

*“With regards to the reduction of particulate matter, Dundee City Council acknowledges that the AQAP needs to focus on a reduction in the number of cars and car kilometres. The measures identified within the plan, however, exclude the introduction of potential demand management measures..”*

Action to help improve air quality around schools in Dundee can take on many forms, ranging from educating parents on the effects of vehicle idling to the creation of ‘school streets’ where access by vehicles is restricted at certain times of the day. These are already in place, while the action to progress with looking at the monitoring network in respect to such receptors is one that is proposed to be undertaken early in the lifespan of the AQAP.

**If there are any further comments or issues that you would like to add in respect to the draft 2024 Air Quality Action Plan please do so here.**

*“.. would like to offer our input to the steering group. Especially as Dundee City Council’s direct control over air pollution is limited in some critical areas, beyond the council boundaries.”*

**Dundee City Council**

*“Is the council working with organisations to prevent pollutants going into the air, from factories etc.”*

Membership of the CAQSG is intended to be expanded to include external bodies, such as TACTRAN. In respect to working directly with factories, in most cases those that would be releasing pollutants to the atmosphere would fall under the Pollution Prevention and Control (PPC) licensing regime overseen by SEPA. A part of the local authority’s Annual Progress Reports on AQ includes liaising with SEPA in respect to PPC sites in the local authority area. In addition, SEPA would liaise with the local authority should any new licence, or substantial change to an existing PPC licence be submitted.

Feedback from those who responded directly via email included:

*“...Environmental Health Team widely support the latest draft of Dundee City Council’s Air Quality Action Plan, particularly the continued support of public transport, green and active travel measures which will have knock on benefits for the air quality in parts .....*”

*“.... agree with the proposed draft 2024 Air Quality Action Plan for Dundee City Council. The assessment of current air quality issues and source apportionment were found to be well presented and evidenced...”*,

*“The Plan is well written and sets out the Council’s priorities clearly. We support the precautionary approach to reducing air pollution to levels below the current objectives in line with Cleaner Air for Scotland 2.”*

## Appendix B: Reasons for Not Pursuing Action Plan Measures

**Table 3 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	Industrial Permitting process	DCC has ongoing liaison with SEPA who permit industrial processes, but not a sufficient enough source to require a specific action in this AQAP.
Freight and Delivery Management	Freight consolidation	Not considered suitable specific measure for the AQMA. Freight consolidation centres remain an option in the new Regional Transport Strategy (Action 20 refers) with Action Plan Measure 19 of this AQAP being to ' <i>Work regionally as part of TACTRAN to provide integrated solutions for regional transport issues.</i> '

## Glossary of Terms

Abbreviation	Description
ANPR	Automatic Number Plate Recognition
APR	Annual Progress Report
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
AQO	Air Quality Objective
AQS	Air Quality Strategy
CAFS2	Cleaner Air for Scotland 2
CEB	Climate, Environment, and Biodiversity Committee
CVRA	Climate and Vulnerability Risk Assessment
DCC	Dundee City Council
Defra	Department for the environment, food and rural affairs
DVLA	Driver and Vehicle Licensing Agency
EES:ABS	Energy Efficiency Scotland: Area Based Schemes
EFT v10.1	Emissions Factor Toolkit version10.1
ESS	Environmental Standards Scotland
EU	European Union
HGV	Heavy Goods Vehicle

LAQM	Local Air Quality Management
LAQM PG(S)(23)	Local Air Quality Management Policy Guidance (Scotland) (2023)
LDP	Local Development Plan
LEZ	Low Emission Zone
LGV	Light Goods Vehicle
NLEF	National Low Emission Framework
NO <sub>2</sub>	Nitrogen Dioxide
NO <sub>x</sub>	Nitrogen Oxides
NZTP	Net Zero Transition Plan
PM <sub>10</sub>	Airborne particulate matter with an aerodynamic diameter of 10µm (micrometres or microns) or less
PM <sub>2.5</sub>	Airborne particulate matter with an aerodynamic diameter of 2.5µm or less
SCA	Smoke Control Area
SEPA	Scottish Environment Protection Agency
SMMT	The Society of Motor Manufacturers and Traders
TACTRAN	Tayside and Central Scotland Transport Partnership
UTMC	Urban Traffic Management and Control