Cabinet

Supplementary Information

Date: Tuesday, 23 January 2024

Time: 4.00 pm

Venue: The Council Chamber - City Hall, College Green, Bristol, BS1 5TR

Issued by: Amy Rodwell, Democratic Services
City Hall, Bristol, BS1 9NE
E-mail: democratic.services@bristol.gov.uk
Date: Wednesday, 17 January 2024

Decision Pathway – Report

PURPOSE: For noting

MEETING: Cabinet

DATE: 23 January 2024

TITLE	**CAZ Evaluation Report**
Ward(s)	**All wards - Citywide**
Author: Adam Crowther	**Job title:** Head of City Transport
Cabinet lead: Mayor	**Executive Director lead:** John Smith, Interim Executive Director Growth and Regeneration
Proposal origin: Other	
Decision maker: Mayor **Decision forum:** Cabinet	
Purpose of Report: To provide an update on the first year of operation of the Clean Air Zone in Bristol.	
Evidence Base: 1. Bristol City Council introduced a Clean Air Zone on 28 November 2022 following a legal direction to do so from Government. The zone covers the centre of the city including Temple Way, Bond St, Hotwells Rd, Cumberland Basin, Coronation Rd, York Rd and Temple Gate. The zone is a Class D zone meaning that all non-compliant vehicles must pay a fee on entering the zone. The council also agreed a package of support measures with the government to support the roll out of the CAZ and mitigate its impacts. 2. Appendix A of this report, the "CAZ evaluation Report" sets out the performance of the zone over its first year and updates on impacts in relation to the following areas: - Air quality – note formal JAQU assessment of Air Quality in relation to official compliance will be received later in 2024 - Traffic flow changes - Impact on footfall around shopping areas - Bus Patronage and active travel - Compliance, fees paid, PCNs issued - Engagement - Financial and other forms of support 3. The formal analysis on whether the CAZ has been successful will be provided by the Government's Joint Air Quality Unit later in 2024 and a further report updating on the outcomes of the assessment will be provided then. The evaluation report contains the most up to date assessment of air quality available. Net income and expected expenditure is covered by a separate report.	
Cabinet Member / Officer Recommendations:	

That Cabinet:

1. Note the contents of the Evaluation Report contained in Appendix A.

Corporate Strategy alignment:

1. Children and Young People: improvements to the convenience, reliability and safety of public transport and active travel to improve connectivity for employment and learning and support physical and mental wellbeing for children and young people.
2. Economy and Skills: better public transport and active travel infrastructure can connect people to opportunities created by the investment in and regeneration of the city and help to remove barriers to employment.
3. Environment and Sustainability: improved air quality through supporting the use of alternatives to the private car and help reduce the carbon emissions from transport.
4. Health, Care and Wellbeing: better connections and improved infrastructure for walking and cycling can support the physical and mental wellbeing of citizens.
5. Homes and Communities: the development of new homes within higher density and mixed-use development can be better.
6. Transport and Connectivity: investment in a more reliable, convenient and safer network of public transport and infrastructure for walking and cycling.
7. Effective Development Organisation: making best use of limited resources to maintain and increase investment in public transport and active travel

City Benefits:

1. Provide greater bus service frequency, reliability, and punctuality through funding service and bus priority infrastructure.
2. Improving the accessibility of public transport to enable connectivity to jobs, education, and other opportunities across the city for all citizens.
3. Promoting the use of more sustainable travel as preferential modes. Subsequently delivering better air quality by reducing the reliance on private vehicles, and improving the health and wellbeing of the population, and especially for those living with a pre-existing health condition.
4. The delivery of walking and cycling infrastructure improvements will help to contribute to the uptake in active travel methods which offers social value benefits, including health and wellbeing.
5. Highway improvements that will contribute to the reduction in community segregation through the improvement of public transport services.
6. Improvements to the urban environment including enhancing the public realm, creating more green space and planting trees where possible.
7. Better public transport interchange points, ensuring that the bus stop waiting environment is of high quality and where possible improving the trip chain to the bus stop. Making improvements at bus stops and to the trip chain can have indirect benefits including bus patronage growth, improved perception of safety, active travel uptake for the first and last mile of one's journey.
8. Upgrading and maintaining council assets where possible such as the surface of the carriageway, bus stops, and signals to support ongoing use for sustainable travel modes.

Consultation Details:

The Clean Air Zone was consulted on extensively before implementation. No further consultation is planned in relation to the scheme however there will be ongoing engagement with residents and businesses regarding access to funds for vehicle upgrades and provision of sustainable transport options to further improve air quality within the city

Background Documents:

All existing documentation relating the Clean Air Zone business case can be found at:

www.cleanairforbristol.org

Further information is available at the Council's website:

Bristol's Clean Air Zone

Revenue Cost	£NA	**Source of Revenue Funding**	NA
Capital Cost	£NA	**Source of Capital Funding**	NA
One off cost ☐ **Ongoing cost** ☐		**Saving Proposal** ☐ **Income generation proposal** ☐	

Required information to be completed by Financial/Legal/ICT/ HR partners:
1. Finance Advice: This report summarises the operation and impact of the Clean Air Zone (CAZ) since it was launched in November 2022. The financial implications of CAZ in terms of the income derived, and forecast, and how the funding has been, and will be, used is captured in the separate Cabinet Report where detailed finance comments can be found.
Finance Business Partner: Ben Hegarty, Finance Business Partner Growth and Regeneration, 9 January 2024.
2. Legal Advice: There are no specific legal implications arising from the subject matter of this report.
Legal Team Leader: Joanne Mansfield Team Manager Legal Services, 11 January 2024
3. Implications on IT: I can see no implications on IT in regard to this activity.
IT Team Leader: Alex Simpson – Lead Enterprise Architect, 13 January 2024
4. HR Advice: There are no HR implications evident
HR Partner: Celia Williams, HR Business Partner, 11 January 2024

EDM Sign-off	John Smith, Interim Executive Director Growth and Regeneration	10 January 2024
Cabinet Member sign-off	Mayor's Office	20 December 2023
For Key Decisions - Mayor's Office sign-off	Mayor's Office	20 December 2023

Appendix A – Further essential background / detail on the proposal CAZ Evaluation Report	**YES**
Appendix B – Details of consultation carried out - internal and external	**NO**
Appendix C – Summary of any engagement with scrutiny	**NO**
Appendix D – Risk assessment	**NO**
Appendix E – Equalities screening / impact assessment of proposal	**NO**
Appendix F – Eco-impact screening/ impact assessment of proposal	**NO**
Appendix G – Financial Advice	**NO**
Appendix H – Legal Advice	**NO**

Appendix I – Exempt Information	**NO**
Appendix J – HR advice	**NO**
Appendix K – ICT	**NO**
Appendix L – Procurement	**NO**

January 2024

Bristol's Clean Air Zone

An overview of the first year of Bristol's Clean Air Zone

Clean Air for Bristol

BRISTOL CITY COUNCIL

Contents

Foreword from the Mayor of Bristol

The air that we all breathe is cleaner now than it was in November 2022. Nitrogen dioxide pollution is down by ten percent across Bristol, and is almost 13 percent lower inside the Clean Air Zone (CAZ). Outside the Bristol Royal Infirmary and Children's Hospital, nitrogen dioxide is down by around 20 percent. And almost nine in ten journeys through the CAZ are now in compliant vehicles, up from a year ago.

The Clean Air Zone remains a blunt instrument from national government, who take £2 from every £9 Daily CAZ Charge paid by motorists, but, thanks to the support package that we negotiated from Westminster, the zone is working. Millions of pounds of support has been paid out to Bristol residents and businesses to help them upgrade to cleaner vehicles.

During the same period, my administration has proudly opened our city's first new train station in almost a century, with another one on track to open this summer. We have driven forward ambitious plans for the future of transport in Bristol through a transformational mass transit system. We have continued to invest in active travel, completing pedestrianisation schemes inside and outside of the Clean Air Zone. After securing millions of pounds over previous years to retrofit buses in Bristol, these cleaner vehicles have seen passenger numbers rise despite challenges. And despite fears that air pollution might be displaced across the CAZ boundary, it has fallen across our city.

In the face of a national cost of living crisis, where everyone continues to feel the squeeze, commercial property vacancy rates in town have fallen and footfall in Bristol city centre has stayed steady – even increasing by 16 percent at St Nick's Market! This is testament to the dynamism and increasing diversity of our city centre's offer, which will be seen again in just a few weeks when hundreds of thousands of people visit the Bristol Light Festival.

Some people called for the Clean Air Zone to start before we had secured a penny of support to help people to change their vehicles. We were right to keep working for Bristol, including to secure exemptions for over 350,000 journeys in the first four months of the scheme's operation to help smooth the transition.

And, while some people have called for a charging Clean Air Zone to cover the whole city, like the majority of fellow Bristolians, I remain convinced that is a road best not taken. The CAZ was never about making money for the council: it was about clean air. If our progress cleaning up our air continues, then, in the not-too-distant future, the CAZ should come to an end.

Marvin Rees
Mayor of Bristol

Foreword from the Director of Public Health

Air pollution has negative impacts on the health of everyone in Bristol. Evidence suggests that it can cause permanent lung damage in babies and young children and exacerbate lung and heart disease in older people.

Air pollution has negative effects on health throughout the throughout the course of our lives. Some individuals, such as those with pre-existing respiratory or cardiovascular disease, are particularly susceptible, but the effects of air pollution can be seen across the population. Many people suffer avoidable chronic ill health because of it. Improvements in air quality have been associated with improved health outcomes – for example, reductions in air pollution in London have led to reduced childhood asthma hospital admissions.

Further reductions in air pollution will lead to significant reductions in coronary heart disease, stroke and lung cancer, among others.

I am delighted to see that the Clean Air Zone is already making a huge difference to Bristol's air quality: Air pollution has decreased by 9.7 percent on average across the whole city, with a 12.8 percent decrease within the zone and a 7.8 percent decrease outside of the zone. Which will have a positive impact on residents' health now and in the future.

Christina Gray
Director for Communities and Public Health, Bristol City Council

Introduction

Why do we need a Clean Air Zone?

A major source of air pollution in Bristol is road traffic, particularly diesel engines. Air pollution affects everyone in Bristol, especially children, older people, and those with heart, breathing, or underlying health conditions. Toxic air pollution was estimated to contribute to 300 deaths a year in Bristol before the CAZ was introduced. Reducing air pollution will have significant benefits across the city in relation to public health.

Bristol City Council has a legal and moral duty to reduce pollution in the shortest possible time. The government directed Bristol and other cities, after it was taken to court by Client Earth, to do this through a Clean Air Zone. In 2017, Bristol and other cities were directed to improve air quality by the government's Joint Air Quality Unit (JAQU). There are legal limits set to limit the amount of pollution that is deemed acceptable. The main measure used is nitrogen dioxide concentrates (NO_2) with a legal limit value of 40 micrograms per cubic metre ($ugm^{/3}$). The council was required to take action to resolve existing air quality issues and bring NO_2 levels within legal limits across the city by implementing a Clean Air Zone.

How was a class D charging Clean Air Zone decided on?

The council assessed a variety of options following the initial direction from national government and carried out extensive modelling and testing. These options were discussed with JAQU and further developed to determine the most effective, fastest, and reasonable way to bring air quality levels within the legal limits. **There are four different types of clean air zones**. Having considered the four types and discussed with the JAQU, it was determined that a small CAZ D would be required to deliver air quality improvements within the timeframe required by the national government. Bristol City Council was subsequently instructed by national government to implement the small CAZ D scheme to achieve legal compliance with air pollution limit values in the shortest time possible. Once a local authority has demonstrated it is likely to maintain success (in the State 2 Assessment by JAQU) a clean air zone can be removed.

How the CAZ works

The Bristol Clean Air Zone was introduced on 28 November 2022.

Driving non-compliant vehicles (vehicles that are above the minimum emissions standards which includes; buses, coaches, heavy goods vehicles above Euro VI, vans, minibuses, taxis, private hire vehicles, cars above Euro 6 (diesel) and Euro 4 (petrol), and motorcycles above Euro 3), in the Clean Air Zone results in a charge for the driver of £9 (or £100 for heavy goods vehicles). Drivers can use the national **Drive in a Clean Air Zone service** to check if their vehicle is compliant or not, and to pay any CAZ Charges. All local authorities receive income generated from Clean Air Zones. Council cameras record the details of vehicles that enter the CAZ and cross reference this vehicle data with DVLA records and the Drive in a Clean Air Zone Service, to establish which vehicles are compliant or nationally exempt and which vehicles must pay the relevant CAZ charge. Penalty Charge Notices (PCNs) for non-payment of the CAZ charge are issued and managed by the council. From each £9 daily charge, the Department for Transport takes a £2 fee. **Details of the council's income generation and spend can be found in appendix 3**.

Grant funding is available to help residents and businesses upgrade to CAZ-compliant vehicles, prioritised based on set criteria. The council secured £26m grant funding to support residents upgrade their vehicles and use more sustainable travel options instead.

Improvements in air quality

Legal compliance and success

A formal 'State Assessment' process is in place to determine when legal compliance has been achieved by each local authority. This process is being managed by the Government's Department for Environment, Food and Rural Affairs (Defra) and the Department for Transport's (DfT) Joint Air Quality Unit (JAQU). A report to determine whether the CAZ was successful in achieving legal compliance in 2023 is expected from JAQU by June 2024. **The full details of the JAQU State 1 Assessment can be found in appendix 4**.

To be successful, the CAZ needs to result in an annual average NO_2 concentration for a calendar year (January to December) below the 40µg/m³ limit at all relevant locations. The data provided in the JAQU State 1 Assessment report does not represent a full year of data. Work will be carried out by JAQU as part of their State 2 Assessment and will measure the full 2023 calendar year. It is however a useful indication of progress.

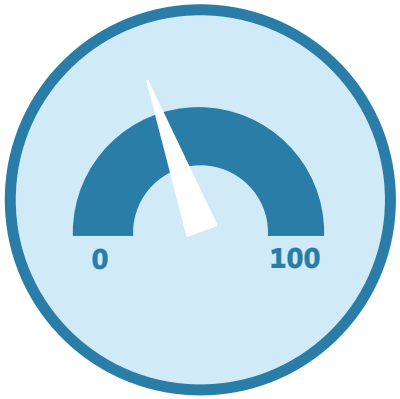
How we collect and measure air quality data

The Bristol City Council and Defra monitoring network during 2023 consisted of:

- Eight real time NO_2 monitors, seven of which are council operated, the eighth site at St Paul's is part of the national Automatic Urban and Rural Network operated by Defra.
- Four real time particulate monitors (2 x $PM_{2.5}$ and 2 x PM_{10}).
- One real time Defra operated Ozone (O_3) monitor.
- 196 NO_2 diffusion tubes which provide a monthly and annual concentration for this pollutant.

Monitoring locations and air pollution data can be viewed on the council's **Air Quality Dashboard.**

The council has always regularly monitored air quality



Reductions in nitrogen dioxide concentrations

Data is available from the period December 2021 to November 2022, before the CAZ was brought in, for 169 sites where diffusion tubes were used to measure the concentrations of NO_2. Concentrations of nitrogen dioxide are reported in micrograms per cubic metre (µg/m³).

Across these sites, which cover the whole city not just the CAZ, average NO_2 concentrations fell by 9.7%, which is a reduction in annual NO_2 concentrations of 3.2µg/m³. The measured reductions in NO_2 concentrations were greater at sites within the CAZ, which had an average reduction of 12.8% (4.3µg/m³) in the first year of the CAZ operating. This compares to an average reduction of 7.8% (2.6µg/m³) at sites monitored that are located outside of the CAZ. The legal limit of NO_2 concentrations is 40 µg/m³. Sites measured as being 40 µg/m³ and below meet the legal limit that the CAZ has been designed to achieve in the shortest time possible.

Table: Reductions in annual NO_2 concentrations

Diffusion Tube Monitoring Locations[1]	Average Change in annual NO_2 Concentrations ($\mu g/m^3$)	Average Change in annual NO_2 Concentrations (%)
Sites with >75% Data Collection Rates* - All	-3.2	-9.7%
Sites with >75% Data Collection Rates - Inside CAZ	-4.4	-12.6%
Sites with >75% Data Collection Rates - Outside CAZ	-2.5	-7.8%

*Some diffusion tubes, the tubes which collect the data required to determine the NO_2 levels, will not have 100% Data Collection Rates. The tubes can go missing or data be invalid for a variety of reasons. For example, the tubes could be temporarily removed by residents in error or debris could enter the tubes. Sites that have >75% Data Collection Rates have enough data to give local authorities an accurate indication of the NO_2 levels at that site.

Examples of sites with the greatest reduction in NO_2 are:

- Bedminster Down Road (down 26.9%)
- Hotwell Road (down 26.5%)
- Park Row (down 27.5%)
- Upper Maudlin Street by Bristol Royal Infirmary (down 26.9%)
- Merchants Road (down 23.8%)

Before the CAZ was introduced, there were 18 sites with NO_2 concentrations greater than $40\mu g/m^3$. This fell to just six sites in the 12-month period following the introduction of the CAZ. The six sites that remain above the limit value are shown in the following Table. All sites, apart from Site 638, showed significant reductions in annual NO_2 concentrations after the introduction of the CAZ. Further investigation into site 638 is planned.

Table: Sites with annual average NO_2 concentrations > $40\mu g/m^3$

Site ID	Site Name	X	Y	In CAZ?	Annual NO_2 Nov22-Dec23 ($\mu g/m^3$)	Change in Annual NO_2 ($\mu g/m^3$)
502	Co-located Colston Ave	358640	173090	Yes	48.9	-6.0%
638	A4044 Roundabout-CAZ-Lamppost	359498	173144	Yes	44.9	2.8%
239	Parson St. A38 East	357880	170506	No	42.1	-7.0%
667	College Green-CAZ-Post	358531	172803	Yes	41.5	-4.2%
626	Bedminster Rd-CAZ-Post	357667	170466	No	40.5	-2.7%
604	Lewins Mead-CAZ-Post	358817	173342	Yes	40.0	-2.9%

On average, significant reductions in annual NO_2 concentrations have been measured across Bristol since the introduction of the CAZ. There were 17 locations where increases in NO_2 concentrations were measured, with four inside the CAZ and 13 outside. All but one of these locations, site 638 (referred to above), remained below the $40\mu g/m^3$ limit value. There are a variety of reasons as to why some sites have had an increase and further detail is provided in Appendix 3 – Annual average NO_2 concentrations for all diffusion tube sites.

Analysis of the annual average NO_2 concentrations has been conducted to provide an overview of the positive changes in air pollution since the introduction of the CAZ. The analysis demonstrates that, on average, across the city, NO_2 pollution levels fell by 9.7% (3.2µg/m³). The average measured reduction has been greater at locations monitored within the CAZ. Inside the CAZ, an average 12.8% (4.4µg/m³) reduction was measured. Locations monitored outside of the CAZ also had significant reductions of NO_2 concentrations, measuring a 7.8% (2.5µg/m³) reduction.

This analysis of the indicative annual average NO_2 data shows a small number of sites remaining above the limit value and we await the results of the JAQU State 2 assessment of the full calendar year of data to determine whether compliance has been achieved in Bristol.

Retail footfall rates

Using different methodologies, both Bristol City Council and the three central Business Improvement Districts (City Centre; Broadmead; Redcliffe & Temple) track footfall in various areas of the city centre. As with other measures being considered here, retail footfall is impacted by many different factors. While the CAZ will be a factor in any change to footfall, the continuing national cost of living crisis and changes in shopping habits more generally will likely have had a far larger impact.

Broadmead

- January 2022 to December 2022: 12.75m
- January 2023 to December 2023: 12.54m

The Galleries

- January 2022 to November 2022: 5.28m
- January 2023 to November 2023: 5.31m

Park Street

- January 2022 to November 2022: 2.43m
- January 2023 to November 2023: 2.24m

St Nicholas Market

- January 2022 to December 2022: 3.18m
- January 2023 to December 2023: 3.70m

Car park usage

Available data for The Galleries car park indicates that for the period January to November 2023, the average monthly usage when compared to the corresponding period in 2022 was down by 7.4%. The change in car park usage, coupled with increases in bus passenger numbers, local footfall, and active travel offer uptake, indicates that residents are adapting to the CAZ by taking advantage of the sustainable travel offers as they continue to travel into the city centre.

Impacts of the CAZ on traffic flow

How the council measure changes in traffic flow

Traffic flows have been assessed using data collection methods that existed before the implementation of the CAZ. Traffic counting devices, which are installed across the city, continually monitor traffic levels and provide reliable data. These devices are cut into the road surface to record speed data and the volume of traffic. Data is available from before and after implementation of the CAZ.

Traffic flows are affected by many different factors. Some locations may be subject to varying flows due to local road closures or traffic management in the vicinity, for example St John's Lane which is impacted by the temporary closure inbound of Malago Road. Other impacts are due to wider issues that influence people's decisions to drive or use other modes such as the current economic position, the current cost of living crisis, inflation, funding to reduce bus ticket prices, oil prices etc. The COVID-19 pandemic has had long lasting impact on patterns of movement and the type of transport modes people use. During the COVID-19 pandemic traffic flow significantly decreased across the UK in comparison to pre-pandemic levels and the levels of traffic flow now.

Traffic flow data results

There are fluctuations in flow throughout the year and between years as traffic flows were still adjusting to the change in working practices and associated impacts caused by the COVID-19 pandemic. There is a very small general reduction in traffic flow as predicted by the CAZ modelling, but this is difficult to attribute just to the CAZ as there are a variety of other factors influencing traffic flows. In general traffic flows over the year have been largely similar in 2023 to 2022 although there have been differences in flows month to month. You can see further details of this in Appendix 3.

Local links between traffic levels and air quality

While there is a clear link between local traffic levels and air quality levels this is a more complicated relationship than might be expected. Air pollution is made up of several components and influenced by the weather and the surrounding buildings and road gradients. NO_2 pollution dissipates over a distance of approximately 15 metres and becomes background pollution. This background pollution level then applies across the city with the wider impact of all traffic and the pollution emitted felt across the city as background level pollution. Other sources also contribute, as does pollution from further afield that can be carried to Bristol by certain weather conditions. In areas of high traffic volumes there is also a localised build up of pollution that may not be able to dissipate. This is what then causes the worst air quality and is particularly related to the type of building and distance between buildings. A road like Upper Maudlin St or Marlborough St is expected to be worse in pollution terms than a busier road such as the M32 due to the closeness of buildings that trap the pollution in place despite having lower traffic volumes. Areas with increased traffic volumes may not therefore be subject to significantly worse pollution levels if the topography and adjacent buildings are not problematic.

Areas of potential traffic displacement

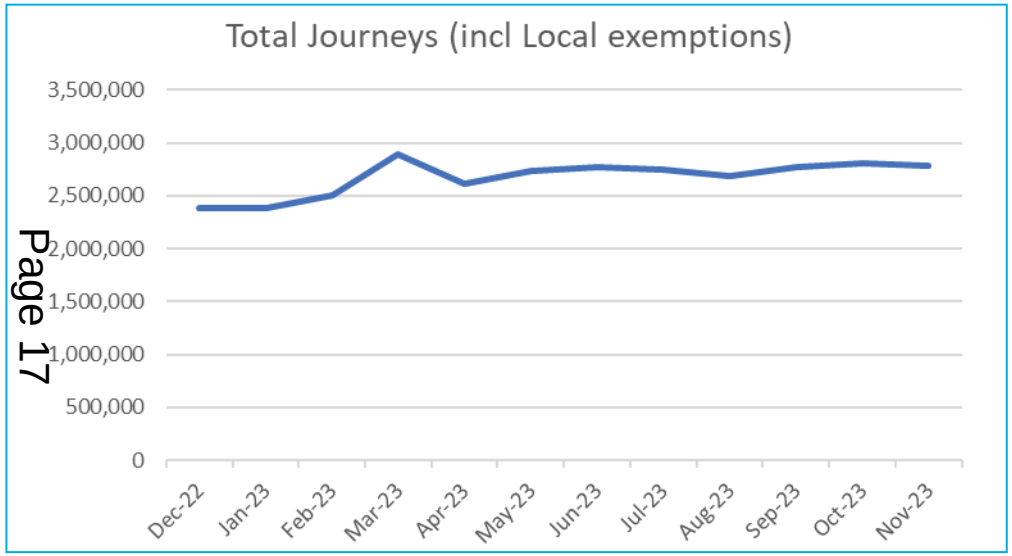
There are some sites close to the CAZ boundary that would be expected to see increased flows and these are included in Appendix 2 – Traffic Count Data. However, any increase in traffic flow in the areas surrounding the CAZ has not resulted in an increase in the levels of NO_2 concentrations, which have fallen by 7.8%. This demonstrates that the CAZ is having a positive effect on air quality across the whole city, not just inside the CAZ.

Traffic on Upper Maudlin Street

The impact of the Clean Air Zone on journeys

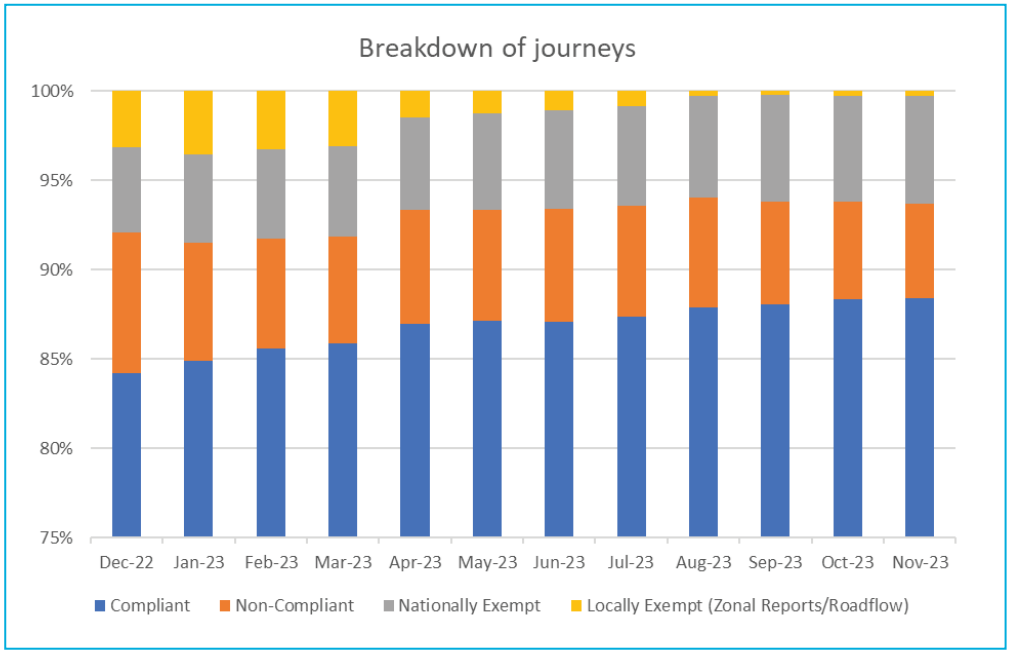
Journeys into the CAZ

The table below shows the total number of journeys into the Clean Air Zone over the last year. The data is taken from our enforcement cameras, and the Drive in A Clean Air Zone service has provided the corresponding vehicle types using vehicle data from the DVLA. Further detail on journey numbers and vehicle type is available in Appendix 3 - Statistical Data.



Vehicle compliance

The following chart shows how the breakdown of vehicles has changed over time since the CAZ was introduced.



The table below demonstrates that the amount of compliant journeys through the CAZ has increased from November 2022 (when the CAZ was implemented) to November 2023.

Table: A breakdown of journeys through the CAZ in thousands

Category	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	May-23	June-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Total
Compliant	225	2,012	2,028	2,145	2,481	2,275	2,416	2,383	2,401	2,365	2,437	2,476	2,464	28,107
Non-Compliant	20	188	158	154	173	167	174	169	171	165	161	153	147	2,000
Nationally Exempt	13	114	118	125	146	136	154	148	154	153	164	167	169	1,758
Locally Exempt	8	74	85	82	89	39	29	34	22	7	6	7	7	490
Total	**266**	**2,388**	**2,388**	**2,506**	**2,888**	**2,616**	**2,774**	**2,734**	**2,748**	**2,690**	**2,768**	**2,802**	**2,788**	**32,356**

Journeys into the CAZ by vehicle type

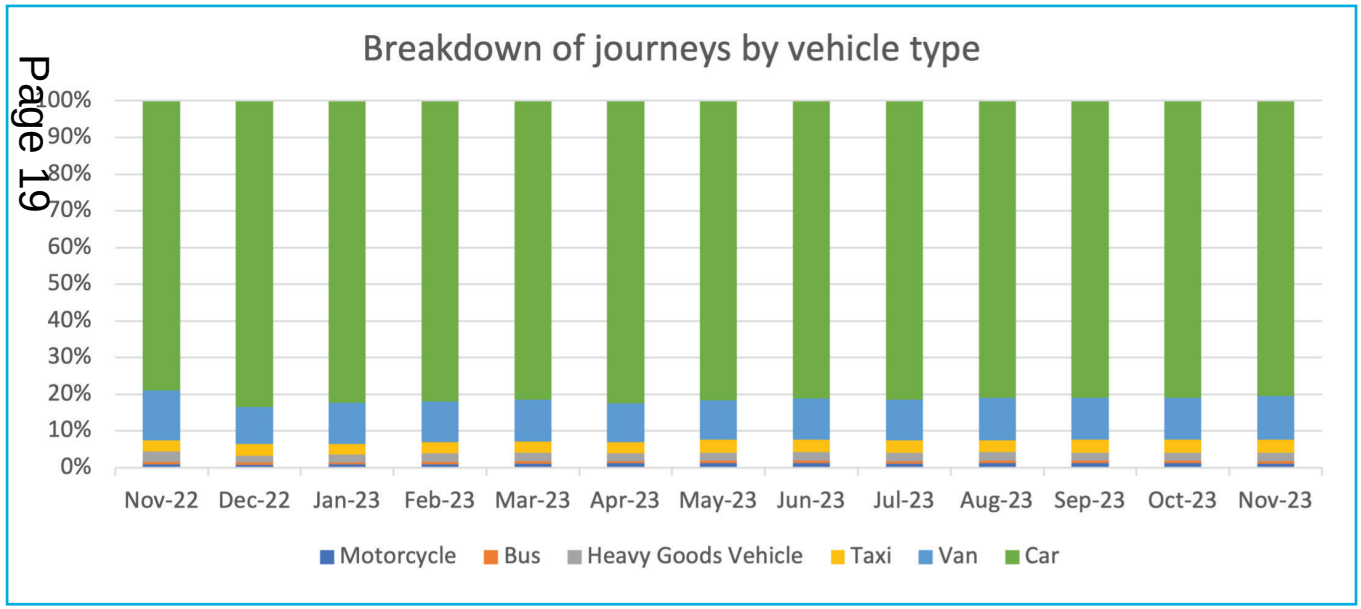
The table below shows the types of journeys in the Clean Air Zone during the first 12-months since the CAZ was implemented. The raw data is taken from our enforcement cameras, and the Drive in A Clean Air Zone service has provided the corresponding vehicle types using vehicle data from the DVLA. These figures count journeys rather than vehicles to demonstrate that one vehicle may make multiple journeys.

You can see the breakdown of vehicles in Appendix 3.

Bus usage rates

Bus use in Bristol has been subject to significant change over recent years due to the impact of the pandemic, and more recently bus driver shortages and fares packages such as the £2 fare cap that have sought to increase bus usage.

The introduction of the CAZ was expected to increase bus usage. Unfortunately, it coincided with a difficult period of bus service provision due to a shortage of drivers. As with other areas it is difficult to firmly link changes in use to specific interventions such as the CAZ, due to the wide range of events that have influenced these numbers.

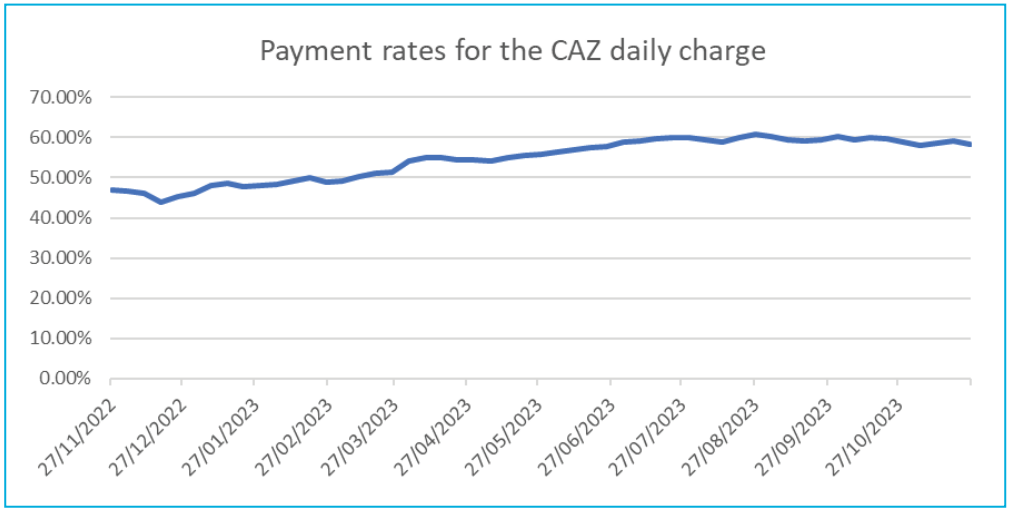


Income generated by the CAZ and its operating costs

The following sections set out the number of people that have paid the CAZ charge, how many Penalty Charge Notices (PCNs) have been issued, and the overall financial performance of the scheme. Further data is provided in Appendix 3 - Statistical Data.

Payment rates improving over time

Non-compliant vehicles must pay the appropriate daily CAZ Charge for their vehicle class if they enter the Clean Air Zone. The following chart shows how many people entering the zone have paid on time, and that payment rates have improved over the year.



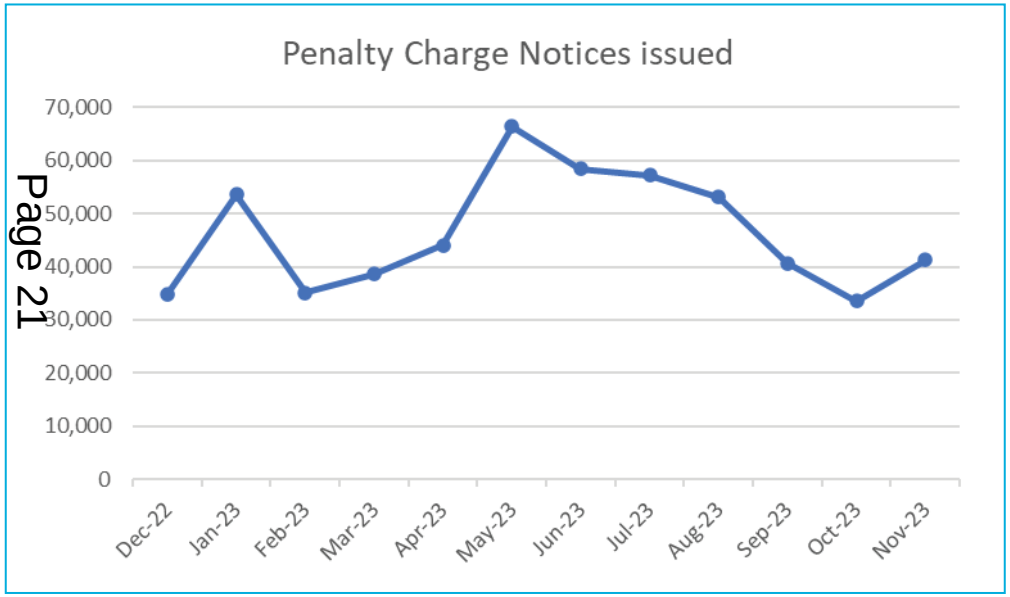
To help drivers adjust to the CAZ, those who received PCNs during the first six weeks of operation were given a time limited opportunity to pay the CAZ Daily Charge rather than the full PCN. 73% of PCNs issued during this period were closed following payment of the CAZ Daily Charge.

Further details of the charges for non-compliant vehicles are in Appendix 3.

PCNs are issued two weeks after non-payment of a CAZ Daily Charge.

PCNs Issued

The graph below displays the PCNs that were issued each month. Though the journey date will have been earlier. The peak in May 2023 reflects improvements in system performance and additional staffing resources. PCN numbers have fallen by one-fifth since then. This is indicative of improved compliance, which is evident in the increase of compliant vehicles and the increased Daily CAZ Charge payments for non-compliant vehicles.



The full lifecycle of a PCN (time from issue to payment or cancellation) can take up to 18 months, so data for the first year of CAZ operation includes a number of PCNs that are open.

PCN Status	Number	%	Comment
Paid	285,645	49%	Cases issued in the first year of operation which have been paid.
Cancelled	33,145	6%	Cases issued in the first year of operation which have been cancelled following a successful representation or appeal.
Written off	91,125	16%	Cases issued in the first year of operation where DVLA are unable to provide keeper details and cases where Enforcement Agents are unable to trace the keeper or recover the debt.
Open	160,098	28%	Cases at various stages of the PCN lifecycle that are still ongoing.

Overall financial summary

Surplus income from the CAZ is partly set aside in reserves to cover future decommissioning costs when the CAZ ends. Any surplus over and above this must be used in line with the purposes set out in the Charging Order. The proposals for the future use of any surplus are subject to a separate Cabinet Report at the meeting on 23 January 2024.

The figures below show the financial position for the first year of CAZ operation. Data is taken from the council's finance system for the period from October 2022 to November 2023. October 2022 and November 2022 have been included as they include training overheads for staff that had to be trained prior to the implementation of the CAZ.

Table: Financial Summary CAZ Year 1 to November 23

Description	Amount (£'000)
Employees	1,057
Supplies & Services (A)	942
Supplies & Services (B)	2,298
Support Services	565
Total Expenditure	4,862
Income	**(31,248)**
Total	**(26,386)**

APPENDIX 1 – Annual average NO_2 concentrations for all diffusion tube sites

Diffusion Tube Monitoring

Somerset Scientific Services were used throughout the whole of 2022 to provide and analyse diffusion tubes for Bristol. This lab participates in the AIR PT Scheme for nitrogen dioxide tubes. All reference materials are of at least analytical grade or equivalent. Standards are prepared using equipment that is all within the normal quality system. The tubes used are recycled Gradko tubes prepared and set on a monthly basis. The tube changing frequency is as per the calendar on the Air Quality Archive web site and is carried out by Bristol City Council officers.

The tubes are prepared with 50 µL of 20% triethanolamine in water. The method follows that set out in the practical guidance document.

Diffusion Tube Bias Adjustment Factors

The diffusion tube data presented in this report has been bias adjusted using a bias adjustment factor calculated for use with the 2022 monitoring data as a factor for 2023 is not yet available. Bias represents the overall tendency of the diffusion tubes to under or over-read relative to the reference chemiluminescence analysers. LAQM.TG22 provides guidance with regard to the application of a bias adjustment factor to correct diffusion tube monitoring. Triplicate co-location studies have be used to determine a local bias factor based on the comparison of diffusion tube results with data taken from NOx/NO_2 continuous analysers.

Bristol City Council applied a local bias adjustment factor of 0.86 to the 2022 monitoring data and this has been used for the reported.

Bias adjustment factors used since 2018 have been provided in Table A1 to provide transparency and put the 2022 BAF in context to those used in previous years.

Table A1 – Bias Adjustment Factor

Monitoring Year	Local or National	If National, Version of National Spreadsheet	Adjustment Factor
2022	Local	N/A	0.86
2021	Local	N/A	0.87
2020	Local	N/A	0.85
2019	Local	N/A	0.82
2018	Local	N/A	0.92

Full details of the BCC QA/QC procedures for air quality monitoring can be found in the Annual Air Quality Status reports that are submitted to Defra on an annual basis. Recent Annual Status Reports can be downloaded from the air quality page on the Bristol City Council website.

All Air Quality Data for 12 Month post CAZ Period

Site ID	Site Name	x	y	In CAZ?	Annual NO_2 Nov21-Dec22 (µg/m³)	Annual NO_2 Nov22-Dec23 (µg/m³)	Change in Annual NO_2 Post CAZ (µg/m³)	Change in Annual NO_2 Post CAZ (%)
2	Colston Avenue	358628	173011	Yes	40.6	39.3	-1.3	-3.2
3*	Blackboy Hill	357448	174650	No	36.1	51.4	15.3	42.3
4	Three Lamps	359903	171850	Yes	39.0	30.3	-8.7	-22.4
5	Bedminster Parade	358723	171704	No	37.7	34.6	-3.1	-8.2
9	B.R.I.	358729	173499	Yes	36.1	29.1	-6.9	-19.2
10	Bath Road	361217	171429	No	35.9	32.3	-3.6	-10.1
11	Whitefriars	358813	173342	Yes	34.8	30.5	-4.4	-12.5
12*	Galleries	359142	173211	Yes	50.8	60.9	10.1	19.8
14	Red Lion Knowle	360877	170280	No	30.1	28.6	-1.5	-4.9
15	Horsefair	359294	173485	Yes	31.1	27.4	-3.8	-12.2
18	Third Way	352287	178698	No	25.9	23.1	-2.8	-10.7
21	Gloucester Road	359035	175306	No	34.0	32.0	-2.0	-5.8
24	Stokes Croft	359109	173886	No	37.9	35.8	-2.1	-5.5
113	Victoria Street	359258	172696	Yes	31.9	29.7	-2.2	-7.0
125	York Road	359214	171917	Yes	34.2	25.9	-8.3	-24.4
147	Anchor Road	358514	172691	Yes	45.2	39.5	-5.7	-12.7
154	Hotwells Road	357601	172483	Yes	26.1	19.1	-7.0	-26.9
155	Jacobs Wells Road South	357838	172713	No	24.1	18.8	-5.3	-21.8
156	Jacobs Wells Road opp Clifton hill	357709	173018	No	26.0	19.9	-6.0	-23.2
157	Stokes Croft Ashley Road	359119	174090	No	36.0	35.6	-0.4	-1.2
159	Cromwell Road	358891	174608	No	32.1	30.4	-1.7	-5.3
161	Bishop Road	359152	175733	No	26.3	27.5	1.2	4.6
163	Strathmore Road	359435	176574	No	27.1	29.4	2.3	8.3
175	top of Brislington Hill	362147	170525	No	38.2	31.8	-6.4	-16.8
239	Parson Street. A38 East	357880	170506	No	49.1	42.1	-7.0	-14.2
242	Parson Street Bedminster Down Road	357510	170401	No	36.2	31.2	-5.0	-13.8

Site ID	Site Name	x	y	In CAZ?	Annual NO_2 Nov21-Dec22 ($\mu g/m^3$)	Annual NO_2 Nov22-Dec23 ($\mu g/m^3$)	Change in Annual NO_2 Post CAZ ($\mu g/m^3$)	Change in Annual NO_2 Post CAZ (%)
254	Merchants Road Hotwells	357118	172429	Yes	33.2	25.9	-7.3	-22.1
260	Stapleton Road South	361140	175366	No	31.7	27.8	-3.8	-12.1
261	Stapleton Road Heath Street	361103	175059	No	39.1	32.7	-6.5	-16.5
295	Lamppost - 16 Ashley Road St. Pauls	359913	174315	No	41.4	37.5	-3.9	-9.5
300	Façade - Hart Estate Agents 755 Fishponds Road Fishponds	363365	175883	No	27.6	22.0	-5.6	-20.4
303	Façade - 784 Muller Road Fishponds	361368	175170	No	31.2	26.9	-4.3	-13.7
307	Lamppost - Glenfrome Road \ Muller Road Horfield	360747	175328	No	27.2	26.2	-1.0	-3.5
312	Lamppost - Ashley Hill St. Pauls	359832	174616	No	29.7	26.5	-3.3	-10.9
320	Monitor - Bath Road Brislington	361180	171567	No	20.5	18.5	-1.9	-9.4
325	Façade - 258 Fishponds Road Fishponds	361667	175103	No	32.8	30.9	-1.8	-5.6
363	5102 façade	359075	173613	Yes	28.0	24.4	-3.6	-13.0
370	Great George Street - lamppost	359775	173513	No	30.9	26.8	-4.1	-13.3
371	Lamb Street - façade	359813	173373	No	28.9	26.0	-2.9	-10.1
373	123 Newfoundland Street - façade	359747	173774	No	27.4	23.2	-4.2	-15.4
374	St. Paul Street	359509	173595	Yes	34.0	28.1	-6.0	-17.5
403	Lamp post 48 230 Bath Road	360508	171676	No	25.3	21.5	-3.9	-15.3
405	Whitehall Rd/Easton Rd - lamppost 4TZ	361051	173743	No	38.0	34.3	-3.7	-9.8
406	Whitehall Rd - Lamppost 17 nr junction with Chalks Road	361576	173806	No	29.5	25.2	-4.3	-14.6
407	Lamppost - sussex place	359829	174370	No	29.5	27.2	-2.3	-7.8
413	Wells Rd - bus lane sign just below junction with Knowle Rd	360043	171508	No	26.9	24.5	-2.4	-9.0
417	St John's Lane No 26 - lamppost 15 (just past roundabout)	359635	171413	No	27.8	23.0	-4.8	-17.3
418	Bedminster Down Road - lamppost between Ashton Motors & Plough PH	357737	170642	No	44.1	32.2	-11.9	-26.9

Site ID	Site Name	x	y	In CAZ?	Annual NO_2 Nov21-Dec22 ($\mu g/m^3$)	Annual NO_2 Nov22-Dec23 ($\mu g/m^3$)	Change in Annual NO_2 Post CAZ ($\mu g/m^3$)	Change in Annual NO_2 Post CAZ (%)
419	Parson St - lamppost outside Bristol Scuba	357832	170686	No	33.7	30.2	-3.5	-10.3
420	North St/Dean Lane on roundabout sign	358277	171562	No	28.6	24.9	-3.7	-13.0
423	Façade - BRI children's	358623	173386	Yes	29.3	22.9	-6.5	-22.0
429	Façade - Villiers Road Stapleton Road junction	360484	174097	No	35.9	33.3	-2.6	-7.2
436	Shiners Garage	361013	173352	No	30.7	25.1	-5.6	-18.2
438	A37 Junction w/ Airport Road	360903	170024	No	29.2	25.8	-3.5	-11.9
439	Parson Street School	358042	170582	No	27.3	25.0	-2.2	-8.1
455	St. Pauls Day Nursery	359487	173924	No	16.5	15.4	-1.1	-6.5
464	Fishponds Road	362927	175592	No	24.2	22.1	-2.1	-8.7
470	Victoria Park Primary	359213	170997	No	28.0	25.8	-2.2	-7.9
472	Jamiesons Autos	358226	171284	No	29.0	26.5	-2.5	-8.6
473	B&G Snax West St	358105	171124	No	27.9	27.3	-0.6	-2.1
487	Junction 3 Millpond Street	360243	174327	No	31.7	27.9	-3.9	-12.1
492	On 1 way sign at bottom of Wellington Hill	359445	176627	No	27.3	27.2	-0.1	-0.2
493	No 67 Filton Avenue on wall facing Muller Road	359677	176758	No	31.3	30.2	-1.1	-3.7
494	Muller Road - Adjacent to Darnley Avenue	359558	176850	No	26.6	24.5	-2.1	-8.0
496	385 Church Road Redfield	362296	173620	No	26.6	23.5	-3.1	-11.7
497	20 Ashley Road	359268	174132	No	24.3	25.9	1.6	6.5
499	Temple Way Nox site	359522	173381	Yes	30.4	28.1	-2.3	-7.5
502	Co-located Colston Ave	358640	173090	Yes	54.8	48.9	-6.0	-10.9
512	Cheltenham Road - lamppost by Montpelier High School	359026	174432	No	35.5	37.9	2.4	6.8
525	Summer Hill A420	362455	173687	No	29.6	25.9	-3.7	-12.4
538	Dalby Avenue	358681	171478	No	24.2	20.3	-3.9	-16.1
539	Dalby Avenue Church Lane	358599	171391	No	23.5	27.5	4.0	16.9
545	Ashton Park School	356379	171436	No	23.1	18.2	-4.9	-21.3
550	Cathedral School	358353	172613	Yes	29.0	26.5	-2.6	-8.8
555	420 Hotwell Road A4	356679	172589	Yes	28.0	20.6	-7.4	-26.5

Site ID	Site Name	x	y	In CAZ?	Annual NO_2 Nov21-Dec22 ($\mu g/m^3$)	Annual NO_2 Nov22-Dec23 ($\mu g/m^3$)	Change in Annual NO_2 Post CAZ ($\mu g/m^3$)	Change in Annual NO_2 Post CAZ (%)
556	South Eastern stair access Plimsoll Bridge	356827	172303	Yes	32.6	24.9	-7.7	-23.5
559	Except local buses sign Blackmoors Lane	356485	171580	No	23.9	21.4	-2.4	-10.2
560	Lamppost outside BRI CAZ	358665	173439	Yes	31.7	26.7	-5.0	-15.9
561	Lamppost opposite BRI CAZ	358688	173431	Yes	34.9	26.0	-8.9	-25.5
565	A4018 Lamp post by layby before roundabout for Crow Ln/ Knole Ln	357227	179101	No	24.4	23.7	-0.7	-2.7
567	Muller Road/Glenfrome Road junction north	360728	175345	No	43.4	37.6	-5.8	-13.4
568	Traffic light on the corner of Shaldon Road	360178	175779	No	32.3	29.7	-2.6	-8.0
569	Lampost on North corner of Draycott Road junction with Muller Road.	359855	176186	No	24.3	22.9	-1.4	-5.6
570	Muller Road junction with Downend Road lampost north of the junction.	359847	176439	No	29.6	28.5	-1.1	-3.6
571	Muller road junction with Downend Road traffic light to the south of the junction.	359848	176411	No	32.1	29.9	-2.2	-6.8
574	Whiteladies road, on loading sign next to Redland Library	357678	174229	No	29.3	26.9	-2.3	-7.9
575	Baldwin Street traffic light outside domino's	358685	172881	Yes	30.8	33.5	2.7	8.9
576	Baldwin Street lamp post by cycle way, opp St Stephens St	358792	172874	Yes	29.5	28.5	-1.0	-3.5
577	High St (North of Bristol Bridge) lamp post outside Wards solicitors	358935	172981	Yes	30.8	35.6	4.8	15.7
578	Church Road-CAZ-Outside Gurdwara	361892	173552	No	30.9	28.8	-2.1	-6.9
579	Church Road-CAZ-Lamppost	362198	173580	No	32.3	28.4	-3.9	-12.1
580	Marlborough St-CAZ-Lamppost opposite hosp	358754	173528	Yes	42.2	36.6	-5.6	-13.3
581	Marlborough St-CAZ-Lamppost by coach station	358908	173574	Yes	39.4	31.5	-7.9	-20.1
582	Rupert St-CAZ-Post outside fire station	358893	173333	Yes	44.2	42.3	-1.9	-4.3
583	Rupert St-CAZ-Post outside police station	358870	173340	Yes	44.1	39.8	-4.3	-9.8
584	Rupert St-CAZ-Post outside Fusion Tower	358773	173276	Yes	33.7	32.0	-1.6	-4.9

Site ID	Site Name	x	y	In CAZ?	Annual NO_2 Nov21-Dec22 ($\mu g/m^3$)	Annual NO_2 Nov22-Dec23 ($\mu g/m^3$)	Change in Annual NO_2 Post CAZ ($\mu g/m^3$)	Change in Annual NO_2 Post CAZ (%)
585	Park St-CAZ - lamppost by Guild	358192	173050	No	31.5	26.3	-5.2	-16.4
586	Park St-CAZ - lamppost by Agora	358195	173018	No	36.4	33.2	-3.1	-8.7
587	Baldwin St-CAZ - lamppost by Yelland House	358802	172896	Yes	30.7	29.4	-1.3	-4.2
588	Baldwin St-CAZ - Drainpipe on building	358739	172869	Yes	31.6	30.0	-1.6	-5.0
589	Marlborough St - CAZ-On sign leg	358849	173606	Yes	27.0	22.8	-4.2	-15.5
590	Marlborough St - CAZ-Post by bollards	358789	173589	Yes	40.9	31.9	-9.0	-22.1
591	Marlborough St - CAZ-Post	358805	173575	Yes	33.6	25.9	-7.7	-22.8
592	Upper Maudlin St - CAZ-Crossing by BRI	358662	173409	Yes	38.7	30.4	-8.3	-21.4
593	Upper Maudlin St - CAZ-Post by BRI	358610	173350	Yes	32.1	31.6	-0.5	-1.5
594	Lower Park Row - CAZ-Post by Art shop	358540	173234	Yes	34.0	28.1	-5.9	-17.2
595	Lower Park Row - CAZ-Post after OTR	358510	173197	Yes	31.1	28.3	-2.8	-9.0
596	Park Row-CAZ - lamppost by museum	358431	173120	Yes	30.7	27.0	-3.7	-12.1
597	Park Row-CAZ - Post by house	358403	173124	Yes	31.5	22.9	-8.7	-27.5
598	Queens Road-CAZ - lamppost by UoB	358061	173182	No	26.2	23.1	-3.1	-11.9
599	Park St-CAZ - lamppost by bike stands	358135	173123	No	31.2	30.3	-0.9	-2.9
600	Park St-CAZ - lamppost by City Hall	358322	172858	Yes	23.9	23.0	-0.9	-3.7
601	College Green-CAZ - lamppost opp Denmark St	358563	172818	Yes	30.3	25.9	-4.4	-14.6
602	Anchor Road-CAZ - lamppost	358469	172656	Yes	42.0	37.5	-4.5	-10.7
603	Lewins Mead-CAZ-Post by Evans Cycles	358767	173320	Yes	41.7	35.5	-6.2	-14.8
604	Lewins Mead-CAZ-Post by PMT	358817	173342	Yes	42.9	40.0	-2.9	-6.8
605	Rupert St-CAZ-Post by Courtrooms	358718	173227	Yes	31.4	26.5	-4.8	-15.4
606	Victoria Street-CAZ - No entry sign	359124	172803	Yes	25.2	25.1	-0.1	-0.3
607	Counterslip-CAZ- Drainpipe on building	359183	172826	Yes	28.2	24.3	-3.9	-13.9
608	Temple Gate-CAZ - lamppost	359563	172290	Yes	38.5	30.7	-7.8	-20.3
609	Bath Road-CAZ - lamppost or sign	359740	172116	Yes	30.2	26.3	-3.8	-12.7
610	Wells Road-CAZ - lamppost	359967	171548	No	32.2	26.9	-5.3	-16.4
611	Winterstoke Road-CAZ - lamppost	357425	170769	No	19.8	17.7	-2.1	-10.5

Site ID	Site Name	x	y	In CAZ?	Annual NO_2 Nov21-Dec22 ($\mu g/m^3$)	Annual NO_2 Nov22-Dec23 ($\mu g/m^3$)	Change in Annual NO_2 Post CAZ ($\mu g/m^3$)	Change in Annual NO_2 Post CAZ (%)
612	Newfoundland St-CAZ-Lamppost by layby	359206	173557	Yes	30.4	26.3	-4.0	-13.3
613	Newfoundland St-CAZ-Lamppost by crossing	359316	173554	Yes	42.2	34.2	-8.0	-18.9
614	Temple Way-CAZ-Sign by Champ Square	359516	173374	Yes	28.6	26.2	-2.4	-8.5
615	Newfoundland Way-CAZ-Lamppost by petrol station	359659	173688	Yes	50.5	39.3	-11.1	-22.1
616	Newfoundland Way-CAZ-Road sign	359747	173717	No	42.7	34.4	-8.4	-19.6
617	Houlton St-CAZ-30mph sign	359686	173587	Yes	24.9	23.4	-1.5	-5.9
618	Cheltenham Rd-CAZ-Sign opp Tesco	359086	174187	No	31.4	33.5	2.1	6.6
619	Cheltenham Rd-CAZ-Lamppost by Bite	359119	174149	No	37.7	37.2	-0.4	-1.2
621	Gloucester Rd-CAZ-Lamppost by bus stop	359256	175999	No	24.6	28.0	3.5	14.1
622	Bedminster Rd-CAZ-Lamppost opp school	358034	170602	No	34.1	30.7	-3.4	-10.1
623	Bedminster Rd-CAZ-Lamppost by school	358059	170597	No	28.1	26.7	-1.4	-5.0
624	Bedminster Rd-CAZ-Post opp Van Sales	357858	170499	No	48.8	38.5	-10.3	-21.2
625	Bedminster Rd-CAZ-Lamppost by Van Sales	357842	170514	No	44.9	38.9	-6.0	-13.4
626	Bedminster Rd-CAZ-Post	357667	170466	No	43.2	40.5	-2.7	-6.2
627	Parson St-CAZ-Lamppost by Station	357829	170658	No	32.9	29.2	-3.7	-11.2
628	Lower Ashley Rd-CAZ-Lamppost by Geo Jones	359899	174335	No	33.1	31.4	-1.8	-5.3
629	Lower Ashley Rd-CAZ-Lamppost opp London Rd	359936	174330	No	35.2	35.4	0.2	0.6
630	Bedminster Down Rd-CAZ-Lamppost by billboard	357533	170410	No	35.4	27.6	-7.8	-21.9
631	Bedminster Down Rd-CAZ-Roadsign by Winterstoke	357729	170660	No	25.5	23.8	-1.7	-6.5
632	West St-CAZ-Lamppost by Argus Rd	358073	171063	No	24.1	23.8	-0.3	-1.1
633	West St-CAZ-Lamppost opp Jamiesons	358217	171299	No	34.2	32.7	-1.5	-4.5
634	Bedminster Parade-CAZ-Lamppost by William Hill	358772	171741	No	30.2	29.3	-0.9	-2.8
635	York Rd-CAZ-Sign after bridge	359106	171962	Yes	23.7	21.3	-2.4	-10.2
636	Bath Rd-CAZ-Lamppost by Bus Lane	359940	171838	Yes	25.8	22.6	-3.3	-12.6
637	Bath Rd-CAZ-Lamppost by Kings Road	361206	171390	No	23.7	18.7	-5.0	-21.2

Site ID	Site Name	x	y	In CAZ?	Annual NO_2 Nov21-Dec22 (µg/m³)	Annual NO_2 Nov22-Dec23 (µg/m³)	Change in Annual NO_2 Post CAZ (µg/m³)	Change in Annual NO_2 Post CAZ (%)
638	A4044 Roundabout-CAZ-Lamppost	359498	173144	Yes	42.1	44.9	2.8	6.7
639	Victoria St-CAZ-Lamppost opp Mitchell Lane	359318	172634	Yes	29.0	30.3	1.3	4.4
640	Lamb Street-CAZ-One way sign by Church	359792	173319	No	26.9	24.4	-2.5	-9.3
641	Stokes Croft-CAZ-Lamppost	359114	174007	No	38.0	37.1	-0.9	-2.2
642	Ashley Road-CAZ-Lamppost opp Drumd Rd	359276	174155	No	24.4	25.9	1.5	6.2
643	Sussex Place-CAZ-Lamppost	359817	174401	No	36.0	30.6	-5.4	-14.9
644	Ashley Down Rd-CAZ-Lamppost	359676	175102	No	31.6	29.5	-2.1	-6.7
645	Gloucester Rd-CAZ-Lamppost opp Baths	359033	175259	No	29.3	30.0	0.7	2.4
646	Cheltenham Rd-CAZ-Post by Papa Johns	359035	174427	No	31.3	32.7	1.4	4.5
647	Merchants Rd-CAZ-Lamppost by house	357124	172400	Yes	31.4	23.9	-7.5	-23.8
648	Wells Rd-CAZ-Lamppost by Red Lion Carpets	360905	170185	No	29.1	26.4	-2.6	-9.0
649	Bath Rd-CAZ-Lamppost	362089	170606	No	29.4	29.0	-0.5	-1.6
650	Wells Rd-CAZ-Lamppost	360818	170448	No	21.2	20.8	-0.4	-2.1
651	Church Rd-CAZ-Post by Barwaaqo Cafe	360938	173376	No	33.8	34.0	0.2	0.6
652	Whitehall Rd-CAZ-Lamppost by house	361119	173796	No	36.6	34.2	-2.4	-6.5
653	Stapleton Rd-CAZ-Lamppost by house	360515	174134	No	31.6	31.4	-0.3	-0.8
654	Mina Rd-CAZ-Lamppost by house	360207	174403	No	24.0	21.2	-2.8	-11.6
655	Muller Rd-CAZ-Lamppost opp LA DT	361355	175203	No	29.0	28.0	-0.9	-3.3
656	Stapleton Rd-CAZ-Lamppost	361141	175446	No	27.8	24.7	-3.1	-11.1
657	Fishponds Rd-CAZ-Lamppost	361676	175127	No	33.4	26.1	-7.4	-22.0
658	Fishponds Rd-CAZ-Lamppost	363325	175803	No	24.1	25.0	0.9	3.7
659	Muller Rd-CAZ-Lamppost	359773	176702	No	25.3	23.5	-1.8	-7.0
660	Muller Rd-CAZ-Lamppost	360896	175312	No	32.7	30.9	-1.8	-5.5
661	Linden Rd-CAZ-Lamppost by house	358022	175630	No	22.1	22.7	0.6	2.8
662	Linden Rd-CAZ-Lamppost by house	357868	175723	No	20.8	21.2	0.4	1.8
663	Whiteladies Rd-CAZ-Lamppost after petrol station	357396	174761	No	25.6	23.5	-2.1	-8.2

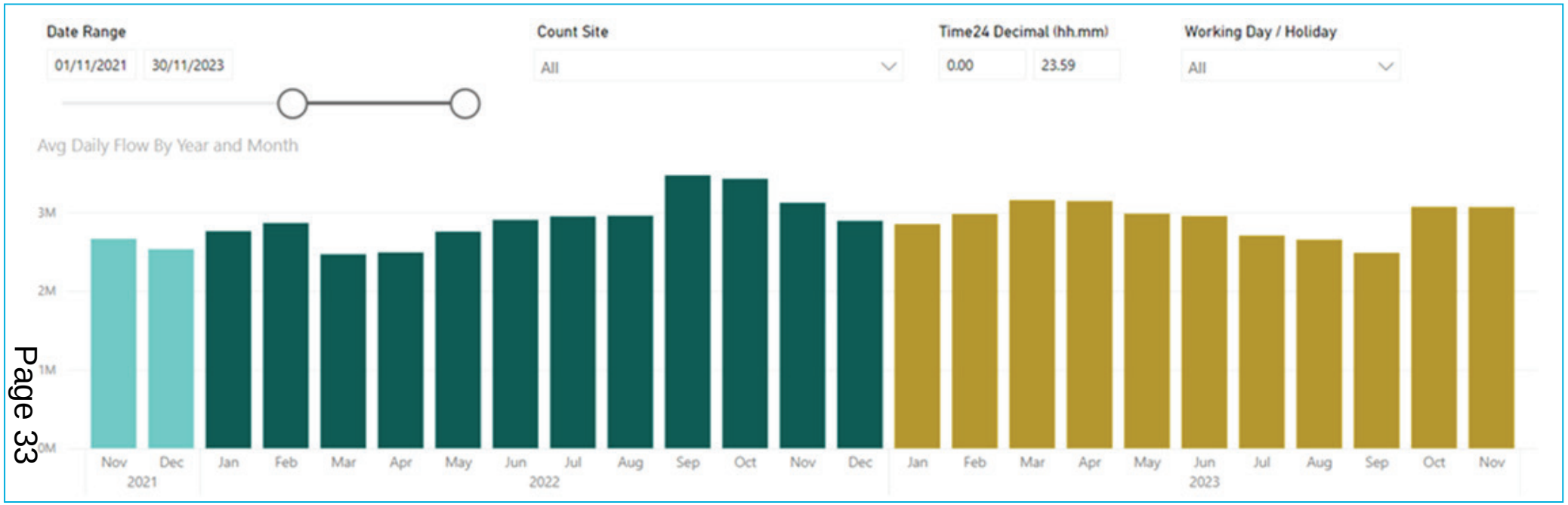
Site ID	Site Name	x	y	In CAZ?	Annual NO_2 Nov21-Dec22 ($\mu g/m^3$)	Annual NO_2 Nov22-Dec23 ($\mu g/m^3$)	Change in Annual NO_2 Post CAZ ($\mu g/m^3$)	Change in Annual NO_2 Post CAZ (%)
664	Westbury Rd-CAZ-Lamppost by hospital	357347	174992	No	24.8	22.1	-2.7	-10.8
665	Upper Maudlin St-CAZ-Lamppost opp BRI	358675	173405	Yes	36.9	27.0	-9.9	-26.9
666	Upper Maudlin St-CAZ-Lamppost by BRI	358646	173426	Yes	31.5	26.5	-5.0	-15.7
667	College Green-CAZ-Post by Toni&Guy	358531	172803	Yes	45.7	41.5	-4.2	-9.2
669	Temple Way Bridge-CAZ-Lamppost Temple Way Bridge	359511	172754	Yes	28.0	29.9	1.9	6.8
670	Bristol Hill-CAZ-Lamppost Bristol Hill	361749	170690	No	38.9	34.7	-4.3	-11.0
671	North View Downs Park West	357381	175781	No	23.6	23.0	-0.6	-2.6
673	Marlborough Street - co - located	358728	173520	Yes	33.5	27.1	-6.4	-19.1
674	Troopers Hill Opposite No 30	363157	173215	No	14.4	15.0	0.6	4.4
675	Netham Lock Junction	361615	172728	No	26.1	24.4	-1.6	-6.2
676	Blackswarth Road Opposite St Patrick's School	361734	173291	No	19.2	20.1	0.8	4.4
677	Beaufort Road Opposite No 109	362105	173350	No	21.2	18.4	-2.8	-13.3
678	Victoria Avenue Opposite No 90	361279	173283	No	17.5	17.6	0.1	0.4
679	Avonvale Road Opposite Bristol Futures Academy	361134	173034	No	24.1	21.0	-3.1	-12.7
680	Morely Street/Bright Street Ped Crossing	360973	173193	No	20.4	18.8	-1.6	-7.9
681	Russel Town Avenue Opposite Pheonix Social Enterprise Club	360985	173541	No	24.7	22.9	-1.8	-7.4
682	Church Road Miss Millies	361359	173460	No	26.4	24.3	-2.1	-8.0
683	Victoria Parade Opposite No 39	361451	173617	No	18.2	18.0	-0.2	-1.0
684	Lyppiatt Road Opposite No 25	361597	173622	No	21.4	18.7	-2.8	-12.8
698	Portway - Sylvan Way	354633	176588	No	N/A	22.9	N/A	N/A
699	Portway - Roman Way	355122	175764	No	N/A	17.0	N/A	N/A
700	Portway - Bridge Valley Road	356336	173464	Yes	N/A	21.1	N/A	N/A

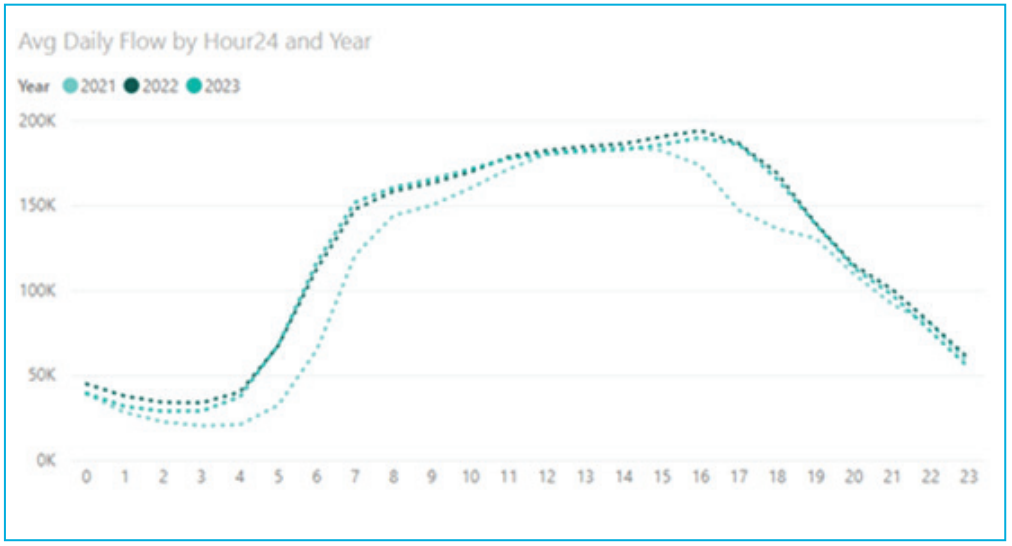
* Data for Sites 3 and 12 have been impacted by non-CAZ related sources and results excluded from the report analysis. Site 3 is impacted by very localised and site-specific changes to a fast-food restaurant ventilation system. Further investigation is needed for site 12. More details on these sites will be included in the BCC 2024 ASR.

APPENDIX 2 – Traffic Count Data

Traffic flows are dependent on a number of different factors that influence the volume of vehicles. While the CAZ will have caused some diversion of non-compliant vehicles onto routes outside of the CAZ, this will in turn have resulted in some traffic diverting into the CAZ that is compliant due to the reduction in traffic. Similarly other factors such as roadworks, the national cost of living crisis and economic issues, bus fares/services and other issues will all influence traffic flows. The main report shows overall traffic volumes. The following graphs show traffic flows at specific locations at a few locations around the edge of the zone. This data is only available from traffic count sites which are generally associated with traffic signal junctions; hence data is collected at those junctions.

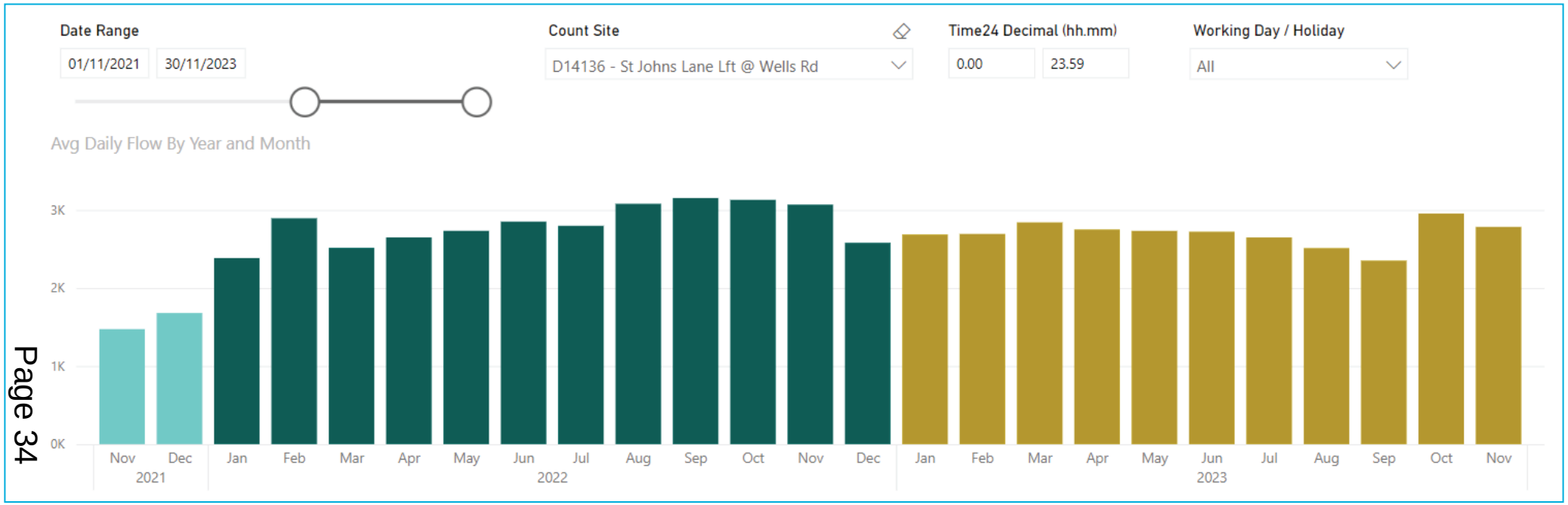
The graph below shows overall traffic volumes across the city:

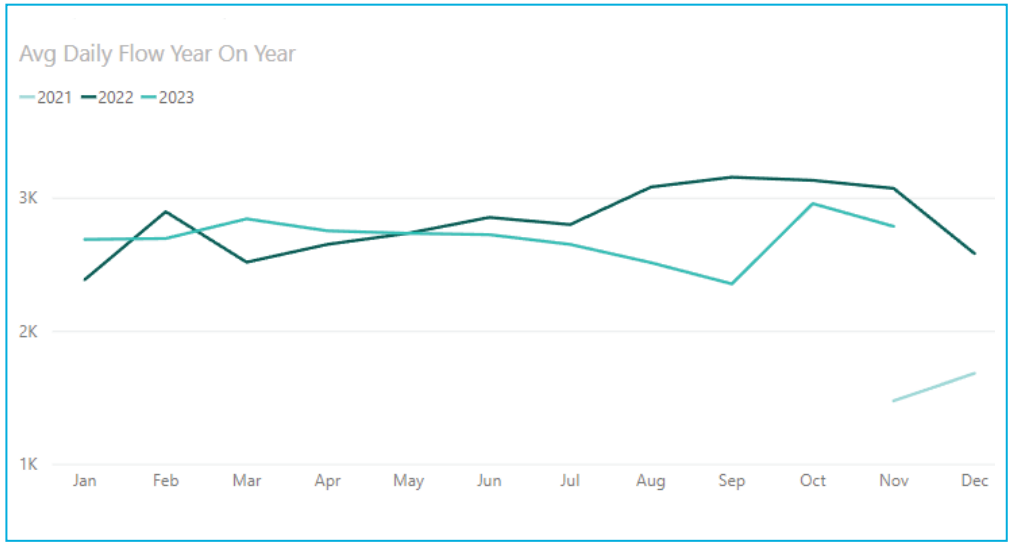


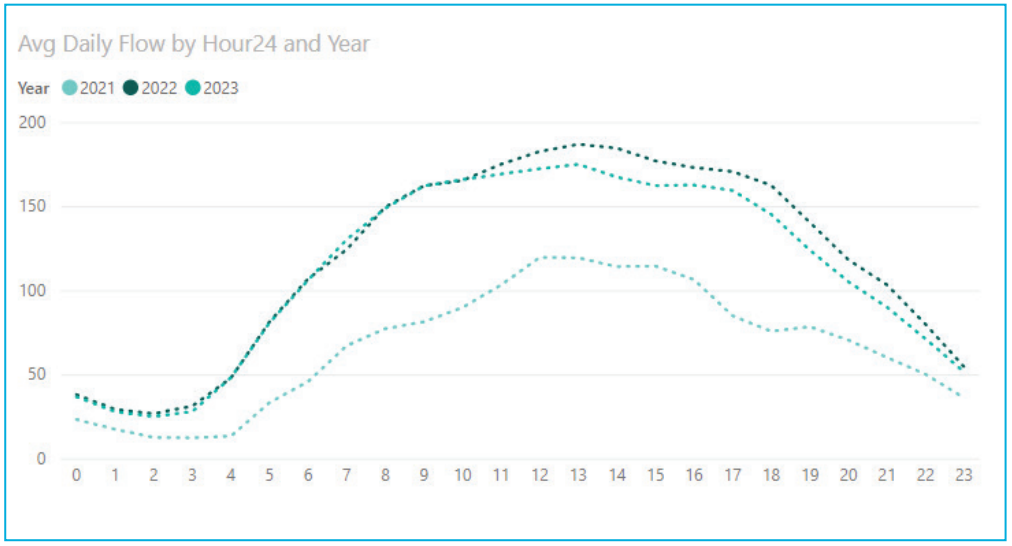


St John's Lane left turn into Wells Rd – potentially displaced eastbound traffic

As can be seen below traffic flows have remained largely the same during the morning peak and declined slightly during the rest of the day through to the evening peak.

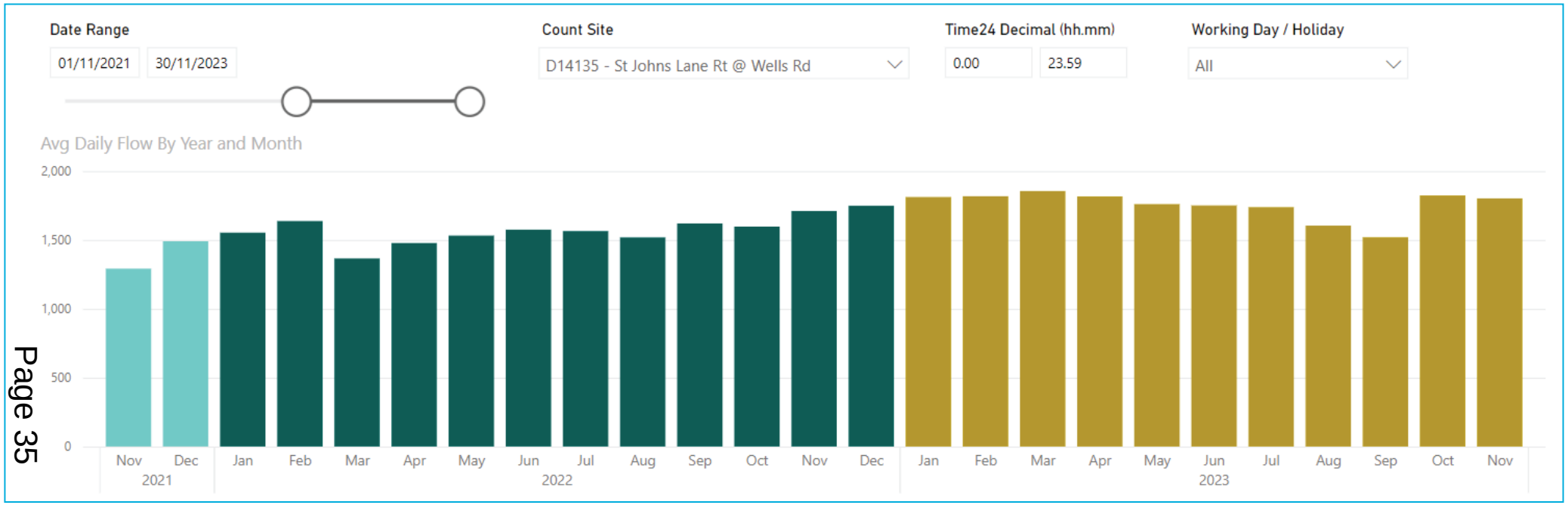


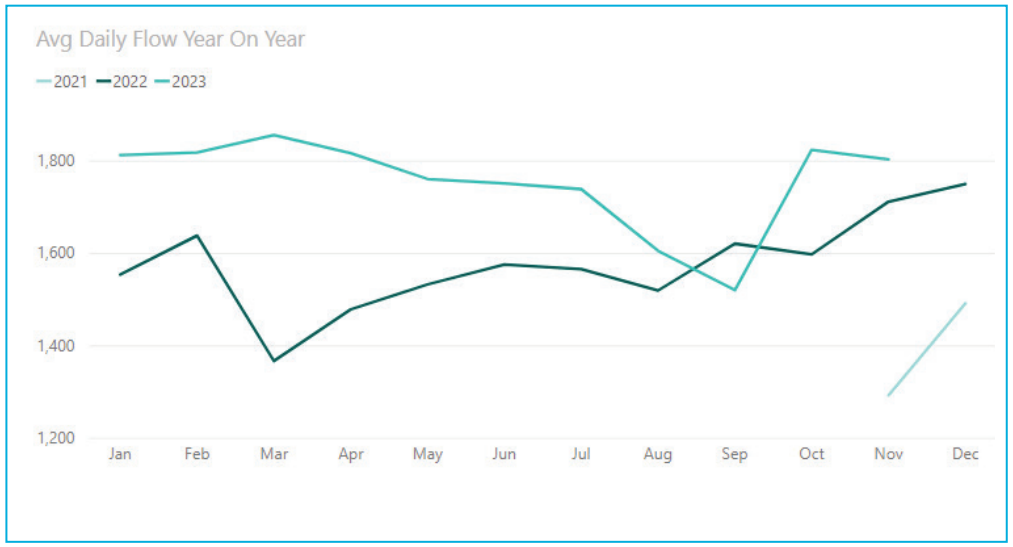


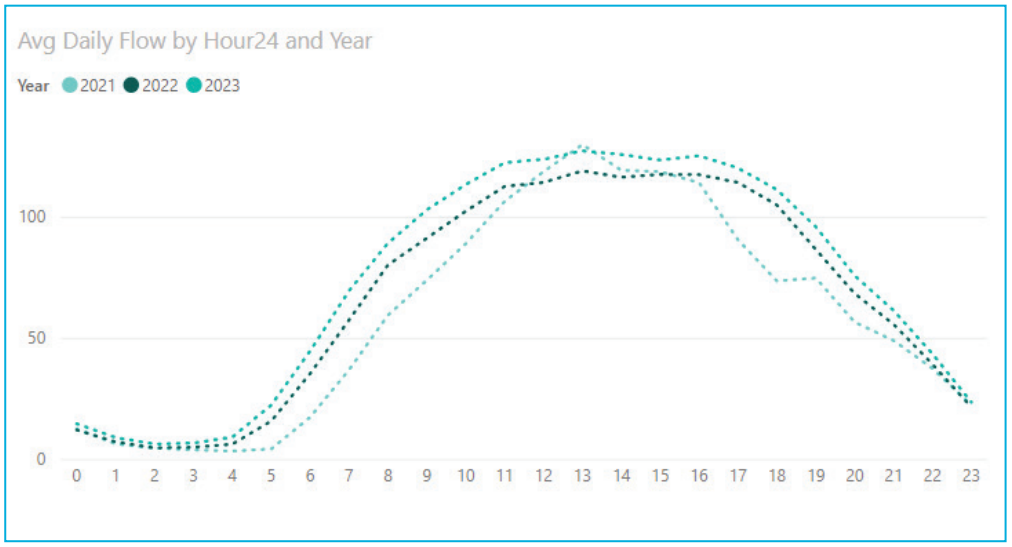


Wells Road Right turn into St John's Lane – potentially displaced westbound traffic

Traffic flows have increased slightly throughout the day for the right turn which may reflect additional traffic avoiding the zone.

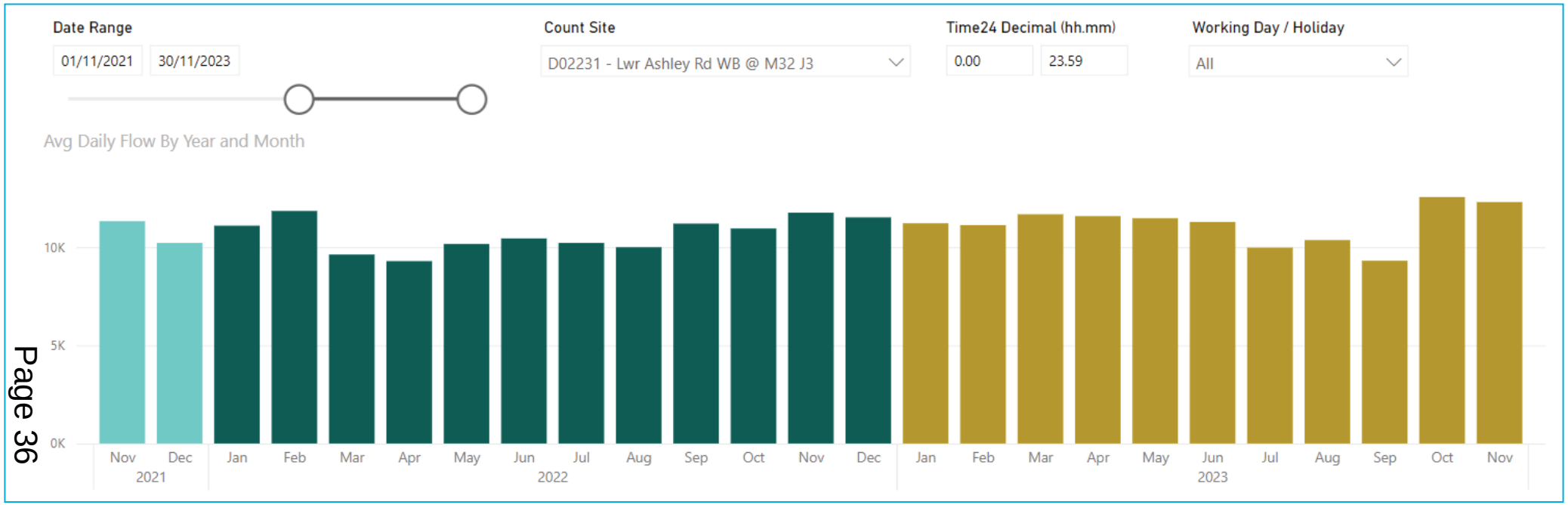


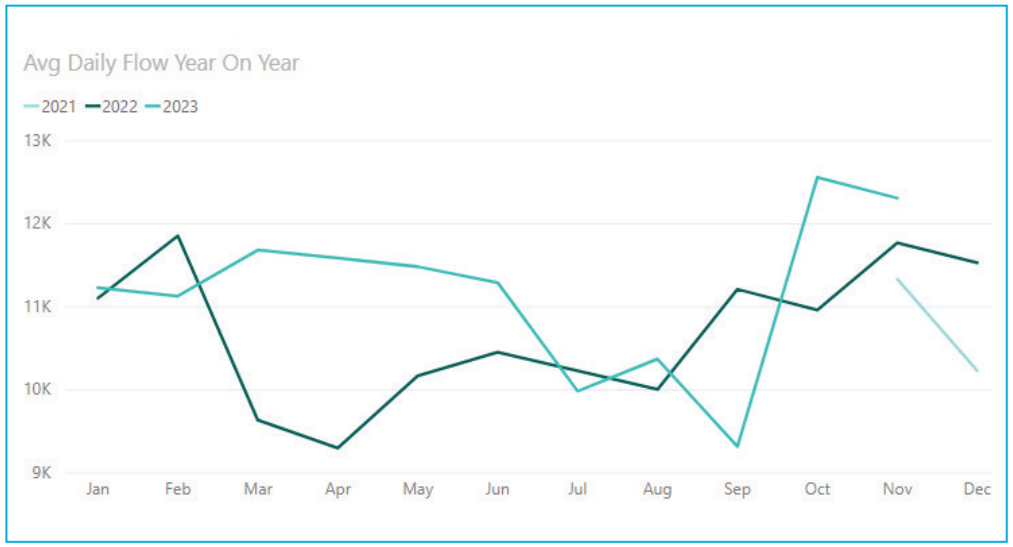


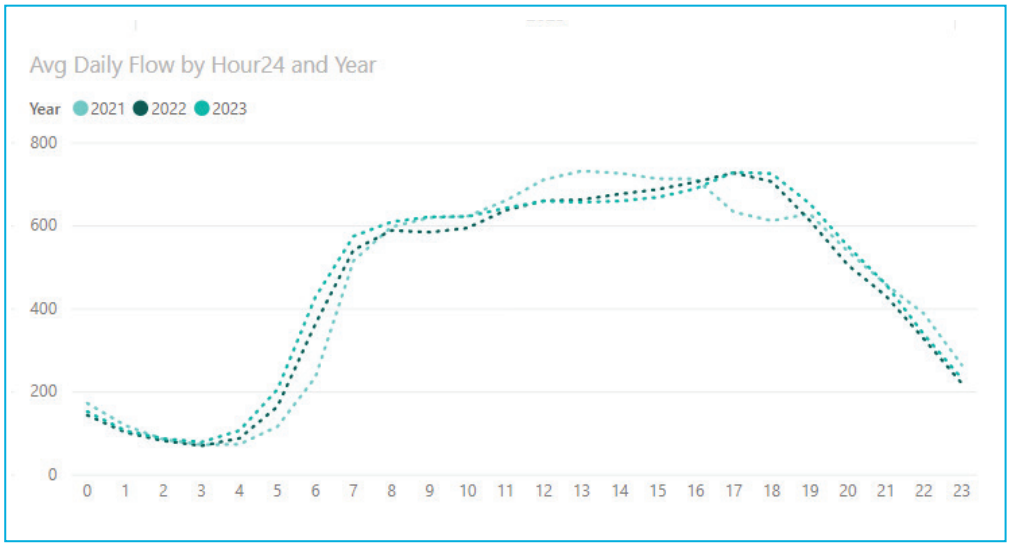


Lower Ashley Road (north of M32) movement away from M32 – potentially displaced westbound traffic

There has been a slight increase in traffic across the morning peak, largely unchanged flows through the day and then a slight increase again in the evening peak indicating some diversionary traffic using this route.

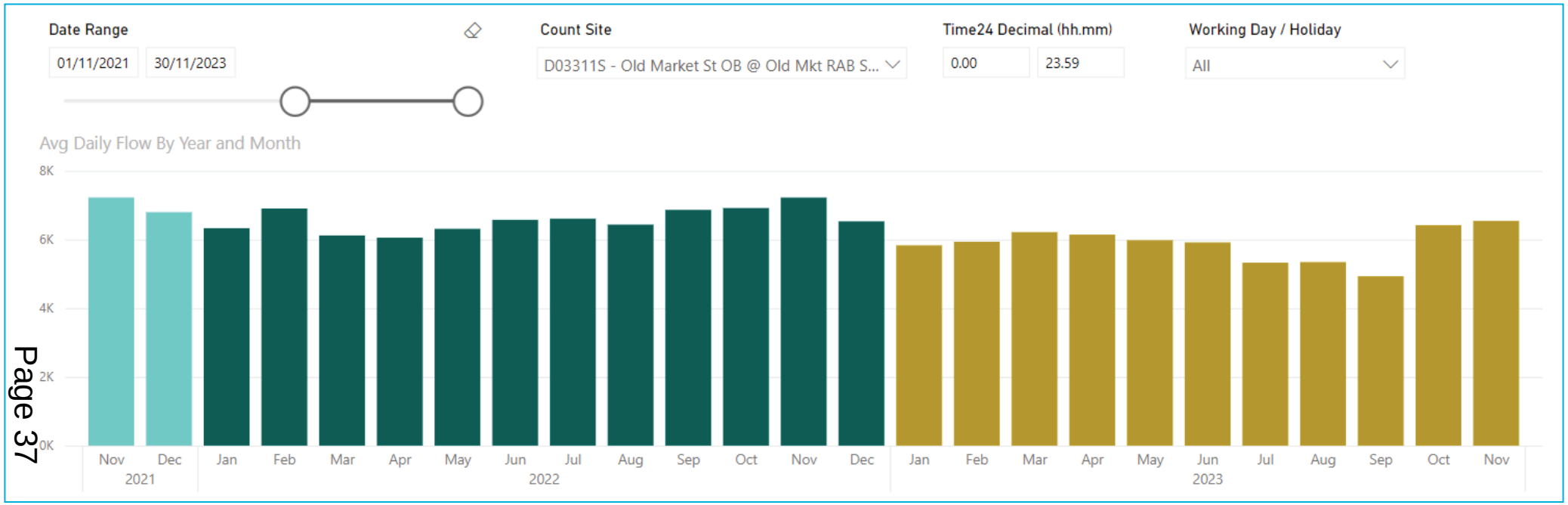


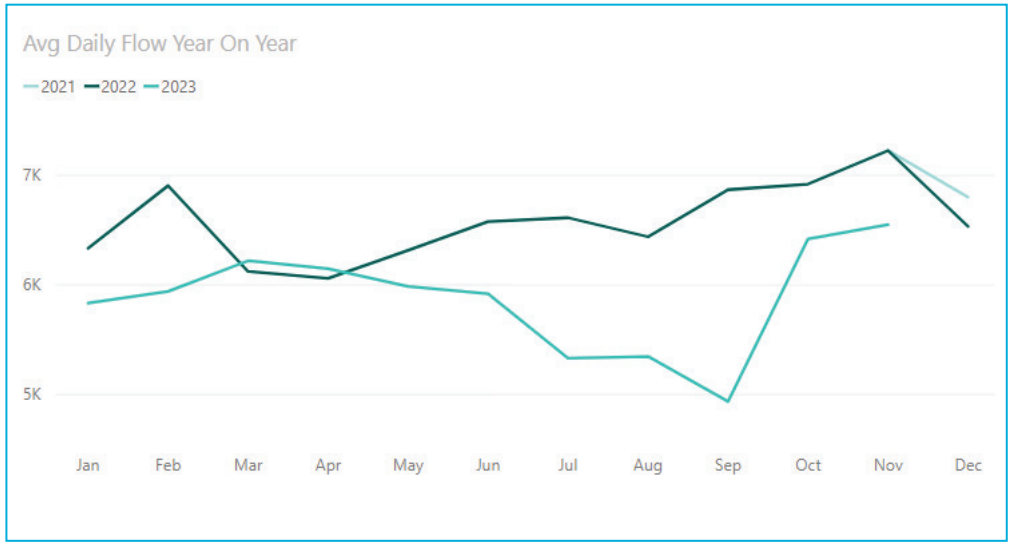


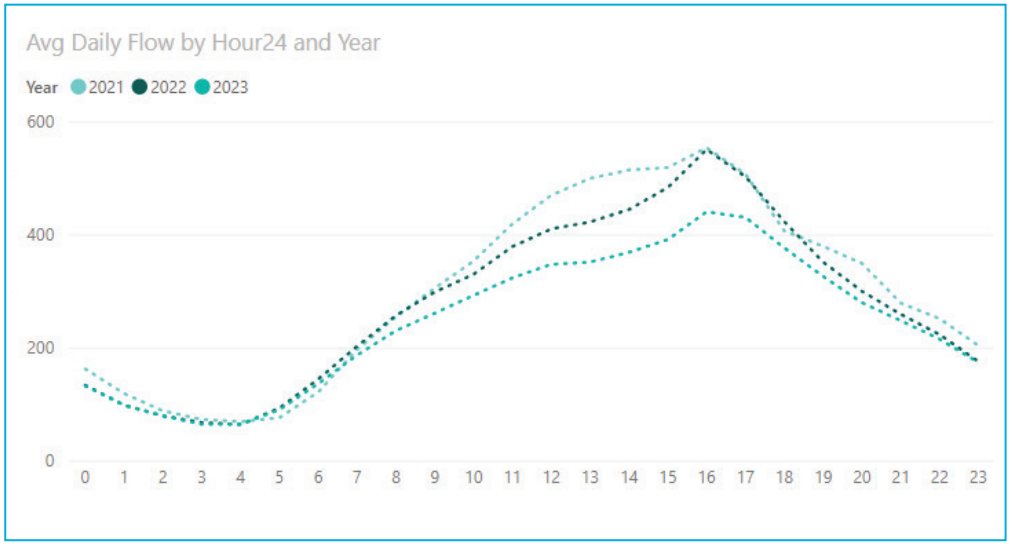


Old Market Street outbound from Old Market roundabout – reduced flows within the zone

This detector shows traffic from within the zone exiting the zone and shows a reduction in flow across the day, likely down to reduced traffic flows within the zone.





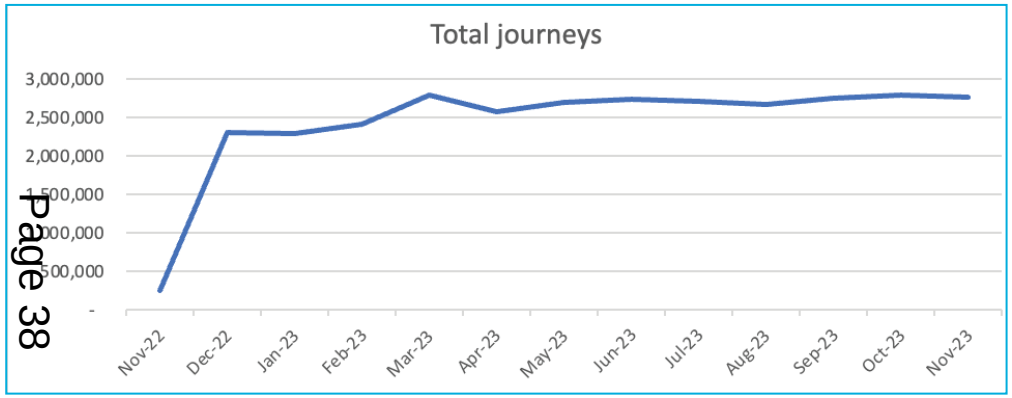


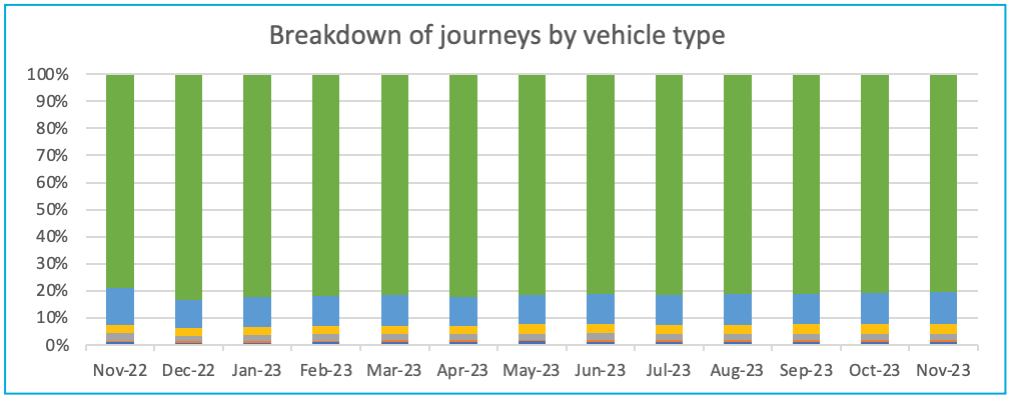
APPENDIX 3 – Statistical Data

Journeys by vehicle type and changes over time

The table below shows the types of journeys in the Clean Air Zone (CAZ) over the last year. The data is taken from our enforcement cameras and the Drive in a Clean Air Zone service has provided the corresponding vehicle types using vehicle data from the DVLA. We count journeys rather than vehicles as one vehicle may make multiple journeys.

Note that number plates which the DVLA did not recognise are excluded from this data (largely Automatic Number Plate Recognition (ANPR) misreads but also some foreign vehicles) as are locally exempt vehicles which are removed from the dataset before we send the data for assessment. Local exemptions are included in the Total Journey table, but not the breakdown by vehicle type.





Breakdown of journeys by vehicle type in '000s	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Total
Car	203	1,926	1,889	1,980	2,272	2,118	2,194	2,216	2,210	2,167	2,229	2,253	2,231	**25,888**
Van	35	234	258	271	318	271	293	311	305	308	312	318	327	**3,560**
Taxi	7	72	67	73	88	80	91	91	91	87	97	98	97	**1,038**
Heavy Goods Vehicle	7	44	50	55	66	55	61	66	62	63	62	64	65	**720**
Motorcycle	2	18	19	23	29	30	35	33	31	32	34	34	31	**351**
Bus	2	13	14	15	17	15	16	18	17	17	18	18	19	**200**
Minibus	<1	1	2	2	3	3	3	4	3	3	3	3	3	**32**
Agricultural Vehicle	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	**8**
Total	**257**	**2,310**	**2,298**	**2,419**	**2,793**	**2,573**	**2,694**	**2,738**	**2,720**	**2,678**	**2,756**	**2,789**	**2,774**	**31,798**

Exemptions

The Council provided a number of temporary and long-term exemptions from the CAZ Daily Charge for qualifying vehicles in order to help specific groups of people adjust to the CAZ and to give them longer to make alternative arrangements.

The majority of the temporary exemptions ended on 31 March 2023, with the financial support exemptions running to 31 July 2023.

The data shows that a significant number of journeys were facilitated by the exemptions, particularly in the first four months. The council also promoted the financial support to exemption holders.

In collaboration with the University Hospitals Bristol and Weston NHS Foundation Trust (UHBW), the council is currently trialling a range of exemptions specifically for those patients who attend Accident and Emergency departments, those receiving cancer treatment or those receiving end of life care. This is in addition to the long-term exemptions available for visitors of long-term inpatients and for regular outpatients.

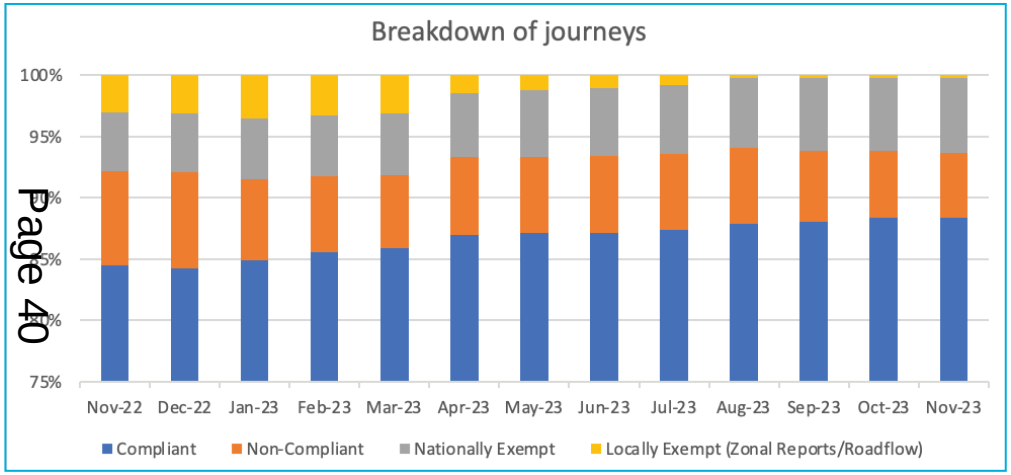
Type of Exemption	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Total
Blue Badge Daily	50	991	951	1,339	1,991	222	37	3	1	0	0	0	0	**5,585**
Blue Badge Holder Longer Term	712	9,096	10,234	10,307	11,692	573	167	0	0	0	0	0	0	**42,781**
Commercial Vehicle with Finance Agreement	19	120	89	101	108	6	2	0	0	0	0	0	0	**445**
Emergency Vehicle	130	865	841	3,211	4,620	4,694	4,603	4,045	3,977	3,605	3,495	3,693	3,596	**41,375**
Low Income Worker	645	6,700	7,838	7,707	8,138	389	115	0	0	0	0	0	0	**31,532**
Recovery Vehicle	18	299	315	337	366	21	10	0	0	0	0	0	0	**1,366**
Registered Community Transport Vehicles	6	37	45	72	85	5	2	0	0	0	0	0	0	**252**
Resident	1,035	11,056	11,818	10,491	11,122	798	214	0	0	0	0	0	0	**46,534**
Specialist Vehicle	23	292	277	275	209	178	142	158	193	246	201	170	253	**2,617**
Hospital (Visitor and Patient)	161	2,244	2,315	3,529	6,435	3,163	2,430	2,234	2,034	1,473	1,531	2,023	2,135	**31,707**
Financial Support	0	0	0	31,645	42,226	28,075	25,780	20,368	15,484	701	97	65	0	**164,441**
Home to School Transport	0	0	0	644	2	14	3	0	0	0	0	0	0	**663**
Non-specific*	5,232	42,734	50,077	12,419	2,157	392	498	617	799	932	992	947	1,105	**118,901**
Total	**8,372**	**78,534**	**88,907**	**90,156**	**10,2197**	**46,609**	**4,1073**	**33,707**	**28,500**	**12,035**	**11,342**	**12,614**	**12,820**	**566,866**

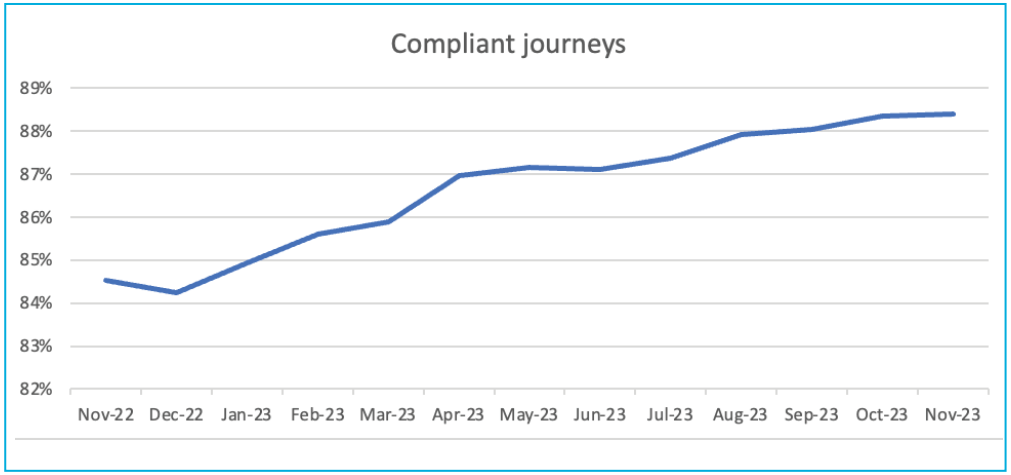
*Non-specific exemptions are those which were processed before our reporting system was able to separate by exemption type. These will largely be emergency services vehicles and those in receipt of financial support.

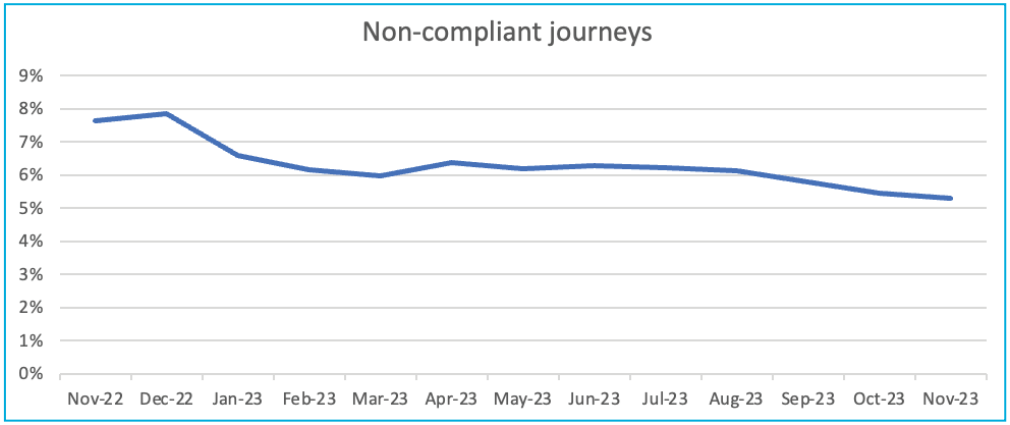
Compliance over time

The following table shows how the breakdown of journeys has changed over time:

Breakdown of journeys by vehicle type in '000s	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Total
Compliant	225	2,012	2,028	2,145	2,481	2,275	2,416	2,383	2,401	2,365	2,437	2,476	2,464	**28,107**
Non-Compliant	20	188	158	154	173	167	174	169	171	165	161	153	147	**2,000**
Nationally Exempt	13	114	118	125	146	136	154	148	154	153	164	167	169	**1,758**
Locally Exempt	8	74	85	82	89	39	29	34	22	7	6	7	7	**490**
Total	**266**	**2,388**	**2,388**	**2,506**	**2,888**	**2,616**	**2,774**	**2,734**	**2,748**	**2,690**	**2,768**	**2,802**	**2,788**	**32,356**



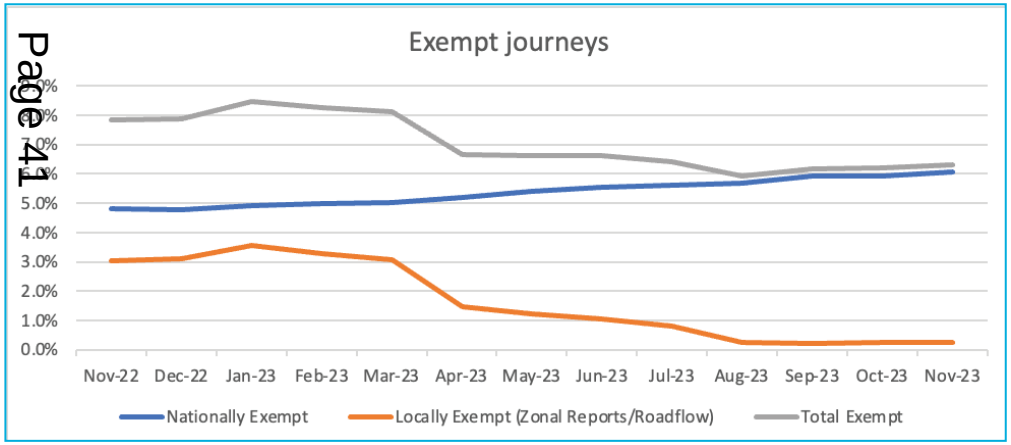




We can see that the percentage of compliant journeys has increased over the year. This is partly due to some drivers of non-compliant vehicles avoiding the zone and partly due to non-compliant vehicles being replaced by compliant ones.

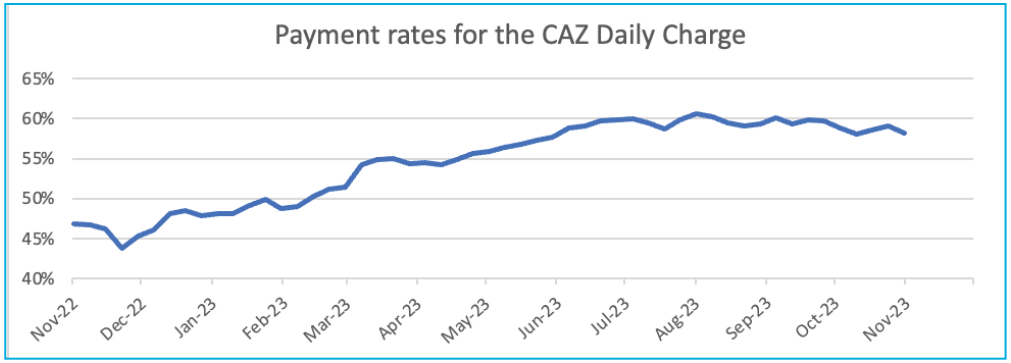
The data also shows that National Exemptions have increased over the year. National exemptions cover ultra-low emission vehicles, disabled passenger tax class vehicles, disabled tax class vehicles, military vehicles, historic vehicles, vehicles retrofitted with technology accredited by the Clean Vehicle Retrofit Accreditation Scheme (CVRAS), and certain types of agricultural vehicles.

It is unlikely that Bristol has seen a statistically significant increase in the number of military or historic vehicles and therefore any increase can be attributed to an increase in cleaner vehicles or through more people registering for disabled tax classes.



Payment rates improving over time

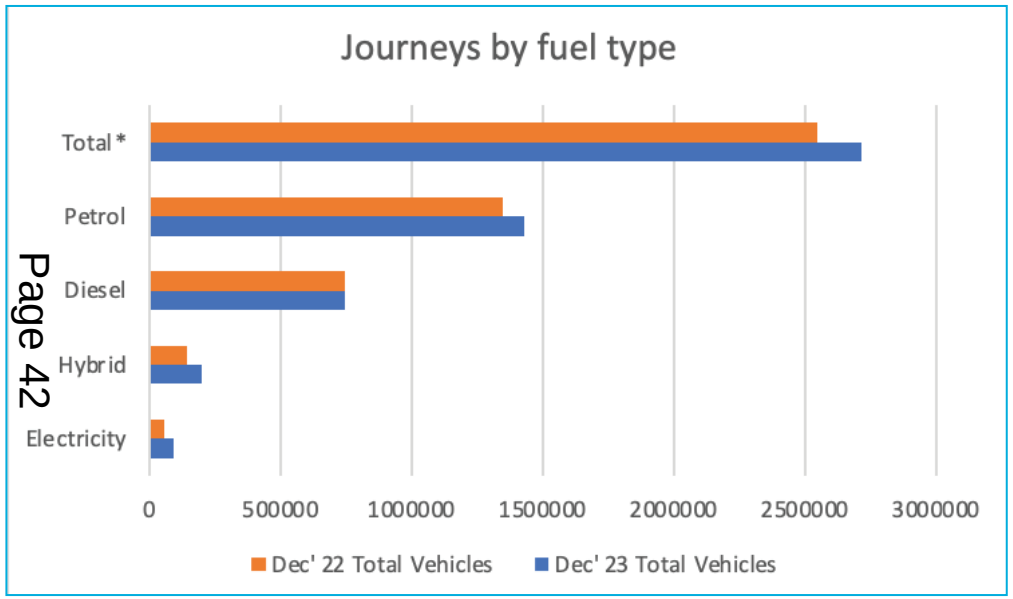
Non-compliant vehicles must pay the appropriate CAZ Daily Charge for their vehicle class if they enter the CAZ. The following chart shows that payment rates have improved over the year.



The table shows the percent of journeys by non-compliant vehicles where the CAZ Daily Charge was paid within the payment window through the Drive in a Clean Air Zone Services. These figures do not include CAZ Daily Charges paid outside of the payment window as part of a PCN.

Fuel types changes over the year

Diesel cars are generally more polluting than petrol ones. We have compared the fuel make up of CAZ journeys in December 2022 with those in December 2023. We can see that the number journeys taken by petrol, hybrid and electric vehicles has increased, whilst the number of diesel journeys has remained the same, despite the higher number of journeys overall. The data also shows that the percentage of diesels journeys which are compliant with the CAZ emissions standards has increased from 76 percent in Dec 2022 to 83 percent in Dec 2023.



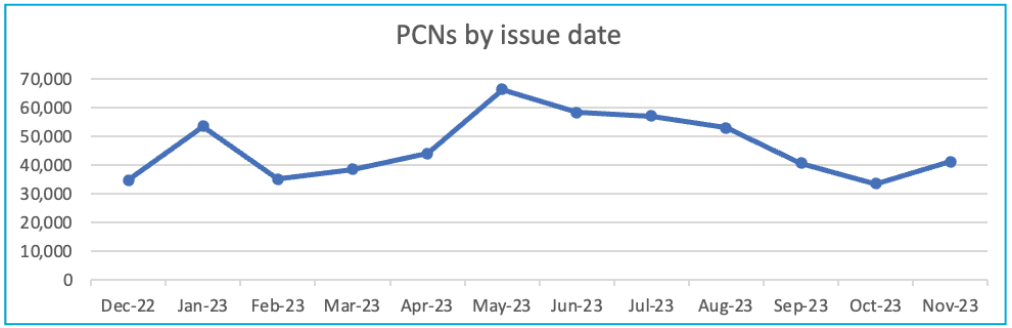
Note that locally exempt journeys are not included in this data.

Penalty Charge Notices (PCNs) issued

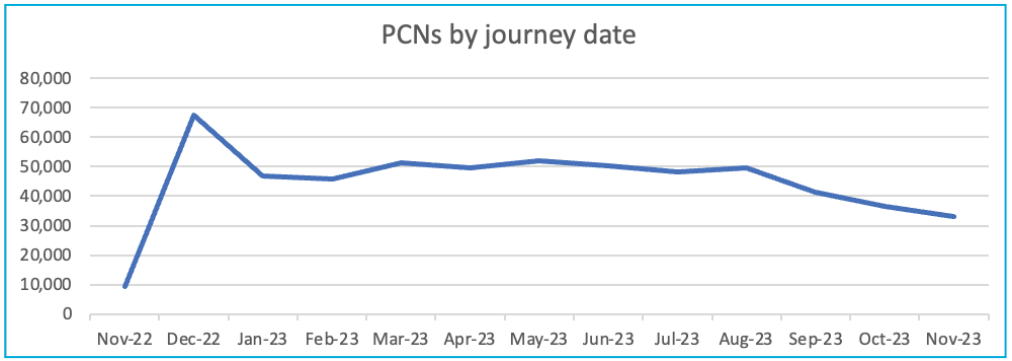
Drivers of non-compliant vehicles who do not pay the required CAZ Daily Charge when driving in the zone are issued with a PCN for non-payment of the CAZ Daily Charge.

To help drivers adjust to the CAZ, those who received PCNs during the first six weeks of operation were given a time limited opportunity to pay the CAZ Daily Charge rather than the PCN. 73 percent of PCNs issued during this period were closed following payment of the CAZ Daily Charge.

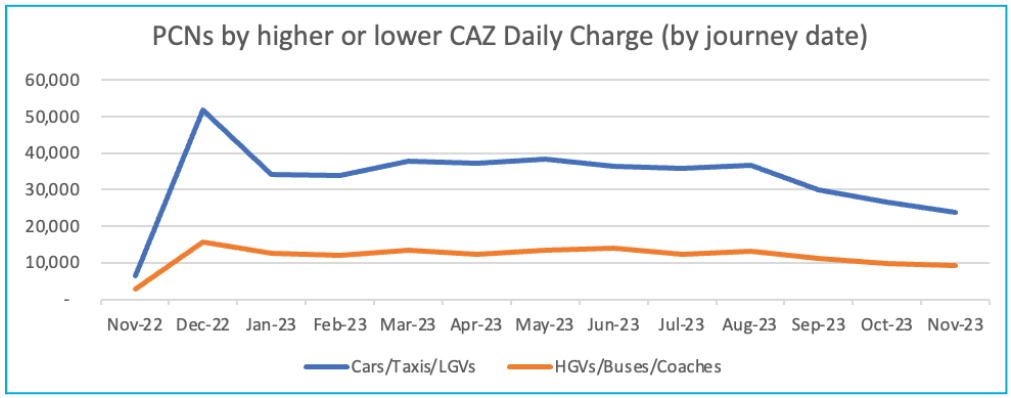
The following number of PCNs have been issued:



This graph displays the PCNs that were issued each month, though the journey date will have been earlier. The peak in May 2023 reflects improvements in system performance and additional staffing resources. PCN numbers are now reducing and this is indicative of improved compliance as is seen in the increase of compliant journeys over time and also the increased payment rate for non-compliant journeys.



The following chart shows a breakdown of PCNs by journey date split between vehicles that were liable for the £9 CAZ Daily Charge (car/taxi/LGV) and those liable for the £100 CAZ Daily Charge (HGV/bus/coach).



PCNs issued by location

The table below shows the number of PCNs issued to non-compliant vehicles at each camera location. Where vehicles were recorded in more than one location on any given day, the enforcement system keeps only one record. This is not necessarily the original entry point of the vehicle, but rather the best quality record in terms of ANPR confidence and image quality.

Camera Reference	Location	Total ('000s)
CAZ0001	A4 Hotwell Road (southbound Portway)	26
CAZ0002	A4 Hotwell Road (northbound Portway)	24
CAZ0003	A4 Hotwell Road (eastbound)	6
CAZ0004	A4 Hotwell Road (eastbound)	4
CAZ0005	A4 Hotwell Road (southbound)	17
CAZ0006	Hotwell Road (eastbound)	5
CAZ0007	Jacobs Wells Road (southbound)	2
CAZ0008	Jacobs Wells Road (northbound)	4
CAZ0009	Hill Street	<1
CAZ0010	Park Street	7
CAZ0011	Park Row	6
CAZ0012	Park Row	6
CAZ0013	St Michaels Hill	9
CAZ0014	Marlborough Street	13
CAZ0015	Dighton Street	5
CAZ0016	Marlborough Street (eastbound)	13
CAZ0017	A38 North Street (northbound)	8
CAZ0018	A38 Stokes Croft (southbound)	4
CAZ0019	York Street	1
CAZ0020	Pritchard Street	3
CAZ0021	St Pauls Street	11
CAZ0022	Newfoundland Circus (northbound)	64
CAZ0023	Newfoundland Circus (northbound)	19
CAZ0024	Newfoundland Circus (southbound)	15
CAZ0025	Newfoundland Circus (southbound)	31
CAZ0026	Old Market Street (eastbound)	9
CAZ0027	Old Market Street (westbound)	16
CAZ0028	Broad Plain	<1
CAZ0029	Avon Street	<1
CAZ0030	Templeback East	1
CAZ0031	Cattle Market Road	2
CAZ0032	A4 Bath Road (southbound)	18
CAZ0033	A4 Bath Road (northbound)	14
CAZ0034	York Road	7
CAZ0035	York Road	4
CAZ0036	York Road	9
CAZ0037	York Road	10
CAZ0038	Bedminster Parade (northbound)	3
CAZ0039	Bedminster Parade (southbound)	4
CAZ0040	Coronation Road (eastbound)	15

Camera Reference	Location	Total ('000s)
CAZ0041	Coronation Road (westbound)	8
CAZ0042	Coronation Road	9
CAZ0043	Coronation Road	8
CAZ0044	Coronation Road	12
CAZ0045	Clift House Road	6
CAZ0046	A370 Brunel Way (southbound)	25
CAZ0047	A370 Brunel Way (southbound)	45
CAZ0048	A370 Brunel Way (northbound)	37
CAZ0049	A370 Brunel Way (northbound)	20

The data shows that the arterial routes into the city have higher numbers of PCNs issued.

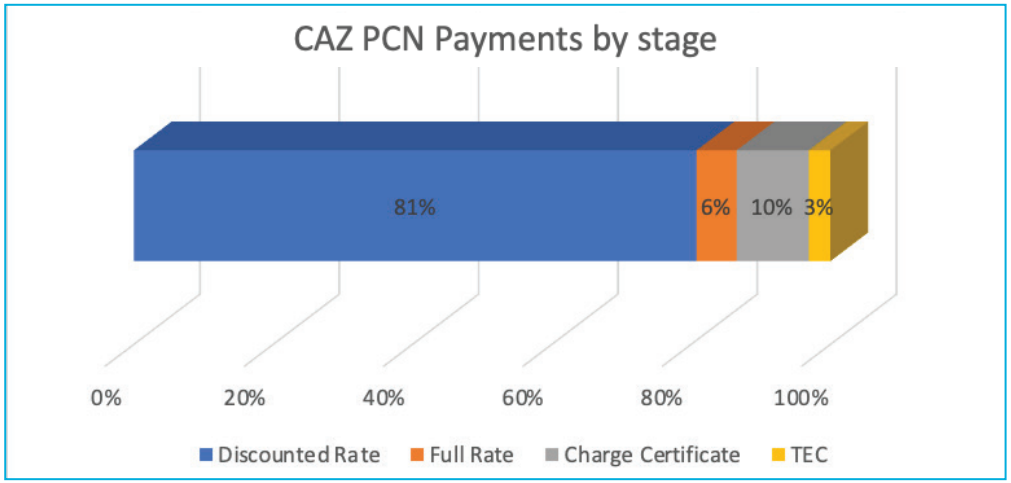
PCN Payments

The PCN lifecycle is set by national legislation and incentivises drivers to resolve their PCNs quickly by offering a 50 percent discount for those who pay within 14 days. Conversely there is a 50 percent increase for those who do not pay within and subsequently receive a Charge Certificate. If it becomes necessary for the Council to register the debt with the Traffic Enforcement Centre (TEC) the amount will increase even further. The original CAZ Daily Charge must be paid in addition to the PCN.

PCN Stage	£9 CAZ Daily Charge	£100 CAZ Daily Charge
Discounted Rate	£69	£160
Full Charge	£129	£220
Charge Certificate	£189	£280
TEC	£198	£289

Should it be necessary to issue a warrant to recover the debt, the Enforcement Agents will also add their own charges (which are capped).

The following graph shows the stage at which all paid PCNs have been paid. The data is based on PCNs that were paid up to 30 November 2023.



The data shows that the vast majority of paid PCNs are paid at the discounted rate and that the number which are paid after Charge Certificate or TEC is much lower.

Appeal stats - BCC and TPT

Drivers may contest a PCN if they have grounds to do so. An initial appeal is formally known as a 'representation' and the grounds for representation are set out in legislation and are included within each PCN.

The council has received 76,221 representations against CAZ PCNs over its first year of operation, of which 68,591 have been processed to date. 34 percent of appeals have been accepted and 66 percent have been rejected based on work completed up to 30 November 2023.

If the Council rejects a representation, a driver can make a further appeal to the Traffic Penalty Tribunal (TPT). The Tribunal is an independent body set up by government. Adjudicators are a team of independent lawyers supported by administrative staff, who provide customer support to appellants and help manage appeals. **More information on TPT can be found on their website.**

In the first year of operation 985 CAZ PCN appeals have been resolved via TPT.

642 of these cases were settled in favour of the appellant and the PCN was cancelled. These include cases which the council did not contest. There are many reasons why for this but the majority are cases where the appellant has provided additional information at this formal stage.

343 cases were settled in favour of the Council and the PCN was not cancelled. These include cases where a consent order was made. A consent order is a settlement between an appellant and the Council where the Council has offered terms and a citizen has accepted.

Of the 197 cases that were decided by an adjudicator; 53 percent were found in favour of the Council and 47 percent were found in favour of the appellant.

PCN status

The full lifecycle of a PCN can take up to 18 months, so data for the first year of CAZ operation includes a number of PCNs that are still open:

PCN Status	Number	%	Comment
Paid	285,645	49%	Cases issued in the first year of operation which have been paid.
Cancelled	33,145	6%	Cases issued in the first year of operation which have been cancelled following a successful representation or appeal.
Written Off	91,125	16%	Cases issued in the first year of operation where DVLA are unable to provide keeper details and cases where Enforcement Agents are unable to trace the keeper or recover the debt.
Open	160,098	28%	Cases at various stages of the PCN lifecycle that are still ongoing.

Overall Financial Summary

The following table shows the financial position for the first year of CAZ operation. This covers operational running costs of the CAZ and does not include any capital expenditure. Data is taken from the Council's finance system for the period from October 2022 to November 2023. October and November 2022 have been included as they include training overheads for staff that has to be trained prior to the start of the scheme.

Table: Financial Summary CAZ Year 1 to November 2023

Description	Amount (£'000)
Employees	1,057
Supplies & Services (A)	942
Supplies & Services (B)	2,298
Support Services	565
Total Expenditure	**4,862**
Income	(31,248)
Total	**(26,386)**

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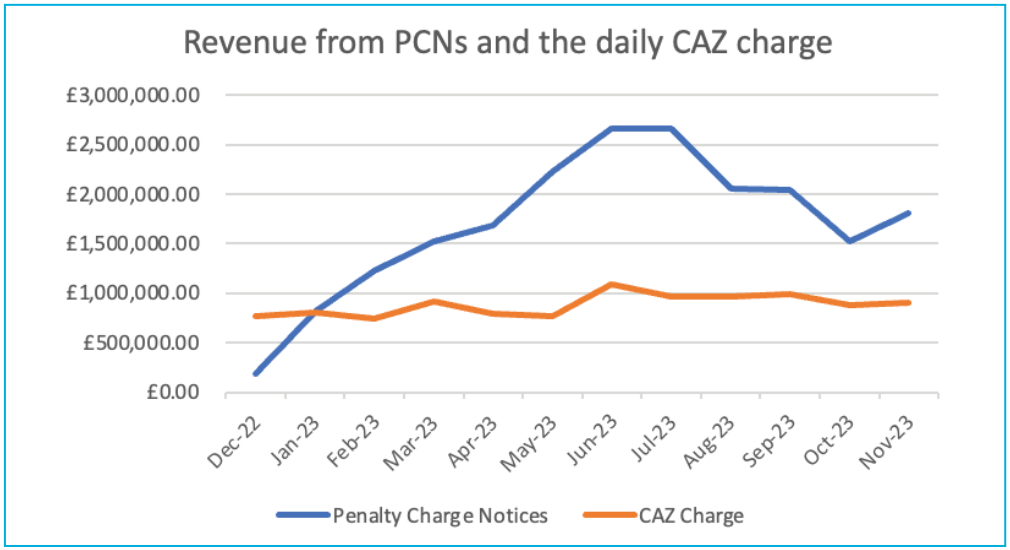
Data has been manually adjusted to include outstanding expenditure accruals (for example bank charges, camera maintenance, DFT and Patrol costs for recent months).

£10.8m of the income is from the CAZ Daily Charges, however the Council incurs charges from the Department for Transport (DfT) for the provision of the Central Drive in a Clean Air Zone service. For every £9 CAZ Daily Charge made, the DtF take a £2 fee. £2.3m of the revenue from the CAZ Daily Charges has been paid to DfT (shown as Supplies and Services (B) in the table above).

Surplus income from CAZ is partly set aside in reserves to cover future decommissioning costs. Any surplus over and above this must be used in line with the purposes set out in the Charging Order. The proposals for the future use of any surplus are subject to a separate Cabinet Report.

Detailed Financial Summary

The following graphs show the monthly revenue received from both CAZ Daily Charges and CAZ PCNs. The data reflects the month in which the Council received the payments – there is no data for November 2022 because payments for November 2022 were not received by the Council until December 2022.



These show the increase in CAZ Daily charges at the end of the main temporary exemption periods (end of March and end of July). The graphs also show that PCN income is reducing as would be expected as compliance improves.

Refunds

In certain circumstances, a motorist may be eligible for a refund of the CAZ Daily Charge. An application can be made through the Council's website which lists the criteria where a refund application can be considered. Below is a table showing the outcome of all the refund applications.

CAZ Daily Charge refunds: Nov 2022 - Nov 2023		
Requests	Approved	Rejected
2,977	1,088	1,889

APPENDIX 4 – JAQU Bristol State 1 2023 Report

Report produced 01/11/2023 by Joint Air Quality Unit (JAQU)

This State 1 report for Bristol City Council assesses air quality data from diffusion tubes and continuous analysers and provides transport data analysis from the first six months of the 2023 calendar year.

Headline Summary

Findings suggest there is potential the Local Authority is on track to achieve success for the yesr of measurement 2023.

The State 1 assessment is successful. Recomend progressing to State 2.

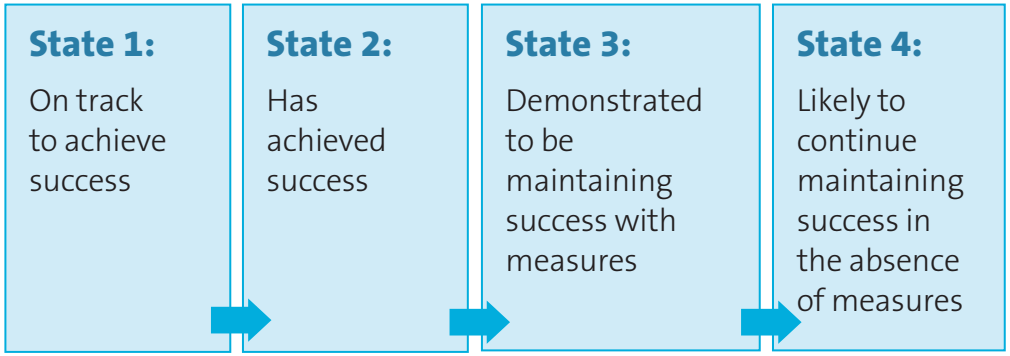
Contents

1. Introduction

Local Authorities (LAs) in England with persistent exceedances of nitrogen dioxide (NO2) concentrations at the roadside have been required by Government to develop and implement Local Plans to reduce these concentrations to within statutory limits in the shortest possible time. The Government assesses the local plans to make sure they are effective, fair, good value and will deliver the required improvements in air quality in the shortest time possible.

Once evidence shows that LAs have been successful in reducing and maintaining NO2 levels below the legal limit and that where applicable these levels are likely to be sustained without measures, government intends to confirm that the legal obligation on the LA to maintain the measures has been met. Whether a LA wishes to continue with their measures will be a decision for them to make. Removing measures can proceed, providing it can be shown that this will not risk compliance.

As part of the Exiting the NO2 Programme process, JAQU conducts a series of assessments of LA monitoring and evaluation data. The below figure shows the flow and description of each state assessment in the exit process.



The purpose of this State 1 report is to inform the LA and JAQU, whether the data indicates that the LA is on track to achieve success by the end of the calendar year. Success is defined as no exceedances observed at valid locations in the LA. This State 1 report assesses diffusion tube and continuous analyser data and provides transport data analysis from the first six months of the 2023 calendar year.

Please see Exiting the NO2 Programme guidance for more information on the exit process and a glossary of terms used within this report.

2. Local Measures Context

- Bristol implemented a small CAZ D in the city centre covering Temple Way, the roads around Broadmead and Cabot Circus, a section of Park Street, and routes around Bristol Royal Infirmary. Additional measures were the closure of Cumberland Road inbound to general traffic and reduced traffic to the city centre using existing signals.
- The CAZ D was implemented 28 November 2022.
- Compliance was modelled to be at the end of 2023 (based on a CAZ being launched in early 2022).
- Local exemptions were extended to 31 March 2023. Exemptions for those that have a commercial vehicle on order were extended to end July 2023.

3. Test Outcome Summary

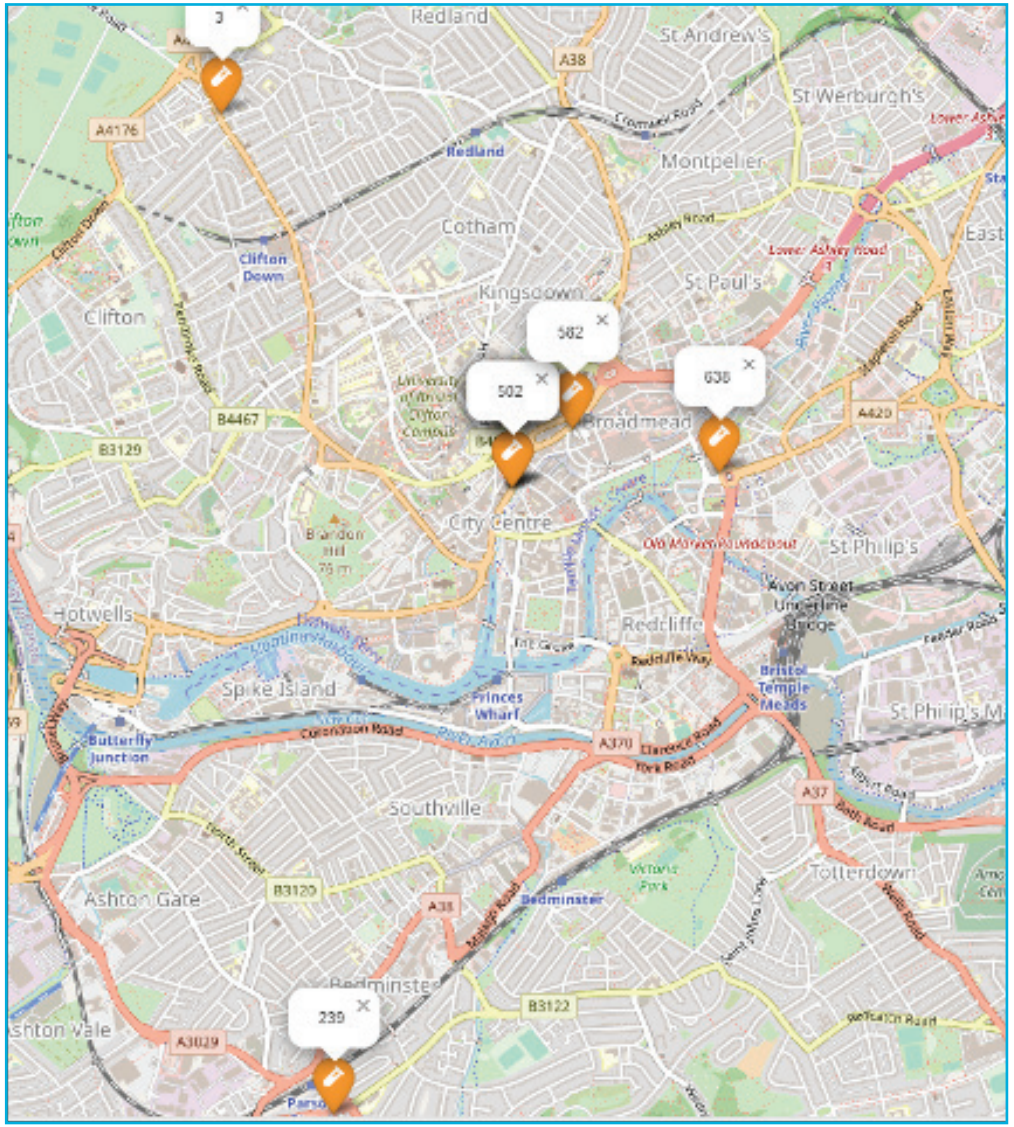
Below outlines the test case performance for the LA.

Test	Rating	Reason
Continuous Analyser - what were NO_2 levels like in study year?		All continuous analysers reporting max rolling averages below 36µg/m³ for 2023
Continuous Analyser - projecting forward, what is expected for the next year?		All continuous analysers on track to achieve success in 2024
Diffusion Tube – were any tubes within 10% or greater than 40.49µg/m³?		Multiple Tertiary and Secondary Diffusion Tubes greater than 36µg/m³. Six Primary Tubes between 36 and 40.49µg/m³

4. Key Monitoring Locations

The below maps present the locations of key monitoring sites which are impacting the LA in achieving success.

Figure 1 – Amber Diffusion Tube Sites - Tertiary and Secondary Diffusion Tube Sites >40.49µg/m³



5. Key Results

5.1. Diffusion Tubes

Interim Results

Diffusion tube results below are presented as bias adjusted annual average interim results. These results are calculated by taking the January to June monthly diffusion tube results for each site and averaging these six months only. Only the first six months are used as this provides the most representative averaging period for an in-year assessment. Using additional months biases the result to underreporting, as quarter three values tend to be lower in the annual cycle. This average result is then bias adjusted using the most recent bias adjustment factor available for the LA. JAQU have undertaken analysis to show that a January to June six month average is sufficiently statistically representative of an expected end of year annual average to be able to be utilised for a State 1 assessment.

Results Summary

The below provides a summary of the diffusion tube results categorised by their AQSR siting status. A more detailed table of the results follows the summary.

Primary – are there exceedances at AQSR locations?

- There are **0** locations that meet the primary category **above the limit value**.
- There are **5** locations that meet the primary category that are **within 10% of the limit value**.

Secondary – did any tubes not capture enough data to be valid?

- There are **1** locations that meet the secondary category **above the limit value**.
- There are **3** locations that meet the secondary category that are **within 10% of the limit value**.

Tertiary – are there exceedances at non-AQSR locations?

- There are **6** locations that meet the Tertiary category that are **above the limit value**.
- There are **10** locations that meet the Tertiary category that are **within 10% of the limit value**.

Table – Amber Diffusion Tube Sites - Tertiary and Secondary Diffusion Tube Sites >40.49µg/m³

Site	Site Name	Latitude	Longitude	Classification	RAG	Bias Adj. Indicative Annual Average NO_2 Concentration [µg/m³] Interim Results	Bias Adjustment	Bias Factor Source
3	Blackboy Hill	51.46921	-2.61399	Tertiary		57.96088	0.862	Previous Year - 2022
638	A4044 Roundabout-CAZ-Lamppost	51.45582	-2.58431	Tertiary		47.77204	0.862	Previous Year - 2022
502	Co-located Colston Ave	51.45527	-2.59665	Tertiary		46.548	0.862	Previous Year - 2022
502	Co-located Colston Ave	51.45527	-2.59665	Tertiary		44.62286667	0.862	Previous Year - 2022
502	Co-located Colston Ave	51.45527	-2.59665	Tertiary		43.64593333	0.862	Previous Year - 2022
582	Rupert St-CAZ-Post outside fire station	51.45747	-2.59304	Secondary		43.47353333	0.862	Previous Year - 2022
239	Parson St. A38 East	51.43198	-2.60728	Tertiary		43.34423333	0.862	Previous Year - 2022
583	Rupert St-CAZ-Post outside police station	51.45753	-2.59337	Tertiary		39.96806667	0.862	Previous Year - 2022
12	Galleries	51.45639	-2.58944	Primary		39.49396667	0.862	Previous Year - 2022
567	College Green-CAZ-Post by Toni&Guy	51.45268	-2.59818	Tertiary		39.06296667	0.862	Previous Year - 2022
626	Bedminster Rd-CAZ-Post	51.4316	-2.61034	Secondary		38.79	0.862	Previous Year - 2022
625	Bedminster Rd-CAZ-Lamppost by Van Sales	51.43205	-2.60783	Primary		38.71816667	0.862	Previous Year - 2022
147	Anchor Road	51.45167	-2.59842	Primary		38.6176	0.862	Previous Year - 2022
567	Muller road/ Glenfrome road junction north	51.47569	-2.56685	Tertiary		38.5314	0.862	Previous Year - 2022
604	Lewins Mead-CAZ-Post by PMT	51.45755	-2.59413	Secondary		38.39348	0.862	Previous Year - 2022
624	Bedminster Rd-CAZ-Post opp Van Sales	51.43192	-2.60759	Primary		38.2297	0.862	Previous Year - 2022
602	Anchor Road-CAZ-Lamppost	51.45135	-2.59906	Tertiary		37.48263333	0.862	Previous Year - 2022
2	Colston Avenue	51.45456	-2.59681	Tertiary		37.47545	0.862	Previous Year - 2022
22	Stokes Croft	51.46246	-2.58999	Tertiary		37.42516667	0.862	Previous Year - 2022

Site	Site Name	Latitude	Longitude	Classification	RAG	Bias Adj. Indicative Annual Average NO_2 Concentration [µg/m³] Interim Results	Bias Adjustment	Bias Factor Source
629	Lower Ashley Rd-CAZ-Lamppost opp London Rd	51.46651	-2.57814	Tertiary		37.22116	0.862	Previous Year - 2022
616	Newfoundland Way-CAZ-Road sign	51.46099	-2.58079	Primary		36.9367	0.862	Previous Year - 2022
651	Church Rd-CAZ-Post by Barwaaqo Cafe	51.458	-2.56361	Tertiary		36.635	0.862	Previous Year - 2022
615	Newfoundland Way-CAZ-Lamppost by petrol station	51.46072	-2.58205	Tertiary		36.5919	0.862	Previous Year - 2022
652	Whitehall Rd-CAZ-Lamppost by house	51.46179	-2.56105	Tertiary		36.3333	0.862	Previous Year - 2022
619	Cheltenham Rd-CAZ-Lamppost by Bite	51.46483	-2.58988	Secondary		36.05315	0.862	Previous Year - 2022

5.2. Continuous Analysers

Continuous Analyser data undergoes several assessments. Firstly, a Theil-Sen regression is undertaken to assess the trend of the data - any positive rates >1 are highlighted in amber for consideration within the context of the rest of the results. A positive rate in of itself is not grounds for failure. Secondly, an assessment of the rolling annual average is undertaken to see if the data exceeds the limit value – this involves using a 12-month moving average window on the latest available data i.e. if the latest data is June 30 2023, then an average is calculated from June 30 2022 – June 30 2023.

Thirdly a GAM model is trained on all available historical data and is used to project forward a timeseries to assess the annual average value of the full 2024 year to understand likelihood of compliance the following year. This projection returns green if the highest confidence interval is greater than the threshold of 40.49ugm-3, returns amber if the threshold is within the confidence intervals, and returns red if the confidence interval exceeds the threshold.

Table – Continuous Analyser Analysis Findings

Site Name	Site ID	Site Type	Latitude	Longitude	Classification	Theil-Sen Regression Rate [µg/m³]/year	Rolling Annual Average Max - 2023 [µg/m³]	Forward Projection (2024)
Bristol St Pauls	BRS8	AURN	51.46284	-2.584482	Primary	0.4	15.78	Site projected to meet air quality target by year 1
Bristol Temple Way	BR11	AURN	51.45797	-2.583975	Primary	-0.83	25.23	Site projected to meet air quality target by year 1
Brislington Depot		LAQ	51.441747	-2.5599558	Tertiary	-1.972	20.57	Site projected to meet air quality target by year 1
Colston Avenue		LAQ	51.455269	-2.5966488	Tertiary	-2.0	34	Site projected to meet air quality target by year 1
Fishponds Road		LAQ	51.478044	-2.5352302	Tertiary	-3.397	27.03	Site projected to meet air quality target by year 1
Marlborough Street		LAQ	51.459141	-2.5954327	Tertiary	-5.796	28.77	Site projected to meet air quality target by year 1
Parson Street School		LAQ	51.432675	-2.6049566	Tertiary	-2.471	30.67	Site projected to meet air quality target by year 1
Wells Road		LAQ	51.427863	-2.5637415	Tertiary	-3.522	23.06	Site projected to meet air quality target by year 1

5.3. Anonymised Fleet Data

An overview of current and historic Anonymised Fleet Data is provided in the below table. Anonymised Fleet Data is derived from the submitted Automatic Number Plate Recognition data (ANPR). The data presents the compliance percentage of each vehicle class across the quarters of data received. Compliance is defined as the vehicle euro standard required for a CAZ D in each given vehicle class regardless of LA CAZ Type i.e. CAR DIESEL = Euro 6, CAR_PETROL = EURO 4. This data is not assessed as part of the State 1 but is provided as helpful contextual data for ongoing discussions as part of the exit process.

Table - Anonymised Fleet Data- Percentage Compliant Vehicle Class by Year and Quarter

	Year/Quarter		
	2022	2023	2023
Vehicle Class	4	1	2
CAR_DIESEL	46	70	75
CAR_ELECTRIC_DIESEL	93	98	98
CAR_ELECTRICITY	100	100	100
CAR_GAS	100	100	100
CAR_GAS_BI_FUEL	83	86	82
CAR_GAS_DIESEL	100	60	33
CAR_HYBRID_ELECTRIC	100	100	100
CAR_NEW_FUEL_TECHNOLOGY	100	100	N/A
CAR_PETROL	93	94	94
HGV_ARTIC	95	98	99
HGV_RIGID	83	92	94
LGV_DIESEL	62	79	82
LGV_ELECTRIC_DIESEL	100	100	100
LGV_ELECTRICITY	100	100	100
LGV_GAS	100	100	100
LGV_GAS_BI_FUEL	72	N/A	N/A
LGV_HYBRID_ELECTRIC	100	100	100
LGV_PETROL	90	93	95
TAXI_DIESEL	68	76	81
TAXI_ELECTRIC_DIESEL	55	64	65
TAXI_ELECTRICITY	100	100	100
TAXI_GAS BI-FUEL	100	100	100
TAXI_HYBRID_ELECTRIC	100	100	100
TAXI_PETROL	100	100	100
BUSES & COACHES	94	99	99

6. Next Steps

As State 1 is met in the expected year, the LA proceeds to State 2.

Please refer to section 3 in Exiting the NO2 Programme Guidance for next steps following a successful result.

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Decision Pathway – Report

PURPOSE: Key decision

MEETING: Cabinet

DATE: 23 January 2024

TITLE	Detailed Five Year Programme for Application of Bristol Clean Air Zone net proceeds	
Ward(s)	City Wide	
Author: Alex Hearn		**Job title:** Interim Director Economy of Place
Cabinet lead: Mayor		**Executive Director lead:** John Smith, Interim Executive Director Growth and Regeneration
Proposal origin: BCC Staff		
Decision maker: Cabinet Member **Decision forum:** Cabinet		

Purpose of Report:

1. To report the forecast net proceeds (income) from the Clean Air Zone (CAZ) Scheme from years 2022/23 to 2025/26.
2. To agree a Detailed Five-Year Programme for applying net proceeds from the Clean Air Zone to enhance public transport and active travel to improve air quality in the city having regard for the legal basis and transport policy framework.

Evidence Base:

1. A five-year plan is set out within Part 2 Annexe 5 of the Bristol Clean Air Zone Charging Order in 2022 (from now on referred to as 'the Order') and the council intend to apply net proceeds in accordance with it. Now that the performance of the Clean Air Zone in improving air quality is starting to be understood with the publication of the State 1 data from the Joint Air Quality Unit (JAQU), and net proceeds can be forecast, the council is in a position to propose a Detailed Five Year Programme.

2. This paper describes the forecast net proceeds to be derived from the Clean Air Zone and proposes for Cabinet approval the intended approach to applying these to the objectives of the CAZ Order and Joint Local Transport Plan policies. Net proceeds received thus far, alongside the initial State 1 data from JAQU, is addressed in a separate paper at this Cabinet meeting.

3. The Bristol Clean Air Zone was introduced in November 2022 following direction by Government to comply with legal pollution levels and to improve air quality.

4. The council is currently forecasting net proceeds of £81m between financial years 2022/23 and 2025/26 once operational costs are deducted. This forecast has been arrived at through internal modelling but with support of external accounting and economic expertise to verify these forecasts.

5. Annual net proceeds are forecast to reduce as less-polluting vehicles are used and people drive less within the zone area including because public transport, walking and cycling become a more attractive to people. The term length of the Clean Air Zone depends on when legal compliance is achieved in respect of Air Quality.

6. The JAQU State 1 Assessment Report indicates the city may be compliant in meeting the parameters of the

Air Quality Standards Regulations. The results of the State 1 Assessment are interim and extrapolated from a January to June six month average which JAQU believe to be statistically representative of an expected end of year annual average.

7. State 1 results are high-level and the main purpose is to determine if it is worth carrying out a full State 2 assessment next year on the full 2023 data set because there a chance that compliance will be achieved. The pass at State 1 means JAQU think State 2 compliance is achievable, although the results also highlight locations exceedance of the Air Quality Standards Regulations remains possible.

8. The council agreed the Order in 2022 under the provisions of the Transport Act 2000. This requires proceeds first to be used to set up, operate, manage and then decommission the CAZ, but that following this the council may agree to invest net proceeds to directly or indirectly facilitate the achievement of local transport policies (in Bristol these are contained within the West of England Joint Local Transport Plan).

9. The Order, at Annex 5, also sets out a five-year and a ten-year plan for applying net proceeds. The two plans should be read together.

10. The ten-year plan is a general plan. It provides that any proceeds would be applied, in such proportions to be agreed by the council, to directly or indirectly facilitate the achievement of the local transport policies in line with the following high level spending objectives:
    - promoting cleaner air by offering packages for non-compliant vehicles to upgrade or retrofit their vehicles to meet the standards required by the CAZ (£40m of agreed Government funding is delivering this);
    - supporting active travel and incentivising public transport use;
    - supporting green infrastructure along the most polluted roads where public exposure is the highest;
    - supporting the maintenance of infrastructure to promote active travel and public transport use.

11. The five-year programme provides more detail of how net proceeds will be applied during the first five years, depending on the level of net proceeds generated, the speed of compliance, demand for support etc The Order requires that it achieves delivery in line with not only the 10 year plan objectives (including the local transport policies), but also the following four funding objectives:
    i. Ensure that the Scheme is sustainable and that future enforcement activity is adequately funded from any excess revenue generated in earlier years, to avoid demands on Council resources as compliance is achieved and revenue declines accordingly;
    ii. The funding will be awarded on a priority basis and in considering the prioritisation the following factors will be considered:
        - Impact on air quality
        - Value for money;
    iii. Enabling vehicles which are subject to the exemptions or transitional arrangements set out in this Order to upgrade or retrofit where possible in order to meet the Scheme emissions standards;
    iv. To support and increase the use of active transport, public transport and low emission vehicles, including a list of schemes for which CAZ proceeds can be invested as match funding towards the City Regional Sustainable Transport Settlement (CRSTS), and then beyond this, proposals likely to include but not restricted to:
        - Further liveable neighbourhoods;
        - Bus service improvements, both physical infrastructure and operational services; and
        - Improve and maintain infrastructure on active travel routes and bus corridors.

12. The impact of the pandemic on public transport patronage and viability and post pandemic, national inflationary shocks in the economy continue to present a major challenge to the council, exacerbating the underlying on-going pressures of increased demands, higher costs and fewer resources facing local

government across all services. These overall pressures make funding and resourcing of public transport, delivering projects and meeting the costs of maintaining a highway network to enable modal shift away from the private car and thus deliver improvements to air quality increasingly difficult. The council continues to need to make both in year and ongoing savings as part of delivering its Medium-Term Financial Plan and as with services across the organisation this puts the continuation of existing local transport and highway budgets under pressure.

13. This detailed Five-Year Programme is presented to apply the net proceeds in line with the Order objectives (being the ten-year and five-year objectives). This is within an overall financial context where public transport continues to face patronage and viability challenges and the capacity and affordability for the council to continue to develop and deliver transport projects and maintain a network upon which transport can operate also continues to be challenged.

14. The detailed Five-Year Programme has been developed to be in accordance with the Order objectives and to deliver relevant objectives and policies of the Joint Local Transport Plan and have been subject to legal advice. The table at Appendix 1 sets out the detailed Five-Year Programme proposals together with the relevant Joint Local Transport Plan policies and objectives.

15. The West of England Combined Authority is the Regional Transport Authority, through which the council has prepared, consulted upon and adopted a Joint Local Transport Plan (JLTP) and it contains Bristol's transport policies. The fourth iteration of this (JLTP4) promotes five key objectives and the proposals within the Five-Year Programme will help to achieve these (within the context of the Order objectives):
    i. **Take action against climate change and address poor air quality** through lower emissions and a more resilient and adaptive transport network
    ii. **Support sustainable and inclusive economic growth** attracting investment to unlock and connect new homes, education and employment; and maintaining a network that is efficient, reliable and manages congestion better
    iii. **Enable equality and improve accessibility** through for people with disabilities, rural, remote and deprived communities through smarter and convenient public transport and supporting measures that reduce the need travel
    iv. **Contribute to better health, wellbeing, safety and security** through a step change in walking and cycling, fewer casualties with improved road and personal safety for users
    v. **Create better places** through an integrated and connected transport network that improves the journey experience, enhances the streetscape, public spaces and urban environments and supports regeneration

16. The council forecasts that by the end of financial year 2025/26, net proceeds totalling approximately £81m will be received through the operation of the Clean Air Zone. £7m was collected in year 2022/23, the forecast for 2023/24 is based on monitored proceeds received. In years 2024/25 and 2025/26, it is estimated that proceeds will decline. While the operational period of the Clean Air Zone is limited to confirming and sustaining compliance with legal air quality levels, the net proceeds can continue to be applied after this.

17. These forecasts have been subject to external verification and a high degree of confidence can be assumed for years 2024/25 and 2025/26 based upon assumptions of proceeds received and rates of compliance of vehicle users. The model will need to be regularly updated to ensure projections for future years remain robust as those assumptions continue to be tested.

18. In line with the Order objectives, the council's local transport policies and recognition of the medium-term financial pressures for public transport and the council, a Detailed Five Year Programme for the application of net proceeds will be delivered in accordance with the following four themes.

    i. Improving Public Transport: The ongoing impact of the pandemic on patronage and inflationary pressures on the financial viability of bus services continues to be felt within the city. Funding the

council's contribution to the Transport Levy, will help to ensure bus services can continue to become a more reliable alternative to private car and support sustainable and inclusive economic growth through regeneration, in line with the Joint Local Transport Plan. Providing additional investment (an increase over current levels) into supported buses will enable long-term viability of services. £10.3m is proposed to be committed to meeting the council's contribution to the Transport Levy in year 2023/24 and 2024/25 while from 2025/26 to 2027/28 this will fall to £6.3m with an additional £1.57m provided for investment in supported bus services.

ii. **Match funding for City Regional Sustainable Transport Settlement (CRSTS):** £10m of match funding will be provided to unlock significant capital investment to deliver improvements to public transport corridors and deliver new active travel routes across the city and with greater connections to the region, enabling better and more frequent connections to opportunities being created through the regeneration of the city. CRSTS will deliver significant infrastructure improvements to support the increased use of reliable public transport and safe and convenient routes for walking and cycling to encourage a shift away from private car use. £2m is committed in year 2024/25, £3m in 2025/26 and £5m in year 2026/27.

iii. **Improving and Maintaining Infrastructure:** For people to regularly use public transport or active travel and in greater numbers, they need faith in a network of corridors and routes that is invested in and then maintained to be resilient, safe, convenient and viable in the long term. To achieve the objectives of the Joint Local Transport Plan and the Order objectives, the transport network of the city requires a highway asset that is safe, integrated and efficient. If the infrastructure is not maintained, then it can deter people from choosing active modes of travel and disproportionately impact pedestrians and cyclists. A lack of funding to improve the condition of the highway network could lead to increased levels of congestion and be detrimental to the quality of the public realm and air quality. Net proceeds will be allocated to make improvements to the network and to maintain these to support ongoing and growing use of public transport, walking and cycling as alternatives to private car use. £4.59m is committed in year 2023/24 and £3.01m in 2024/25. £2m is allocated to enable removal of parking bays to facilitate bus and cycle lanes in 2024/25. For years 2025/26 and 2027/28, net proceeds will provide additional investment of £0.88m per year into the network.

iv. **Enabling Local and Neighbourhood Transport Schemes:** Funding for Local and Neighbourhood Transport Schemes that meet the objectives of the Joint Local Transport Plan and Order objectives can supplement the investment through Community Infrastructure Levy. This will also help resource the council's Local Transport, Road Safety, Sustainable Travel and TRO teams to support the development and delivery of the relevant local and neighbourhood transport projects. £1m is applied this year for Transport Studies and a further £10m of net proceeds will be applied from year 2024/25.

19. Further information is contained within Appendix A to demonstrate the linkage with the objectives and policies of the Joint Local Transport Plan.

Cabinet Member / Officer Recommendations:

That Cabinet

1. Notes the forecast Clean Air Zone net proceeds within financial years 2023/24, 2024/25 and 2025/26.
2. Approves the Detailed Five-Year Programme for application of net proceeds from the Clean Air Zone to enhance public transport and active travel to improve air quality in the city having regard for Bristol Clean Air Zone Charging Order 2022 and the Joint Local Transport Plan as set out in this report and Appendix A.
3. Note the implications of the Detailed Five-Year Programme for application of net proceeds from the Clean Air Zone for the council's Medium Term Financial Plan.

Corporate Strategy alignment:

The commitments of the Five-Year Programme will support outcomes across the Corporate Strategy including:

1. Children and Young People: improvements to the convenience, reliability and safety of public transport and active travel to improve connectivity for employment and learning and support physical and mental wellbeing for children and young people.
2. Economy and Skills: better public transport and active travel infrastructure can connect people to opportunities created by the investment in and regeneration of the city and help to remove barriers to employment.
3. Environment and Sustainability: improved air quality through supporting the use of alternatives to the private car and help reduce the carbon emissions from transport.
4. Health, Care and Wellbeing: better connections and improved infrastructure for walking and cycling can support the physical and mental wellbeing of citizens.
5. Homes and Communities: the development of new homes within higher density and mixed-use development can be better.
6. Transport and Connectivity: investment in a more reliable, convenient and safer network of public transport and infrastructure for walking and cycling.
7. Effective Development Organisation: making best use of limited resources to maintain and increase investment in public transport and active travel.

City Benefits:

1. Provide greater bus service frequency, reliability, and punctuality through funding service and bus priority infrastructure.
2. Improving the accessibility of public transport to enable connectivity to jobs, education, and other opportunities across the city for all citizens.
3. Promoting the use of more sustainable travel as preferential modes. Subsequently delivering better air quality by reducing the reliance on private vehicles, and improving the health and wellbeing of the population, and especially for those living with a pre-existing health condition.
4. The delivery of walking and cycling infrastructure improvements will help to contribute to the uptake in active travel methods which offers social value benefits, including health and wellbeing.
5. Highway improvements that will contribute to the reduction in community segregation through the improvement of public transport services.
6. Improvements to the urban environment including enhancing the public realm, creating more green space and planting trees where possible.
7. Better public transport interchange points, ensuring that the bus stop waiting environment is of high quality and where possible improving the trip chain to the bus stop. Making improvements at bus stops and to the trip chain can have indirect benefits including bus patronage growth, improved perception of safety, active travel uptake for the first and last mile of one's journey.
8. Upgrading and maintaining council assets where possible such as the surface of the carriageway, bus stops, and signals to support ongoing use for sustainable travel modes.

Consultation Details:

The proposal has been developed in consultation with Cabinet Members. Answers to questions from the Resources Scrutiny Commission in December 2023 have been provided, including in respect of application of some net proceeds proposed in this paper.

The proposals within this paper will be presented to the Overview and Scrutiny Commission on 17 January 2024.

Background Documents:

The Transport Act 2000

The Clean Air Zone Charging Order 2022

Joint Local Transport Plan 4 2020-2036 (westofengland-ca.gov.uk)

Revenue Cost	**£**	**Source of Revenue Funding**	
Capital Cost	**£**	**Source of Capital Funding**	
One off cost ☐ **Ongoing cost ☐**		**Saving Proposal ☐** **Income generation proposal ☐**	

Required information to be completed by Financial/Legal/ICT/ HR partners:
1. Finance Advice: This report summarises the forecast income derived from the Clean Air Zone (CAZ) and the Council's plan to use that income to enhance public transport and active travel to improve air quality in the city. The forecast income of £81m over the lifetime of the scheme is based on the actual income generated since the CAZ was introduced on 28 November 2022 using vehicle numbers and compliance rates over that period. The forecast has been validated externally by the Council's Strategic Partner and found to be prudent with further work required to estimate compliance levels over the remainder of the scheme, which may lead to an increase in the forecast. Funding received by CAZ is fungible so can be used to meet costs over the remainder of the scheme. The report lays out the Council's plan to spend that funding in accordance with the objectives of the scheme with plans to offset part of the council's contribution to the annual Transport Levy to the West of England Combined Authority in future years. The Medium Term Financial Plan also includes plans to use CAZ funding to improve electrical assets, Public Rights of Way and other highway improvements. The CAZ contribution to the Transport Levy is within the discretion of the Council but should other elements of the planned works prove more or less expensive than the forecast the Council will need to adjust plans to remain within the funding envelop provided by CAZ.
Finance Business Partner: Ben Hegarty – Finance Business Partner 4 January 2024
2. Legal Advice: Schedule 12 of the Transport Act 2000 sets out the requirements and restrictions on accounts and funds related to the CAZ scheme. Schedule 12, paragraph 8, permits the Council, as a non-metropolitan local traffic authority, to use net proceeds for the purpose of directly or indirectly facilitating the achievement of local transport policies of the authority. Apart from this specific use, any net proceeds must be applied towards making good any deficit in respect of the account in the past ten years with any surplus remaining after this is to carried forward to the next financial year. As well as the Council being able to use net proceeds for the purpose of directly or indirectly facilitating the achievement of its local transport policies, the net proceeds must also be used in accordance with the terms of the general (ten year) plan and the detailed (five year) programme. The terms of the general plan and detailed programme are set out in Annex 5 of the CAZ Order. The use of net proceeds identified in Appendix 1 should therefore be in compliance with the Transport Act 2000, and the requirements of the CAZ Order, so long as they are allocated for the purposes: (1) of directly or indirectly facilitating the achievement of the Council's local transport policies; and (2) under the general plan and detailed programme set out in the Order.
Legal Team Leader: Joanne Mansfield – Team Leader 4 January 2024
3. Implications on IT: I can see no implications on IT in regard to this activity
IT Team Leader: Alex Simpson – Lead Enterprise Architect 12 January 2024
4. HR Advice: There are no HR implications evident
HR Partner: Celia Williams, HR Business Partner 11 January 2024

EDM Sign-off	John Smith Interim Executive Director Growth and Regeneration	20 December 2023

Cabinet Member sign-off	Mayor's Office	15 January 2024
For Key Decisions - Mayor's Office sign-off	Mayor's Office	20 December 2023

Appendix A – Further essential background / detail on the proposal	**YES**
Appendix B – Details of consultation carried out - internal and external	**NO**
Appendix C – Summary of any engagement with scrutiny	**NO**
Appendix D – Risk assessment	**NO**
Appendix E – Equalities screening / impact assessment of proposal	**YES**
Appendix F – Eco-impact screening/ impact assessment of proposal	**YES**
Appendix G – Financial Advice	**NO**
Appendix H – Legal Advice	**NO**
Appendix I – Exempt Information	**NO**
Appendix J – HR advice	**NO**
Appendix K – ICT	**NO**
Appendix L – Procurement	**NO**

Appendix A

Improved Public Transport	
Investment	**JLTP4 Objective and Policy reference**

Fund the Transport Levy contribution to WECA.
The ongoing impact of the pandemic on patronage and inflationary pressures on the financial viability of bus services continues to be felt within the city. Funding the council's contribution to the Transport Levy will help to ensure bus services can continue to become a more reliable alternative to private car and support sustainable and inclusive economic growth through regeneration, in line with the Joint Local Transport Plan. Providing additional investment (an increase over current levels) into supported buses will support the long-term commercial viability of services.
	Objectives
	• Take action against climate and address poor air quality
	  o The transport network is resilient and adaptable
	• Support sustainable and inclusive economic growth
	  o Improved efficiency and reliability on local, national and international transport networks
	  o Access opportunities to employment growth areas and education is provided for all
	• Enable equality and improve accessibility
	  o Access to services and opportunities for residents in rural, remote and deprived areas is improved
	  o Better information to aid travel decisions is provided
	  o Low carbon transport and opportunities for reducing the need to travel are maximised
	  o New public transport systems, smarter ticketing and faster payment options are enabled
	• Contribute to better health, wellbeing, safety and security
	• Personal safety on the transport network is improved, and there is less crime and fear of crime
	
	Policies
	• Policy W1 – Provide more public transport options and improve service quality
	  o Provide high quality and reliable mass and rapid transit
	  o Support and enhance existing public transport services
	  o Improve the availability and accessibility of accurate travel information and ticketing
	• Policy W2. Provide for journeys where public transport is not an option
	  o Provide Park & Ride and sharing schemes to minimise the impact of single occupancy vehicles

City Regional Sustainable Transport Settlement Match Funding	
Investment	**JLTP4 Objective and Policy reference**

CRSTS match fund
£10m of match funding will be provided to unlock significant capital investment to deliver improvements to public transport corridors and deliver new active
	Objectives
	• Take action against climate and address poor air quality
	  o The transport network is resilient and adaptable
	  o Reduce carbon emissions to net zero by 2030

travel routes across the city and with greater connections to the region, enabling better and more frequent connections to opportunities being created through the regeneration of the city, through for example more reliable bus services and safer and more convenient active travel routes. Will support the increased use of reliable public transport and safe and convenient routes for walking and cycling to encourage less reliance on the private car.	○ NOx, particulates and carbon emissions are reduced ○ Air quality in the AQMAs is improved ○ Air quality remains better than national standards outside the AQMAs • Support sustainable and inclusive economic growth ○ Improved efficiency and reliability on local, national and international transport networks ○ Delivery of new housing and jobs is supported ○ Access opportunities to employment growth areas and education is provided for all ○ Transport assets are maintained and managed, and demonstrate value for money ○ The high-quality transport network generates inward investment ○ Congestion and demand on the network is better managed through technological advances • Enable equality and improve accessibility ○ Access to services and opportunities for residents in rural, remote and deprived areas is improved ○ Better information to aid travel decisions is provided ○ Low carbon transport and opportunities for reducing the need to travel are maximised ○ New public transport systems, smarter ticketing and faster payment options are enabled • Contribute to better health, wellbeing, safety and security ○ There is a step change in the number of healthy, low carbon walking and cycling trips ○ There is a continued reduction in the number of road casualties on the transport network ○ Road safety for transport users is improved, particularly for those most at risk ○ Personal safety on the transport network is improved, and there is less crime and fear of crime *Policies* • Policy W1 – Provide more public transport options and improve service quality ○ Provide high quality and reliable mass and rapid transit ○ Support and enhance existing public transport services ○ Improve the availability and accessibility of accurate travel information and ticketing • Policy W2. Provide for journeys where public transport is not an option ○ Provide Park & Ride and sharing schemes to minimise the impact of single occupancy vehicle

	• Policy L1. Enable walking and cycling, 'active modes of travel', to be the preferred choice for shorter journeys
	  ○ Provide an attractive, safe and usable walking and cycling network
	  ○ Provide schemes to support the uptake of cycling
	• Policy L2. Reduce the number and severity of casualties for all road users
	  ○ Consider the needs of all road users in the design of transport and highway schemes, particularly vulnerable road users
	  ○ Work in partnership to build safer communities
	• Policy N1. Use master planning and local design to create better places
	  ○ Improve the quality of streets and public realm
	  ○ Prioritise walking, cycling and public transport into new developments
	  ○ Provide clear wayfinding and signage
	  ○ Improve and maintain Public Rights of Way
	• Policy N2. Facilitate the use of active modes for all short trips, including the first and last mile of longer journeys
	  ○ Work with residents and communities to identify barriers to accessibility
	  ○ Support the provision of safe crossings and speed reduction in appropriate locations
	  ○ Improve actual and perceived personal security

Improving and Maintaining Infrastructure	
Investment	**JLTP4 Objective and Policy reference**

For people to regularly use public transport or active travel and in greater numbers, they need faith in network of corridors and routes that is invested in and then maintained to be resilient, safe, convenient and viable in the long term. To achieve the objectives of the Joint Local Transport Plan and in accordance with the Order objectives, the transport network of the city requires a highway asset that is safe, integrated and efficient. If the infrastructure is not maintained, then it can deter people from choosing active modes of travel and disproportionately impact pedestrians and cyclists. A lack of funding to improve the condition of the highway network could lead to increased levels of	*Objectives*
	• Take action against climate and address poor air quality
	  ○ The transport network is resilient and adaptable
	• Support sustainable and inclusive economic growth
	  ○ Improved efficiency and reliability on local, national and international transport networks
	  ○ Access opportunities to employment growth areas and education is provided for all
	• Enable equality and improve accessibility
	  ○ Access to services and opportunities for residents in rural, remote and deprived areas is improved
	  ○ Better information to aid travel decisions is provided
	  ○ Low carbon transport and opportunities for reducing the need to travel are maximised
	  ○ New public transport systems, smarter ticketing and faster payment options are enabled
	• Contribute to better health, wellbeing, safety and security

congestion, less reliable public transport and be detrimental to the quality of the public realm and air quality. Activities will include: • **Create more Sustainable Transport Routes** Identify parts of the city where removal of parking bays enables an increase in the public transport and active travel infrastructure network • **Highway Asset Maintenance** Increasing public transport use and active travel requires a safe and serviceable highway environment. Providing a safe and well-maintained network of roads, bus lanes, cycle paths, pavements, and verges so that streets are lit and that traffic is managed appropriately with renewed signals to promote walking, cycling and sustainable transport. This enables greater use by more citizens and a more efficient transport network for public transport use and so help to reduce the need to travel by car and support improved air quality. • **Highway Asset Maintenance Additionality** Providing increased funding for highway maintenance will enable more preventative maintenance to increase the lifetime of the asset and delay degradation, improving outcomes for sustainable modes • **Public Transport Maintenance** Maintaining bus shelters and associated I-point infrastructure is key to ensuring the safety, convenience and attractiveness of the public transport network and wider service to residents. Maintenance helps to support bus patronage providing an alternative option to the private car	○ There is a step change in the number of healthy, low carbon walking and cycling trips ○ There is a continued reduction in the number of road casualties on the transport network ○ Road safety for transport users is improved, particularly for those most at risk ○ Personal safety on the transport network is improved, and there is less crime and fear of crime *Policies* • Policy W1 – Provide more public transport options and improve service quality ○ Provide high quality and reliable mass and rapid transit ○ Support and enhance existing public transport services • Policy W2. Provide for journeys where public transport is not an option ○ Provide Park & Ride and sharing schemes to minimise the impact of single occupancy vehicle • Policy W4. Improve resilience of the network, providing increased reliability ○ Define, manage and maintain the Key Route Network ○ Develop and improve network resilience through an ongoing commitment to highway maintenance ○ Effectively manage the Major Road Network ○ Effectively accommodate development sites and associated trips • Policy L1. Enable walking and cycling, 'active modes of travel', to be the preferred choice for shorter journeys ○ Provide an attractive, safe and usable walking and cycling network ○ Provide schemes to support the uptake of cycling • Policy L2. Reduce the number and severity of casualties for all road users ○ Consider the needs of all road users in the design of transport and highway schemes, particularly vulnerable road users ○ Work in partnership to build safer communities • Policy N1. Use master planning and local design to create better places ○ Improve the quality of streets and public realm ○ Prioritise walking, cycling and public transport into new developments ○ Provide clear wayfinding and signage ○ Improve and maintain Public Rights of Way

• **School Crossing Patrols** Funding to cover the costs of operating School Crossing Patrols at existing sites	• N2. Facilitate the use of active modes for all short trips, including the first and last mile of longer journeys
	  ○ Work with residents and communities to identify barriers to accessibility
	  ○ Support the provision of safe crossings and speed reduction in appropriate locations
	  ○ Improve actual and perceived personal security

Enabling Local and Neighbourhood Transport Projects	
Investment	**JLTP4 Objective and Policy reference**

Funding for Local and Neighbourhood Transport Schemes that meet the objectives of the Joint Local Transport Plan can supplement the investment through Community Infrastructure Levy.. This will also help resource the council's Local Transport, Road Safety, Sustainable Travel and TRO teams to support the development and delivery of projects.
 	
Investment in local transport schemes as identified by Area Committees and local councillors in consultation with the Transport and connectivity committee and for neighbourhood schemes with local communities.
 	
Schemes should meet some or all of the following criteria:
• Improve public transport accessibility and services
• Reduce the impacts of general traffic on communities
• Improve walking and cycling provision through physical measures or projects that deliver behavioural change
• Improve air quality
	Objectives
	• Enable equality and improve accessibility
	  ○ Connectivity is increased and transformed, enabling seamless "door-to-door" movements of people and goods
	  ○ Access for those with both visible and hidden disabilities is improved
	  ○ Access to services and opportunities for residents in rural, remote and deprived areas is improved
	  ○ Better information to aid travel decisions is provided 5. Low carbon transport and opportunities for reducing the need to travel are maximised
	• Contribute to better health, wellbeing, safety and security
	  ○ There is a step change in the number of healthy, low carbon walking and cycling trips
	  ○ There is a continued reduction in the number of road casualties on the transport network
	  ○ Road safety for transport users is improved, particularly for those most at risk
	  ○ Personal safety on the transport network is improved, and there is less crime and fear of crime
	• Create better places
	  ○ Streetscape, public spaces and urban environments are enhanced
	  ○ The transport network supports neighbourhood renewal and the regeneration of deprived areas
	
	Policies
	• Policy W1 – Provide more public transport options and improve service quality
	  ○ Provide high quality and reliable mass and rapid transit
	  ○ Support and enhance existing public transport services
	  ○ Improve the availability and accessibility of accurate travel information and ticketing

	• Policy W2. Provide for journeys where public transport is not an option
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	  ○ Improve the quality of streets and public realm
	  ○ Prioritise walking, cycling and public transport into new developments
	  ○ Provide clear wayfinding and signage
	  ○ Improve and maintain Public Rights of Way
	• N2. Facilitate the use of active modes for all short trips, including the first and last mile of longer journeys
	  ○ Work with residents and communities to identify barriers to accessibility
	  ○ Support the provision of safe crossings and speed reduction in appropriate locations
	  ○ Improve actual and perceived personal security

Equality Impact Assessment [version 2.12]

Title: Detailed Five Year Programme for Application of Bristol Clean Air Zone net proceeds	
☐ Policy ☒ Strategy ☐ Function ☐ Service ☐ Other [please state]	☐ New ☒ Already exists / review ☐ Changing
Directorate: Growth and Regeneration	Lead Officer name: Alex Hearn
Service Area: Economy of Place	Lead Officer role: Director, Economy of Place

Step 1: What do we want to do?

The purpose of an Equality Impact Assessment is to assist decision makers in understanding the impact of proposals as part of their duties under the Equality Act 2010. Detailed guidance to support completion can be found here Equality Impact Assessments (EqIA) (sharepoint.com).

This assessment should be started at the beginning of the process by someone with a good knowledge of the proposal and service area, and sufficient influence over the proposal. It is good practice to take a team approach to completing the equality impact assessment. Please contact the Equality and Inclusion Team early for advice and feedback.

1.1 What are the aims and objectives/purpose of this proposal?

Briefly explain the purpose of the proposal and why it is needed. Describe who it is aimed at and the intended aims / outcomes. Where known also summarise the key actions you plan to undertake. Please use plain English, avoiding jargon and acronyms. Equality Impact Assessments are viewed by a wide range of people including decision-makers and the wider public.

The proposal is to agree a detailed programme for applying the net proceeds from the Bristol Clean Air Zone in to four thematic investment areas now that the council has been able to forecast income over the expected lifetime of the Clean Air Zone.
The four thematic areas are:

1. Improving public transport, including through funding the council's contribution to the regional Transport Levy, and with additional investment for supported bus services.
2. Match funding for City Regional Sustainable Transport Settlement (CRSTS) to deliver improvements to public transport corridors and new active travel routes across the city and region.
3. Improving and maintaining infrastructure, to make improvements to the network and to maintain these to support ongoing and growing use of public transport, walking and cycling as alternatives to private car use.
4. Enabling local and neighbourhood transport schemes through funding for projects across the city

This is in line with the Bristol Clean Air Zone Charging Order (adopted 2022) and the Joint Local Transport Plan (adopted 2019).

1.2 Who will the proposal have the potential to affect?

☒ Bristol City Council workforce	☒ Service users	☒ The wider community
☒ Commissioned services	☒ City partners / Stakeholder organisations	
Additional comments: The vast majority of citizens, visitors and in-commuters use the cities transport and highway network on a regular basis to access services and facilities, learn, work, provide care for others and to participate in leisure activities.		

1.3 Will the proposal have an equality impact?

Could the proposal affect access levels of representation or participation in a service, or does it have the potential to change e.g. quality of life: health, education, or standard of living etc.?

If 'No' explain why you are sure there will be no equality impact, then skip steps 2-4 and request review by Equality and Inclusion Team.

If 'Yes' complete the rest of this assessment, or if you plan to complete the assessment at a later stage please state this clearly here and request review by the Equality and Inclusion Team.

☒ **Yes**	☐ **No**	[please select]

The proposal will provides funding for existing public transport services within the city and additional investment in supported bus services.

The proposal will match-fund significant capital investment in new public transport and walking and cycling infrastructure, providing greater connections and access to opportunities in the city and the region and help to ensure that the highway network is maintained to continue to support these connections.

The proposal will fund projects in local areas across the city, including through Area Committees that will result in changes to local highways and public realm.

Projects funded by the net proceeds may result in reallocation of road space through private vehicle parking restrictions, loading restrictions, changes to the public realm, relocation of blue badge parking bays, relocation of pedestrian crossing facilities and introduction of new bus and cycle lanes.

All initiatives can be expected to support the achievement of the objectives and policies of the Joint Local Transport Plan.

Step 2: What information do we have?

2.1 What data or evidence is there which tells us who is, or could be affected?

Please use this section to demonstrate an understanding of who could be affected by the proposal. Include general population data where appropriate, and information about people who will be affected with particular reference to protected and other relevant characteristics: How we measure equality and diversity (bristol.gov.uk)

Use one row for each evidence source and say which characteristic(s) it relates to. You can include a mix of qualitative and quantitative data e.g. from national or local research, available data or previous consultations and engagement activities.

Outline whether there is any over or under representation of equality groups within relevant services - don't forget to benchmark to the local population where appropriate. Links to available data and reports are here Data, statistics and intelligence (sharepoint.com). See also: Bristol Open Data (Quality of Life, Census etc.); Joint Strategic Needs Assessment (JSNA); Ward Statistical Profiles.

For workforce / management of change proposals you will need to look at the diversity of the affected teams using available evidence such as HR Analytics: Power BI Reports (sharepoint.com) which shows the diversity profile of council teams and service areas. Identify any over or under-representation compared with Bristol economically active citizens for different characteristics. Additional sources of useful workforce evidence include the Employee Staff Survey Report and Stress Risk Assessment

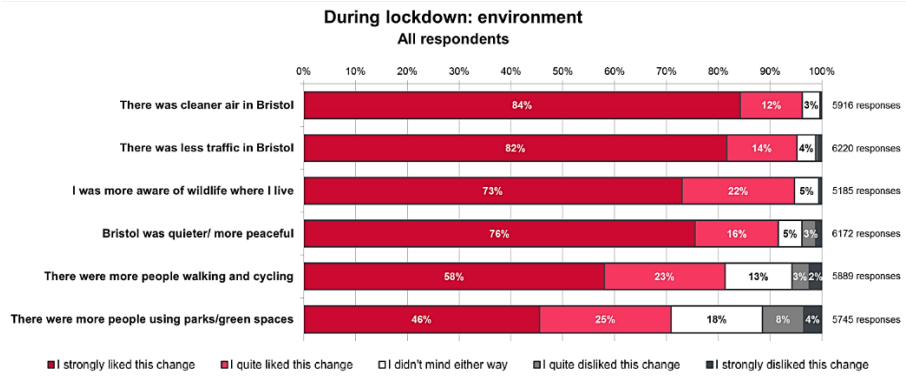
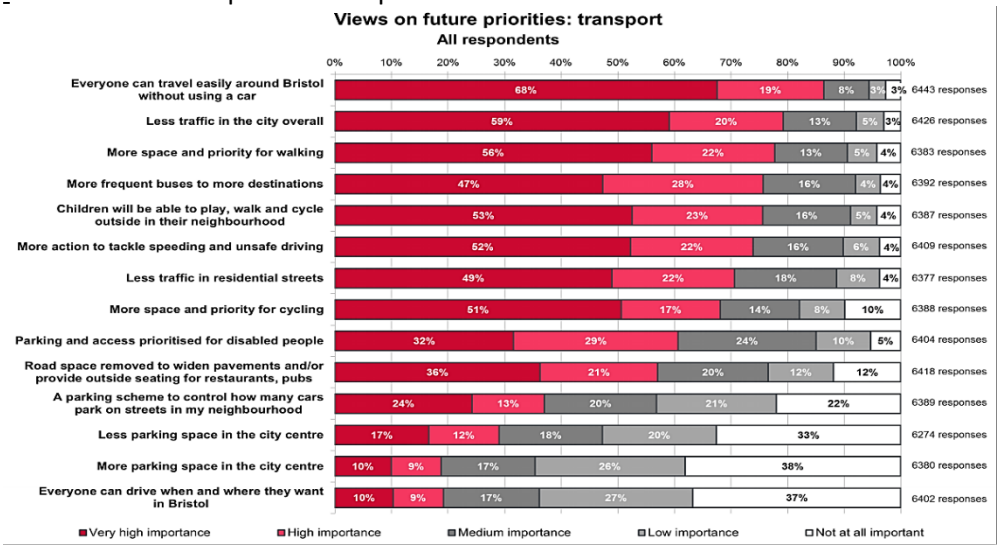
<table>
<tr><th>Data / Evidence Source
[Include a reference where known]</th><th>Summary of what this tells us</th></tr>
<tr><td>Car Ownership, (Census 2021)</td><td>Across Bristol 45.8% of households have access to 1 car or van; 21.6% have access to two cars of vans and 6.4% have access to 3 or more cars of vans. 26.2% of residents have no access to a car or a van</td></tr>
<tr><td>Travel to Work, (Census 2021)</td><td>Across Bristol 38.6% of people work mainly at or from home, 33.1% travel by car or van, 11.2% travel by foot, 6.1% by bus, minibus, or coach, and 5.2% by bicycle.

In terms of distance, 12.9% travel less than 2km, 17.8% travel 2km to less than 5km, 10.6% travel 5km to 10km, and 38.6% work mainly from home.</td></tr>
<tr><td>Indicators, (Quality of Life Survey)</td><td>Across Bristol 25.1% of people feel a lack of transport options prevents them from leaving their home when they want to, 74.4% of people think traffic congestion is a problem locally, 5.3% of people for whom air pollution prevents them from leaving their home when they want to, 32.9% of people have changed they way they travel around Bristol due to climate change concerns, and 70.1% of people think air quality and traffic pollution is a problem locally.</td></tr>
<tr><td>Quality of Life Survey 2022/23 – Final Report, (Quality of Life Survey) file (bristol.gov.uk)</td><td>Overall, feedback regarding Transport from the Bristol Quality of Life survey showed that results in this section are worse than last year, and worse than results pre-pandemic. Satisfaction with the local bus service continued to fall significantly (38% from 49%) and fell even further in the most deprived areas (34% from 49%). Those taking ‘active travel’ (walk or cycle) to get to work also fell significantly (32%) and fell in the most deprived areas (23%). Only 1 in 4 (25%) now cycle at least once a week. However, 74% of people think ‘traffic congestion is a problem locally’, same as last year but significantly better than pre-pandemic; this is 63% in the most deprived areas.
<table>
<tr><th>Category 2022</th><th>Sub-Category 2022</th><th>Issues Raised</th><th>2022 Ranking</th><th>2021 Ranking</th><th>2020 Ranking</th></tr>
<tr><td>Transport</td><td>Improve Buses and/or Public Transport</td><td>819</td><td>1</td><td>1</td><td>2</td></tr>
<tr><td>Waste and street cleanliness</td><td>Litter and/or Street Cleanliness</td><td>323</td><td>2</td><td>4</td><td>6</td></tr>
<tr><td>Transport</td><td>Reduce Congestion/ less cars</td><td>276</td><td>3</td><td>2</td><td>1</td></tr>
<tr><td>Council Services</td><td>Democracy and Governance</td><td>225</td><td>4</td><td>3</td><td>5</td></tr>
<tr><td>Environment</td><td>Air Pollution</td><td>207</td><td>5</td><td>5</td><td>3</td></tr>
<tr><td>Transport</td><td>Improve Cycling Facilities</td><td>193</td><td>6</td><td>6</td><td>4</td></tr>
<tr><td>Transport</td><td>Affordability of Public Transport</td><td>167</td><td>7</td><td>16</td><td>21</td></tr>
<tr><td>Environment</td><td>Parks and Green Spaces</td><td>156</td><td>8</td><td>10</td><td>14</td></tr>
<tr><td>Community & Living</td><td>Local Community and Facilities</td><td>138</td><td>9</td><td>7</td><td>7</td></tr>
<tr><td>Housing</td><td>House Price / Rent Affordability</td><td>138</td><td>9</td><td>8</td><td>13</td></tr>
</table>

Of the top 10 issues raised within the Quality of Life survey categories, the proposal could directly or indirectly impact positively on improved bus/public transport, reduced congestion, air pollution, improved cycling facilities, parks and green spaces and local community and facilities.

Satisfaction with the local bus service continued to fall significantly (38% from 49%) and fell even further in the most deprived areas (34% from 49%). Those taking “active travel” (walk or cycle) to get to work also fell significantly (32%), and fell in the most deprived areas (23%). Only 1 in 4 (25%) now cycle at least once a week. However, 74% of people think “traffic congestion is a problem locally”, same as last year but significantly better than pre-pandemic; this is 63% in the most deprived areas.

27.4% of disabled people report issues with transport that stops them getting involved in their community compared with the Bristol average of 13.5% Fewer disabled people drive to work than the Bristol average (29.6% compared with 38.8%)</td></tr>
</table>

	17.6% of people within Black, Asian and minority ethnic groups take the bus to work compared with a Bristol average of 14.1% and 20.6% walk to work compared with a Bristol average of 17.6% 21.8% of the 10% most deprived people in the city take the bus to work compared with 14.1% Bristol average and 22.8% walk or cycle to work compared with a Bristol average of 32%
Various surveying	**Citizens Assembly** In January 2020 Bristol begun a significant trial in deliberative democracy by running the city's first Citizens' Assembly. The transport theme posed the question: *What changes should we make to our neighbourhoods to make how we travel easier, healthier and better for the environment"* The recommendations of the assembly demonstrate the appetite for transformative neighbourhood improvements with over **90% of the panel supporting the following recommendations:** • *Fundamentally reimagine the places we live so that they are people centred (i.e. create liveable neighbourhoods)* • *Developing a pilot program to showcase what could be achieved if a citywide approach to being carbon neutral was taken received* • *Empower local communities in the decision-making process to deliver the services and activities that they want to promote healthy lifestyle choices* **'Your City our Future' Survey** Between August and September 2020, 6,535 Bristolians responded to a survey which sought to understand their experiences of Bristol before and during lockdown as well as their hopes for the future. The responses suggest strong support for more 'liveable' and multi-functional neighbourhoods as highlighted by the graphs below:  In terms of future priorities respondents: 

Additional comments:

2.2 Do you currently monitor relevant activity by the following protected characteristics?

☒ Age	☒ Disability	☐ Gender Reassignment
☐ Marriage and Civil Partnership	☐ Pregnancy/Maternity	☒ Race
☐ Religion or Belief	☒ Sex	☒ Sexual Orientation

2.3 Are there any gaps in the evidence base?

Where there are gaps in the evidence, or you don't have enough information about some equality groups, include an equality action to find out in section 4.2 below. This doesn't mean that you can't complete the assessment without the information, but you need to follow up the action and if necessary, review the assessment later. If you are unable to fill in the gaps, then state this clearly with a justification.

For workforce related proposals all relevant characteristics may not be included in HR diversity reporting (e.g. pregnancy/maternity). For smaller teams diversity data may be redacted. A high proportion of not known/not disclosed may require an action to address under-reporting.

We know there are gaps in local diversity data, especially where this has not historically been included in statutory reporting. Census data is currently collected every 10 years. The ONS has also published mid-2020 population estimates. Gaps in data will exist as it becomes out of date or is limited through self-reporting.

2.4 How have you involved communities and groups that could be affected?

You will nearly always need to involve and consult with internal and external stakeholders during your assessment. The extent of the engagement will depend on the nature of the proposal or change. This should usually include individuals and groups representing different relevant protected characteristics. Please include details of any completed engagement and consultation and how representative this had been of Bristol's diverse communities.

Include the main findings of any engagement and consultation in Section 2.1 above.

If you are managing a workforce change process or restructure please refer to Managing a change process or restructure (sharepoint.com) for advice on consulting with employees etc. Relevant stakeholders for engagement about workforce changes may include e.g. staff-led groups and trades unions as well as affected staff.

The proposal does not consider the introduction of the Clean Air Zone or the preparation of the Order as this was undertaken prior to 2022. The proposal intends to apply net proceeds to deliver the policies and objectives of the Joint Local Transport Plan (JLTP) which was published in 2019 following public consultation by the Combined Authority, supported by Bristol City Council. The consultation process entailed in person, written, video, audio and digital simulator tools to be available to as wide an audience as possible, including those with protected characteristics. The exercise was supported by a professional advisory group to support interpretation of technical material. A full Equalities Impact Assessment was prepared for the JLTP and is available on the Combined Authority website here.

Where the proposals make changes to transport services within the city, for example through investment in a major new bus route or cycling route with detailed design proposals, this will be supported by public consultation with Equalities Impact Assessments will be undertaken for these projects. The following proposals were also included within the Bristol City Council budget consultation process:

- Use of the net proceeds to fund the council's contribution to the Transport Levy (which supports public transport in the region);
- Use of net proceeds to fund improvements and maintenance to highway network assets to support the safe, accessible and reliable use of public transport, walking and cycling
- Use of net proceeds to deliver local and neighbourhood transport schemes, which will require funded service capacity and resources to deliver

2.5 How will engagement with stakeholders continue?

Explain how you will continue to engage with stakeholders throughout the course of planning and delivery. Please describe where more engagement and consultation is required and set out how you intend to undertake it. Include any targeted work to seek the views of under-represented groups. If you do not intend to undertake it, please set out your justification. You can ask the Equality and Inclusion Team for help in targeting particular groups.

Where the proposals make changes to transport services within the city, for example through investment in a major new bus route or cycling route with options and design proposals funded by the City Regional Sustainable Transport Settlement, this will be supported by engagement and public consultation with Equalities Impact Assessments will be undertaken for these projects. The proposal provides net proceeds to fund projects that can be developed through Area Committees and with local communities and engagement and consultation stages will be developed for these.

Step 3: Who might the proposal impact?

Analysis of impacts must be rigorous. Please demonstrate your analysis of any impacts of the proposal in this section, referring to evidence you have gathered above and the characteristics protected by the Equality Act 2010. Also include details of existing issues for particular groups that you are aware of and are seeking to address or mitigate through this proposal. See detailed guidance documents for advice on identifying potential impacts etc. Equality Impact Assessments (EqIA) (sharepoint.com)

3.1 Does the proposal have any potentially adverse impacts on people based on their protected or other relevant characteristics?

Consider sub-categories and how people with combined characteristics (e.g. young women) might have particular needs or experience particular kinds of disadvantage.

Where mitigations indicate a follow-on action, include this in the 'Action Plan' Section 4.2 below.

GENERAL COMMENTS (highlight any potential issues that might impact all or many groups)	
As individual projects progress through project maturity through the City Region Sustainable Transport Settlement (CRSTS) and Local and Neighbourhood Transport Schemes, individual Equalities Impact Assessments will explore further any specific adverse impacts upon groups with protected characteristics. Of the top 10 issues raised within the Quality of Life survey categories, the proposal could directly or indirectly impact positively on improved bus/public transport, reduced congestion, air pollution, improved cycling facilities, parks and green spaces and local community and facilities. Those with higher or lower than average satisfaction / dissatisafction will be considered.	
PROTECTED CHARACTERISTICS	
Age: Young People	Does your analysis indicate a disproportionate impact? Yes ☐ No ☒
Potential impacts:	
Mitigations:	
Age: Older People	Does your analysis indicate a disproportionate impact? Yes ☐ No ☒
Potential impacts:	
Mitigations:	
Disability	Does your analysis indicate a disproportionate impact? Yes ☐ No ☒
Potential impacts:	
Mitigations:	
Sex	Does your analysis indicate a disproportionate impact? Yes ☐ No ☒
Potential impacts:	
Mitigations:	
Sexual orientation	Does your analysis indicate a disproportionate impact? Yes ☐ No ☒
Potential impacts:	
Mitigations:	
Pregnancy / Maternity	Does your analysis indicate a disproportionate impact? Yes ☐ No ☒

Potential impacts:	
Mitigations:	
Gender reassignment	Does your analysis indicate a disproportionate impact? Yes ☐ No ☒
Potential impacts:	
Mitigations:	
Race	Does your analysis indicate a disproportionate impact? Yes ☐ No ☒
Potential impacts:	
Mitigations:	
Religion or Belief	Does your analysis indicate a disproportionate impact? Yes ☐ No ☒
Potential impacts:	
Mitigations:	
Marriage & civil partnership	Does your analysis indicate a disproportionate impact? Yes ☐ No ☒
Potential impacts:	
Mitigations:	
OTHER RELEVANT CHARACTERISTICS	
Socio-Economic (deprivation)	Does your analysis indicate a disproportionate impact? Yes ☐ No ☒
Potential impacts:	
Mitigations:	
Carers	Does your analysis indicate a disproportionate impact? Yes ☐ No ☒
Potential impacts:	
Mitigations:	
Other groups [Please add additional rows below to detail the impact for any other relevant groups as appropriate e.g. asylum seekers and refugees; care experienced; homelessness; armed forces personnel and veterans]	
Potential impacts:	
Mitigations:	

3.2 Does the proposal create any benefits for people based on their protected or other relevant characteristics?

Outline any potential benefits of the proposal and how they can be maximised. Identify how the proposal will support our Public Sector Equality Duty to:

- ✓ Eliminate unlawful discrimination for a protected group
- ✓ Advance equality of opportunity between people who share a protected characteristic and those who don't
- ✓ Foster good relations between people who share a protected characteristic and those who don't

Overall, the proposal is positive for Bristol's citizens because it enables the council to sustain and increase investment in public transport services and the maintenance of the highway network to enable public transport, walking and cycling at a time when the commercial viability of some bus services and local government funding is challenged. This can include those who may otherwise be disenfranchised from the labour market because of a lack of reliable transport options or those that rely on supported bus services.

The proposal also injects significant new investment in infrastructure projects that will further improve connections for people to learning, employment or community facilities in the city whether through match funding toward City Regional Sustainable Transport Settlement or Local and Neighbourhood Transport Schemes. Over time and in a growing city undergoing regeneration, more citizens including those with protected characteristics will be able to access opportunities without only having to rely on the private car.

Step 4: Impact

4.1 How has the equality impact assessment informed or changed the proposal?

What are the main conclusions of this assessment? Use this section to provide an overview of your findings. This summary can be included in decision pathway reports etc.

If you have identified any significant negative impacts which cannot be mitigated, provide a justification showing how the proposal is proportionate, necessary, and appropriate despite this.

Summary of significant negative impacts and how they can be mitigated or justified:
The proposal is for significant funding to applied to the development and delivery of projects that will inevitably make changes to how people can move around the city through infrastructure for buses, walking and cycling. This could result in changes to on street parking (including for disabled users) or the location of bus stops. These impacts will be explored through project-specific Equalities Impact Assessments.
Summary of positive impacts / opportunities to promote the Public Sector Equality Duty:
The proposal entails investment in public transport services and infrastructure and walking and cycling infrastructure which are both fundamental to how the city works and how citizens participate in work and learning, receive services and support the economy. The proposals provide funding for investment including for projects that will develop specific Equalities Impact Assessments. It can be anticipated that positive impacts and opportunities to promote the Public Sector Equality Duty through: ▪ Supporting safer, more inclusive, and accessible active travel, based on providing more equitable spaces and transport options for all people including those that share a protected characteristic and those who do not; ▪ Enabling more people to use more public transport and active travel options, including protected groups who may disproportionately rely on these forms of mobility over the private car; and ▪ Open up connections for people to access opportunities that can improve their lives because they may have greater access to learning, training, services and work that they may not otherwise benefit from.

4.2 Action Plan

Use this section to set out any actions you have identified to improve data, mitigate issues, or maximise opportunities etc. If an action is to meet the needs of a particular protected group please specify this.

Improvement / action required	Responsible Officer	Timescale
Instruct project specific Equality Impact Assessment as proposals are developed to understand the adverse and positive impacts	Alex Hearn	0 to 5 years

4.3 How will the impact of your proposal and actions be measured?

How will you know if you have been successful? Once the activity has been implemented this equality impact assessment should be periodically reviewed to make sure your changes have been effective your approach is still appropriate.

Capture learning through project specific Equality Impact Assessments of a similar type (for example walking and cycling projects) to understand if proposals can be improved, assessed and evaluated. Analysis of findings from future survey data to understand if people's experiences of the city, including those with protected characteristics change once projects are implemented.

Step 5: Review

The Equality and Inclusion Team need at least five working days to comment and feedback on your EqIA. EqIAs should only be marked as reviewed when they provide sufficient information for decision-makers on the equalities

impact of the proposal. Please seek feedback and review from the Equality and Inclusion Team before requesting sign off from your Director[1].

Equality and Inclusion Team Review: ***Reviewed by Equality and Inclusion Team***	**Director Sign-Off:** John Smith, G&R Executive Director 
Date: 12/1/2024	Date: 12-01-2024

[1] Review by the Equality and Inclusion Team confirms there is sufficient analysis for decision makers to consider the likely equality impacts at this stage. This is not an endorsement or approval of the proposal.

Environmental Impact Assessment [version 1.0]

Title: Detailed Five Year Programme for Application of Bristol Clean Air Zone net proceeds	
Project stage and type: ☐ Initial Idea Mandate ☐ Outline Business Case ☒ Full Business Case	
☐ Policy ☒ Strategy ☐ Function ☐ Service ☐ Other [please state]	☐ New ☐ Changing ☒ Already exists / review
Directorate: Growth and Regeneration	**Lead Officer name: Alex Hearn**
Service Area: Economy of Place	**Lead Officer role: Director of economy of Place**

Step 1: What do we want to do?

The purpose of this Environmental Impact Assessment is to help you develop your proposal in a way that is compliant with the council's policies and supports the council's strategic objectives under the One City Climate Strategy, the One City Ecological Emergency Strategy and the latest Corporate Strategy.

This assessment should be started at the beginning of the project proposal process by someone with a good knowledge of the project, the service area that will deliver it, and sufficient influence over the proposal to make changes as needed.

It is good practice to take a team approach to completing the Environmental Impact Assessment. See further guidance on completing this document. Please contact the Sustainable City and Climate Change Service early for advice and feedback.

1.1 What are the aims and objectives/purpose of this proposal?

Briefly explain the purpose of the proposal and why it is needed. Please use plain English, avoiding jargon and acronyms.

The proposal is to agree a detailed programme for applying the net proceeds from the Bristol Clean Air Zone in to four thematic investment areas now that the council has been able to forecast income over the expected lifetime of the Clean Air Zone.
The four thematic areas are:

1. Improving public transport, including through funding the council's contribution to the regional Transport Levy, and with additional investment for supported bus services.
2. Match funding for City Regional Sustainable Transport Settlement (CRSTS) to deliver improvements to public transport corridors and new active travel routes across the city and region.
3. Improving and maintaining infrastructure, to make improvements to the network and to maintain these to support ongoing and growing use of public transport, walking and cycling as alternatives to private car use.
4. Enabling local and neighbourhood transport schemes through funding for projects across the city

This is in line with the Bristol Clean Air Zone Charging Order (adopted 2022) and the Joint Local Transport Plan (adopted 2019).

The proposal within the Cabinet paper is to fund a series of transport projects and services that should help to reduce the need by private car and to sustain and increase the use of public transport, walking and cycling within the city.

Overall, this should have a positive environmental impact, but as projects are developed and delivered, it will be important minimise the impact of implementation, through for example use of materials, low carbon fuels, impact on habitats, impact on surface water run-off.

1.2 Will the proposal have an environmental impact?

Could the proposal have either a positive or negative effects for the environment now or in the future? If 'No' explain why you are sure there will be no environmental impact, then skip steps 2-3 and request review by the Sustainable City and Climate Change Service.

If 'Yes' complete the rest of this assessment.

☒ **Yes**	☐ **No**	[please select]

1.3 If the proposal is part of an options appraisal, has the environmental impact of each option been assessed and included in the recommendation-making process?

If 'Yes' please ensure that the details of the environmental impacts of each option are made clear in the pros and cons section of the project management options appraisal document.

☐ **Yes**	☐ **No**	☒ **Not applicable**	[please select]

If 'No' explain why environmental impacts have not been considered as part of the options appraisal process.

Step 2: What kinds of environmental impacts might the project have?

Analysis of impacts must be rigorous. Please demonstrate your analysis of any impacts of the proposal in this section, referring to evidence you have gathered. See detailed guidance documents for advice on identifying potential impacts.

2.1 Does the proposal create any benefits for the environment, or have any adverse impacts?

Outline any potential benefits of the proposal and how they can be maximised. Identify how the proposal will support our corporate environmental objectives and the wider One City Climate and Ecological Emergency strategies.

Consider how the proposal creates environmental impacts in the following categories, both now and in the future. **Reasonable efforts should be made to quantify stated benefit or adverse impacts wherever possible.**

Where the proposal is likely to have a beneficial impact, consider what actions would enhance those impacts. Where the proposal is likely to have a harmful impact, consider whether actions would mitigate these impacts.

Enhancements or mitigation actions are only required when there is a likely impact identified. Remember that where enhancements or mitigation actions are listed, they should be assigned to staff and appropriately resourced.

GENERAL COMMENTS (highlight any potential issues that might impact all or many categories)
This is a proposal for the application of net proceeds from the Clean Air Zone into thematic areas of investment. The thematic areas deliver the specific objectives and policies of the West of England Joint Local Transport Plan which is supported by a full Environmental Impact Assessment and available to read here. As the proposal is effectively an investment strategy as opposed to a set of detailed projects, it is not possible to quantify its benefits or adverse impacts at this stage, except to observe that it supports increased use of public transport and walking and cycling across the city, which is generally seen to be positive for the city's environment as well as unlocking more sustainable forms of development and reduce inequalities. It is possible to indicate how the proposal will support projects that will have benefits in relation to the Corporate Environmental Objectives and the potential adverse impacts that should be mitigated. It is anticipated that as

projects are designed, developed and implemented, the benefits and adverse impacts will be able to be quantified.

ENV1 Carbon neutral: Emissions of climate changing gases BCC has committed to achieving net zero emissions for its direct activities by 2025, and to support the city in achieving net zero by 2030. Will the proposal involve transport, or the use of energy in buildings? Will the proposal involve the purchase of goods or services? If the answer is yes to either of these questions, there will be a carbon impact. Consider the scale and timeframe of the impact, particularly if the proposal will lead to ongoing emissions beyond the 2025 and 2030 target dates. Further guidance ☐ **No impact**	**Benefits**	The proposal will support projects that we can anticipate will support efforts to decarbonise transport in the city as increased bus patronage and increased participation in walking and cycling can result in fewer cars overall. It can also support more sustainable forms of development and regeneration in the city which can reduce the need to travel generally because of increased densities and a mix of uses.
	Enhancing actions	Developing projects and using services to better connect populations with services, employment and learning to optimise modal shift, while recognising that communities should not dislocated from alternatives to car use.
	Persistence of effects:	☐ **1 year or less** ☐ **1 – 5 years** ☒ **5+ years**
	Adverse impacts	The proposal will fund projects that will result in changes to the city's highway network through engineering and construction which will likely result in carbon emissions.
	Mitigating actions	Through project design, development and delivery seek to maximise the use of previously used materials such as aggregates to reduce emissions which could manifest in embodied carbon of projects.
	Persistence of effects:	☐ **1 year or less** ☐ **1 – 5 years** ☒ **5+ years**
ENV2 Ecological recovery: Wildlife and habitats BCC has committed to 30% of its land being managed for nature and to halve its use of pesticides by 2030. Consider how your proposal can support increased space for nature, reduced use of pesticides, reduce pollution to waterways, and reduce consumption of products that undermine ecosystems around the world. If your proposal will directly lead to a reduction in habitat within Bristol, then consider how your proposed	**Benefits**	Projects could result design outputs that create more space for nature through urban and landscape design and tree planting and therefore increase the amount of land managed for nature.
	Enhancing actions	Reduced use of pesticides for maintenance of new, improved and existing public transport, walking and cycling infrastructure can help to reduce levels of pollution that enter waterways and this improve water quality.
	Persistence of effects:	☐ **1 year or less** ☐ **1 – 5 years** ☒ **5+ years**
	Adverse impacts	While projects are not developed or fully developed, changes to Bristol's transport and highway infrastructure may result in a reduction in habitat as new infrastructure is delivered.

mitigation can lead to a biodiversity net gain. Be sure to refer to quantifiable changes wherever possible. Further guidance ☐ **No impact**	**Mitigating actions**	Seek to avoid this outcome as much as possible and require biodiversity net gain through the development and implementation of proposals.
	Persistence of effects:	☐ **1 year or less** ☐ **1 – 5 years** ☒ **5+ years**
ENV3 A cleaner, low-waste city: Consumption of resources and generation of waste Consider what resources will be used as a result of the proposal, how they can be minimised or swapped for less impactful ones, where they will be sourced from, and what will happen to any waste generated Further guidance ☐ **No impact**	**Benefits**	The increased use of public transport is a more efficient means of transporting people per vehicle and should help to minimise consumption of resources per capita.
	Enhancing actions	A shift toward more efficient and electrified bus can help to reduce the overall resource consumption of the fleet.
	Persistence of effects:	☐ **1 year or less** ☐ **1 – 5 years** ☒ **5+ years**
	Adverse impacts	Construction and engineering projects consume materials and resources that become embodied and can generate waste through unused materials.
	Mitigating actions	Maximise the reuse of materials and aggregates within new infrastructure projects. Develop waste minimisation strategies through construction method statements.
	Persistence of effects:	☐ **1 year or less** ☐ **1 – 5 years** ☒ **5+ years**
ENV4 Climate resilience: Bristol's resilience to the effects of climate change Bristol's climate is already changing, and increasingly frequent instances of extreme weather will become more likely over time. Consider how the proposal will perform during periods of extreme weather (particularly heat and flooding).	**Benefits**	Renewing and maintaining the highway network can help to secure the city's resilience to extreme events. New infrastructure can support enhanced drainage.
	Enhancing actions	Seek to use sustainable urban drainage and adaptive construction designs and materials that can withstand climate changes
	Persistence of effects:	☐ **1 year or less** ☐ **1 – 5 years** ☒ **5+ years**
	Adverse impacts	The potential for projects to negatively impact surface water run-off

Consider if the proposal will reduce or increase risk to people and assets during extreme weather events. Further guidance ☐ **No impact**	**Mitigating actions**	Fully explore through design and ensure coordination with local and regional flood defence and resilience projects.
	Persistence of effects: ☐ **1 year or less** ☐ **1 – 5 years** ☒ **5+ years**	
Statutory duty: Prevention of Pollution to air, water, or land Consider how the proposal will change the likelihood of pollution occurring to air, water, or land and what steps will be taken to prevent pollution occurring. Further guidance ☐ **No impact**	**Benefits**	Projects will help to reduce the likelihood of pollution and sustain improved air quality by improvements to access, safety, reliability, frequency and affordability of sustainable public transport and walking and cycling as alternatives to driving.
	Enhancing actions	A shift toward more efficient and electrified bus can help to reduce polluting impacts of the fleet. Maximise the reuse of materials and aggregates within new infrastructure projects. Develop waste minimisation strategies through construction method statements.
	Persistence of effects: ☐ **1 year or less** ☐ **1 – 5 years** ☒ **5+ years**	
	Adverse impacts	Construction and engineering projects consume materials, resources and fuel can generate pollution and impacts on the air quality that become embodied and can generate waste through unused materials.
	Mitigating actions	Maximise the reuse of materials and aggregates within new infrastructure projects. Develop waste minimisation strategies through construction method statements.
	Persistence of effects: ☐ **1 year or less** ☐ **1 – 5 years** ☒ **5+ years**	

Step 3: Actions

3.1 Action Plan

Use this section summarise and assign responsibility for any actions you have identified to improve data, enhance beneficial, or mitigate negative impacts. Actions identified in section two can be grouped together if named responsibility is under the same person.

This action plan should be updated at each stage of the project. Please be aware that the Sustainable City and Climate Change Service may use this action plan as an audit checklist during the project's implementation or operation.

Enhancing / mitigating action required	Responsible Officer	Timescale
Instruct project specific Environmental Impact Assessments as proposals are developed to understand and quantify the adverse and positive impacts in greater detail and explore enhancing and mitigating actions	Alex Hearn	Ongoing for five years (when a new plan will replace this one)

Step 4: Review

The Sustainable City and Climate Change Service need at least five working days to comment and feedback on your impact assessment. Assessments should only be marked as reviewed when they provide sufficient information for decision-makers on the environmental impact of the proposal. Please seek feedback and review from the Sustainable City and Climate Change Service before final submission of your decision pathway documentation[1].

Where impacts identified in this assessment are deemed significant, they will be summarised here and included on the cover sheet of the decision pathway documentation.

Summary of significant beneficial impacts and opportunities to support the Climate, Ecological and Corporate Strategies (ENV1,2,3,4):
The scale of the funding will make the impacts significant, whichever specific projects are funded. This money may also unlock additional resources by providing match funding, or be used on projects with ecological or resilience co-benefits (such as cycle paths built into flood defences, or with SUDs or planting schemes). The main benefits are likely to be related to emissions reduction and air quality improvements through encouraging modal shift.
Summary of significant adverse impacts and how they can be mitigated:
If a significant part of the funding was spent on active and public transport infrastructure, there could be significant impacts from emissions, land use, runoff and waste associated with construction. These could be mitigated by smart and resilient material choices and designs for drainage, flood defence, planting, communications, etc. Adverse impacts will often only apply during construction and are likely to be greatly outweighed by the benefits of the projects over their lifetime.

Environmental Performance Team Reviewer: Giles Liddell, Environmental Performance Co-ordinator	**Submitting author:** **Alex Hearn, Director Economy of Place**
Date: 12/01/2024	**Date:** 12/01/2024

[1] Review by the Sustainable City and Climate Change Service confirms there is sufficient analysis for decision makers to consider the likely environmental impacts at this stage. This is not an endorsement or approval of the proposal.