

FINAL REPORT

# Consultation on Building Scotland's Low Emission Zones – Analysis Report

*Prepared for*

Transport Scotland

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# Acronyms and Abbreviations

ANPR	Automatic Number Plate Recognition
AQMA	Air Quality Management Area
CAFS	Cleaner Air for Scotland: The Road to a Healthier Future
LEZ	Low Emission Zone
NGO	Non-governmental organisation
NLEF	National Low Emission Framework
NMF	National Modelling Framework
ULEV	Ultra-low emission vehicle
WHO	World Health Organisation



# Executive Summary

This report is an analysis of responses to the Building Scotland's Low Emission Zones Consultation which sought feedback on the Scottish Government's proposals to introduce Low Emission Zones (LEZs) in Scotland.

The Scottish Government has committed to work with local authorities to introduce Low Emission Zones (LEZs) into its biggest four cities between 2018 and 2020. Recognising that collaboration is at the heart of the successful delivery of LEZs, Transport Scotland launched a consultation to garner the views of stakeholders and the general public. This process will help inform the LEZ policy making process, helping to shape the guiding principles that the Scottish Government will adopt to design, establish and operate Scottish LEZs.

The consultation took place between 6<sup>th</sup> September and 28<sup>th</sup> November 2017.

## 1.1 Respondents

In total, 967 responses were received – 225 substantive responses, 732 Campaign responses and 10 Campaign Plus responses. The 225 substantive consultation responses were received from 101 organisations and 124 individuals.

The 732 Campaign responses received during the consultation period were in response to a Campaign orchestrated by Friends of the Earth Scotland. The respondents were provided with suggested text online which was submitted electronically and resulted in all Campaign responses being identical or similar. Respondents had the opportunity to amend the suggested text provided prior to submitting which resulted in 10 respondents answering additional questions. These responses were classified as Campaign Plus. These were analysed with the remainder of the Campaign responses as the additional comments did not differ significantly from the views contained within the overall Campaign text.

## 1.2 Headline Themes

Analysis of the consultation responses resulted in the following headline themes:

### **Primary LEZ objective**

There was a high level of consensus among respondents with 95.5% supporting the principle of LEZs to help improve air quality in Scotland. In addition, the majority of respondents agreed that the primary objective of LEZs should be to support the achievement of Scottish air quality objectives (95.9%). Those who didn't, considered that LEZs should also aim to reduce congestion and that the primary objective should go further than the current proposals to further reduce air pollution.

### **LEZ Euro emission standard criteria and vehicle scope**

Some 62.3% of respondents agreed with the proposed minimum mandatory Euro emission criteria for Scottish LEZs. Half of respondents were in support of the proposal to use the NMF modelling in tandem with the NLEF appraisal to identify the vehicle types to include within the LEZ as this would provide a structured national framework. Some 18% were against and the remaining 29% did not provide a clear view in their answer. Some respondents raised concerns about the modelling and its limitations while

others also considered that factors such as traffic redistribution, behavioural impacts and journey types should also be taken into account.

Some three quarters of respondents agreed that emission sources from construction machinery and/or large or small refrigerated units should be included within the scope of LEZs. This was because respondents considered that these vehicles contributed to emissions. However, it was also noted that while their inclusion in the LEZ scope was necessary, there would be a greater impact on small businesses that they believed tend to have older vehicles. Respondents noted that there may be an impact on the long-term future of these businesses as not every business would be able to afford to purchase new vehicles.

### **LEZ scheme founding principle: Charging versus Penalty**

Respondents were asked whether they supported the principle of adopting a road access restriction scheme for LEZs across different classes of vehicle. Views were very mixed with people both in favour and against the proposal. Some 42% indicated their approval in some way of the scheme due to the positive impact it may have. Some 18.7% disagreed, 2.7% thought it unworkable and a further 7.1% would prefer a different alternative. The remaining respondents did not provide a clear indication as to whether they were in support or not.

A number of respondents made reference to road pricing in their response. Of those in favour of the road access restriction scheme a number of people commented that this was because they considered a charging scheme allowed people who could afford it to buy an exemption. Respondents also noted that a road access restriction scheme would encourage behavioural change more than a charging scheme. Others were against charging schemes because they allowed polluting vehicles to enter the LEZ. Three respondents who were against the road access restriction scheme specifically made reference to road pricing in their response. One stated that they would prefer to pay a fee as they couldn't afford to upgrade their vehicle. One felt that a road charging policy favoured those with more money and the third respondent was against road charging in general.

### **LEZ hours of operation**

The views provided showed that the most popular suggestion was for LEZs to operate 24 hours, 7 days a week. Many agreed that LEZs should operate 24/7 either fully or with conditions. These conditions included the need to take local circumstances into account, the need to reduce restrictions at times when there are less vehicles on the road and to offer exemptions for vehicles that need to undertake 'emergency repairs'.

### **Enforcement and Vehicle Detection**

The views provided showed a high level of consensus with 91.6% in favour of using ANPR to enforce LEZs. Those who disagreed had privacy concerns with the use of ANPR.

### **Exemptions**

Respondents were asked to provide their views on what exemptions should be permitted in order to allow LEZs to operate robustly. Some 82.7% of respondents considered that emergency vehicles should be exempt. The majority of respondents, 86.3% agreed that LEZ exemptions should be consistent across all Scottish local authorities.

### **Lead-in time and sunset period**

There was support for the principle of lead in and sunset periods, however there was significant variation as to the appropriate length of these periods. Respondents provided a range of views on lead in times and sunset periods. Reasons included those stating the periods of around 4 years set in other

cities and discussed in the consultation paper<sup>1</sup> seem fair or reasonable, will potentially be successful if implemented and are realistic. Others suggested shorter periods in order that air quality improvements could be made more quickly. Respondents commented on the need for government funding or support during lead-in periods – particularly for bus operators. It was felt that grant funding would be required to help achieve the lead-in and sunset periods set out in the consultation document. Linked to this, comments on public transport strategy included those re-enforcing the idea that investment in and provision of public transport is needed as a priority alongside LEZs and that discussions on lead-in times and sunset periods should involve public transport operators to fully understand the timescales they will need to work to.

### **Alternative engine technology and retrofitting**

Just over half of those responding demonstrated clear support for the principle of retrofit technology. Respondents highlighted that the costs would need to be realistic or grant funded in order to be attractive with one respondent noting that it should be restricted to vehicles with long lifespans in order to make best use of limited funding. It was noted by those from the historic vehicle industry that retrofitting was not a solution for historic vehicles.

### **Funding**

Respondents were asked how the Scottish Government could best target any funding to support LEZ implementation. Suggestions included the need to support public transport, support to enforce the LEZ and funding to help with retrofitting.

### **Measuring LEZ effectiveness**

Respondents were asked what criteria the Scottish Government should use to measure and assess LEZ effectiveness. Popular suggestions included the need to use environmental criteria such as air quality and pollution levels, emissions per vehicle/passenger kilometre and the addition of air quality sites.

### **Communications**

Respondents were asked what information the Scottish Government should provide to vehicle owners before a LEZ is implemented, during the lead-in time and also once LEZ enforcement starts. A wide range of suggestions were made with 31.8% of all responses indicating that information on implementation and compliance, exemptions, fines, appeals and penalties should be provided by the Scottish Government.

### **Multiple benefits associated with improvements to air quality**

Respondents were asked what actions local or central government should consider in tandem with LEZs to address air pollution. Respondents suggested a variety of actions including alternative transport solutions, bus priority and public transport measures, encouraging active and sustainable travel particularly through improved walking and cycling routes. Respondents indicated that investment in public transport was needed which would provide the public with access to more facilities and locations. Respondents also highlighted the need to reduce incentives for driving and to invest in public transport infrastructure in order to reduce emissions.

### **Air pollution and climate change**

Respondents were asked for their views regarding how LEZs can help to tackle climate change, by reducing CO<sub>2</sub> emissions in tandem with air pollution. Some respondents took the opportunity to state their view that LEZs cannot tackle climate change, the view that LEZs are unlikely to tackle climate change and opposition in general to LEZs. Of those who indicated a lack of confidence that LEZs cannot

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<sup>1</sup> [https://consult.gov.scot/transport-scotland/building-scotlands-low-emission-zones/supporting\\_documents/Low%20Emission%20Zones%20Consultation%202.pdf](https://consult.gov.scot/transport-scotland/building-scotlands-low-emission-zones/supporting_documents/Low%20Emission%20Zones%20Consultation%202.pdf)

or are unlikely to tackle climate change, respondents believed the issue of climate change is separate to air quality. They noted that LEZs are just one part of a much bigger issue and that other contributors to climate change are far bigger e.g. travel, power stations, shipping. Others indicated that implementing LEZs in Scotland alone would provide a minimal contribution to a global phenomenon and as such would be unlikely to tackle climate change. However, a number of respondents specifically indicated their support and approval for LEZs, agreeing that it will help to tackle climate change.

### **Air pollution and congestion**

Respondents were asked what measures would make a difference in addressing both road congestion and air pollution emissions at the same time. Respondents cited a range of measures including the need for improved traffic management, improved public transport and the need for improvements in infrastructure.

### **Assessing Impact**

Respondents were asked what impacts they considered LEZs may have on particular groups of society. Respondents considered that there would be impacts on the elderly stating that elderly individuals make up a large percentage of those who travel by public transport and so the cost of public transport would need to be considered, concerns about mobility and access for elderly individuals who may need their vehicles in order to access certain locations and the negative impact of air pollution upon the elderly. Secondly, there were concerns with low income individuals due to issues of affordability and people on lower incomes not being able to afford to upgrade their vehicles or pay for the costs of LEZs. Other respondents highlighted that lower income groups are some of those most affected by problems resulting from air pollution. The third most popular suggestion of who would be impacted was disabled individuals. Respondents suggested disabled individuals do not have a choice in how they travel and there are issues of mobility to be considered. Other respondents commented on the disproportionate amount of disabled people who are impacted by air pollution and problems related to health and the relationship between disability and access.

### **Business and Regulation**

Respondents were asked whether the LEZ proposals contained in the consultation were likely to increase or reduce the costs and burdens placed on any sector. Most respondents felt the proposals would increase the costs and burdens placed on all sectors. They believed this would be due to increased public transport costs, healthcare costs, increased business costs and increased costs on the private motorist. Some 8 respondents felt that LEZs would have a minimal impact on different sectors and there is a need to consider both the short and long-term impacts LEZs will have. Reasons as to why some perceive there to be minimal impacts include those who indicated that polluters currently fail to pay for their pollution anyway and that savings in some sectors may balance out with the costs from other sectors.

### **Privacy**

Of those who responded to this question, views were mixed. Some 53% of those responding considered that there was unlikely to be any impacts on privacy as a result of the introduction of LEZs. Some 32% suggested that there would be privacy issues due to concerns about the use of ANPR and the monitoring of people routines and movements. The remaining respondents did not provide a clear view in their response.

### **Environment**

Respondents were asked whether the proposals would have any impact on the environment. Some 89% of those answering the question agreed that there were likely to be impacts upon the environment. Respondents felt that the proposals contained in the consultation would be beneficial for the wider environment, would be good for the local environment in locations where the LEZs are introduced,

would be positive for different environments e.g. local environment, global environment, built environment etc and should have a positive impact if implemented correctly. Some respondents felt the proposals would have a negative environmental impact, with the most frequent reason cited being the displacement of vehicle emissions and congestion due to traffic re-routing and the emissions simply moving to different locations. Others suggested that additional infrastructure would be needed to deal with these diversions and that new problems could arise in other locations.

# Introduction

## 2.1 Overview

The Scottish Government aims to deliver environmental protection and minimise environmental impacts by measuring, monitoring and managing transport impacts on air quality, whilst complying with statutory air quality limits. However, despite reducing air pollution in Scotland in recent years, poor air quality remains an issue.

The Scottish Government is committed to working with local authorities to introduce Low Emission Zones (LEZs) into its biggest four cities between 2018 and 2020, as stated in its Programme for Government 2017. This work is being led by Transport Scotland, as the national transport agency of the Scottish Government. Recognising that collaboration is at the heart of the delivery of successful LEZs, Transport Scotland launched a consultation to garner views of stakeholders and the general public.

The consultation on 'Low Emission Zones' sought to gather views on the proposals of nationally consistent standards for LEZs in Scotland. The consultation focused on the proposals for LEZs to improve air quality, support modal shift to active travel and public transport, support climate change mitigation and support placemaking to improve town and city spaces. This report analyses and summarizes the consultation responses.

## 2.2 Background to Proposals

"Cleaner Air for Scotland: The Road to a Healthier Future (CAFS)", published in 2015, is Scotland's Air Quality Strategy. The strategy sets out how the Scottish Government and its partners propose to reduce air pollution and fulfil Scotland's legal responsibilities as soon as possible.

The Scottish Government's Programme for Government 2017 states that in partnership with local authorities they will:

- Introduce LEZs into Scotland's four biggest cities between 2018 and 2020, and into all other Air Quality Management Areas by 2023 where the National Low Emission Framework appraisals advocate such mitigation;
- Introduce an Air Quality Fund to support local authorities with Air Quality Management areas to deliver transport based mitigation as identified by the National Low Emission Framework; and
- Work with the commercial and bus sectors, the Energy Saving Trust and the Low Carbon Vehicle Partnership to introduce an Engine Retrofitting Centre in Scotland to support the delivery of LEZs.

## 2.3 Consultation Overview

This consultation was designed to gather the views of stakeholders and individuals to help inform the LEZ policy making process, helping to shape the guiding principles that the Scottish Government will adopt to help local authorities design, establish and operate Scottish LEZs. It was launched on 6<sup>th</sup> September 2017 and closed on 28<sup>th</sup> November 2017.

Transport Scotland designed the consultation in collaboration with partners and published it on the Citizen Space website. CH2M collated the respondent data from this website to undertake the analysis.

The consultation asked respondents to provide views, evidence and examples on matters including:

- Guiding principles of LEZs including Euro emission criteria, hours of operation, enforcement and lead in times;
- Complementary measures that should be considered (in tandem with the goal to improve air quality) to support congestion reduction, climate change mitigation and modal shift; and
- How the Scottish Government should pay due regard to impacts across equalities.

Respondents were asked 20 questions and encouraged to provide comments to back up their points. A full list of questions is provided in Appendix A.

CH2M note that the findings of this report are specific to the consultation and do not necessarily reflect the range of views within the population as a whole, as the respondents do not form a representative sample. This report does not reflect the views of Transport Scotland or Ministers and does not make recommendations on policies to take forward.

## 2.4 Report Structure

The methodology for the analysis is detailed in Chapter 3 and the results are documented in subsequent chapters. Analysis of the full set of responses is undertaken in Chapter 4. Chapter 5 contains analysis of the substantive responses, while Chapter 6 contains analysis of the Campaign and Campaign Plus responses. Please refer to Section 3.2 for how these responses have been categorised.

# Methodology

## 3.1 Consultation Details

The consultation was hosted in Citizen Space on Transport Scotland's consultation hub, launching on the 6<sup>th</sup> September and closing on the 28<sup>th</sup> November 2017. Respondents were able to respond to the consultation directly within Citizen Space, via email or by post. Some 156 responses were received on Citizen Space, 811 by email and no responses were received by post.

Responses received via email were subsequently input to Citizen Space by Transport Scotland.

Some respondents provided supporting documents and comment to accompany their response. These PDFs were made available to the analysis team and were fully reviewed and cross referenced with the full data set.

Respondents were not required to answer every question and typically answered the questions that interested them or they felt informed to answer. As such the total number of respondents varies by each question. In addition, where respondents did not provide a yes/no answer to the question the comments made were still considered and analysed within the report.

Some 142 respondents were happy for their individual response to be published. A further 806, while happy for the response to be published, did not want their name and/or organisation to be attributed to the response. Where this is the case these responses have been included in the overall analysis but their individual response has either not been published by Transport Scotland, or have been anonymised. Any comments or quotes made within this report have been included in a way that maintains their anonymity. Some 19 respondents did not give permission for their individual response to be published.

## 3.2 Data Processing and Analysis

Only 1 response was rejected by Transport Scotland and was not included within the analysis due to the response being abusive. Where duplicate responses were identified within the dataset these were removed from the analysis and all of the points that were made were combined into one response. Two duplicate responses were removed from the dataset and are not counted in the total number of responses received.

The full dataset was downloaded from Citizen Space in spreadsheet form with analysis taking place in Excel.

Respondents were categorised by respondent type and response type with the breakdown shown in Table 3.1. In defining the response type, a 'Campaign' response was any response which contained repetitive text used by the Friends of the Earth Scotland Campaign. Meanwhile, some responses included the Friends of the Earth Scotland text in their responses but chose to expand upon their answers to include some of their own views. These were classified as 'Campaign Plus' responses. The remaining responses where respondents gave their own views and did not use any Campaign text were classified as 'substantive'.

Respondents were classified as either individuals or respondents representing an organisation. The organisations responding represented a range of sectors including local government, NGOs, businesses, community groups, professional bodies and academia. Further detailed breakdown by organisation type is available in Appendix B.

Table 3.1: Breakdown of respondent and response type

Response\Respondent Type	Individual	Organisation	Total
Campaign	732	0	732 (75.7%)
Campaign (Plus)	10	0	10 (1.0%)
Substantive	124	101	225 (23.3%)
<b>Total</b>	<b>866 (89.6%)</b>	<b>101 (10.4%)</b>	<b>967</b>

The responses and comments made for each question in turn were interrogated to draw out the key themes discussed. Where respondents failed to answer part of a question (yes/no) but provided comments which made clear their opinion, the missing answer was added to the dataset.

Most of the questions and responses did not lend themselves to any statistical analysis beyond basic response counting. Where quantitative analysis was possible tables are provided.

In addition, the nature of the questions and the variety of respondent types resulted in a very diverse range of responses. All qualitative responses have been interrogated and themed in order to draw out the different views presented (these are described as 'reasoning' in the main body of this report).

### 3.3 Substantive Responses

In total, 225 substantive responses were received. These were from both organisations and individuals. The breakdown of responses is shown in Table 3.2. The largest groups of organisations responding were public bodies including local authorities and Regional Transport Partnerships.

Table 3.2: Split by Respondent Type

Respondent Type	Total answers (%)
<b>Individual</b>	<b>124 (55.1%)</b>
<b>Organisation</b>	<b>101 (44.9%)</b>
Academic/research	4 (4%)
Business/industry	26 (25.7%)
Professional or trade body	17 (16.8%)
Public body	31 (30.7%)
Third Sector/NGO	19 (18.8%)
Community Group	4 (4%)
<b>TOTAL</b>	<b>225 (100%)</b>

### 3.4 Campaign Responses

In total, 742 Campaign responses (732 Campaign responses and 10 Campaign Plus responses) were received throughout the consultation period. Most of the Campaign responses directly utilised

suggested text from Friends of the Earth Scotland. The Campaign responses have been counted and the total number of responses reported.

However, each Campaign respondent had the opportunity to add additional text or answer additional comments prior to submitting their response. These respondents were classed as 'Campaign Plus' by the analysis team.

Campaign responses were read to determine whether they deviated from the standard text (shown within Chapter 6 and thus should be classed as 'Campaign Plus', of which there were 10). The Campaign Plus responses did not appear to deviate significantly in view from the standard Campaign responses and they have been analysed with the Campaign responses.

The purpose of the consultation analysis was to reflect the range, depth and overall patterns of views. As such, while it is important to recognise the strength of opinion in the Campaign which generated 742 responses, these views are no more or less significant than those made by other respondents.

# Analysis of Responses – All Responses

## 4.1 Overview

The consultation contained 20 questions relating to the proposals regarding the introduction of LEZs. The following chapter discusses the detailed findings from the analysis of all 967 responses, including substantive and Campaign.

## 4.2 Analysis of responses

### 4.2.1 Q1: Do you support the principle of LEZs to help improve Scottish air quality? Please be as specific as possible in your reasoning.

There was a high level of consensus among respondents with 95.5% (913) supporting the principle of LEZs to help improve air quality in Scotland. Some 97.8% (90) of organisations responding to the consultation were supportive with just 2 organisations against the principle.

Some 95.3% (823) of individuals were in overall support of the principle.

The results are shown in Table 4.1.

Table 4.1: Split by Respondent Type

	Yes	No	Total
<b>Substantive Response</b>	<b>171</b>	<b>43</b>	<b>214</b>
Organisations	90	2	92
Individuals	81	41	122
<b>Campaign Response</b>	<b>742</b>	<b>0</b>	<b>742</b>
<b>Total</b>	<b>913 (95.5%)</b>	<b>43 (4.5%)</b>	<b>956 (100%)</b>
Organisations	90 (9.4%)	2 (0.2%)	92 (9.6%)
Individuals	823 (86.1%)	41 (4.3%)	864 (90.4%)

#### 4.2.1.1 Reasoning - organisations

Of the organisations against the proposals, both respondents had an interest in the transport sector with one being a trading business and another a trade body. It was felt that the introduction of LEZs did not remove the source of the air pollution problem but simply penalised the organisations contributing to the air pollution problem. Both felt that other policy mechanisms may be more effective in improving air quality.

Of those organisations who agreed, 34.4% were classed as public bodies, 21.1% business/industry, 20.0% third sector/NGOs, 16.7% professional/trade body, 4.4% academic/research organisations and 3.3% community groups. It was clear from the narrative responses analysed that 46 of the 90

organisations support was conditional on other factors or supporting policies being put into place. For example, respondents cited improved public transport, walking and cycling infrastructure, appropriate exemptions and integration with other local policies to manage traffic while ensuring businesses in the area (of the LEZ) did not suffer.

All academic or research organisations were supportive of LEZs with respondents pointing to research undertaken which demonstrated the impact air pollution has on health. The respondents recognised that vulnerable groups including children, older people and those with pre-existing health issues are disproportionately affected by air pollution. One respondent cited research by the Royal College of Physicians and the Royal College of Paediatrics and Child Health Scotland (“Every breath we take: The lifelong impact of air pollution”) which showed that some 40,000 deaths a year in the UK are linked in some way to air pollution, and that high exposure to toxic traffic fumes can lead to serious health problems in children with lifelong implications. However, one respondent caveated that research, including Holman et al (2015) as referenced in the LEZ consultation document, showed that the implementation of LEZs in other countries has had only a limited impact on air quality. They noted:

*“The Scottish Government should be clear that LEZs are an important step towards cleaner air, but not a panacea, and that other measures will be required if EU targets are to be met in the short term, in order to bring about a reduction in total vehicle miles travelled in areas subject to air quality problems.”*  
(Academic Institution, Organisation)

Business respondents included a range of operators and manufacturers among others. Four operators noted they were supportive of efforts to improve air pollution through the use of LEZs and several were already working to improve their performance. One noted that a Quality Partnership could bring benefits and another highlighted work being undertaken on their Environmental Strategy to support air quality improvements. One operator remained concerned that buses were being targeted as they were very visible, but their ability to transport large numbers of people must be considered (in comparison to the small number of people transported in cars) and they believed action should be targeted on the most polluting private diesel cars.

Third Sector organisations presented a range of reasons for their support of LEZs which were broadly in line with their line of work, particularly around the health and environment agenda. For example, environmental groups focused on pollution exceeding legal levels and the wider environmental impacts of pollution. Health related groups focused on the current health cost of poor air quality and the potential health benefits and savings from improving emissions.

Several organisations including third sector, community groups and public bodies highlighted the importance of considering all of the knock-on effect of LEZs to other services within the cities:

*“CTA believes that clean air is an important issue facing Scotland. We are supportive of steps to improve air quality across our cities and we acknowledge that vehicles are a contributor to poor air quality. It is important however that we also acknowledge that LEZs risk impeding the work of community transport operators, who generally provide transport to people who are marginalised, if their costs are increased as a consequence of LEZs.”* (Community Transport Association, Organisation)

#### 4.2.1.2 Reasoning - individuals

Of the 41 individuals who were against the proposals, a broad range of reasons were provided. Many (12) commented on the social inequality aspects feeling that the proposals would impact on the poorer members of society and those who live rurally but need to travel into the cities. Other respondents cited economic concerns (11) including that many people and businesses are not in a position to upgrade their vehicles every 2-3 years and that the infrastructure is not in place yet to facilitate a significant move to electric vehicles. Respondents highlighted that the alternatives to vehicle travel were not always suitable while others noted that the poor air quality in the areas LEZs are proposed is due to

traffic management issues (7) and that both getting the traffic moving, and removing obstacles to free-flowing traffic, would improve/reduce emissions.

A number of individuals questioned the need for LEZs at all (12) while 2 highlighted evidence provided in the consultation document which noted the impact of LEZs has been limited in other locations:

*“From the evidence in the consultation paper it would appear that where LEZs have been introduced they have made only marginal impacts on air quality and therefore they will have very little impact on health. In Scotland, the reductions would not be sufficient to meet guideline levels in the worst affected areas. However, the implementation would be costly and would mean the re-direction of scarce public resources from initiatives which could be shown to have a significant impact on health.” (Dr. Jackie Hyland, Individual)*

Of the 823 individuals in favour of the proposals the majority (791) cited concerns about air quality currently exceeding legal limits and the environment being unpleasant for those living and working in areas of high pollution. They also raised health concerns associated with air quality and noted that vulnerable groups were disproportionately impacted:

*“I think the estimate is 50,000 premature deaths a year in the UK from air pollution, with urban areas the worst hit. Most people living in cities don't even drive but their lungs have to pay the price for those who do, which is complete madness. The LEZs can't come soon enough and should aim to eradicate internal combustion cars from cities and use the funds generated to subsidise electric buses and cycle lanes.” (Individual)*

However, while individuals were supportive of the principles many raised concerns about how the proposals would impact them once LEZs were in place:

*“I'm all for improving air quality as I see the affect it has on health on a regular basis, but why do ordinary working people have to be penalised to achieve it and without any suggestion of government compensating drivers who will be affected.” (Individual)*

#### 4.2.2 Q2: Do you agree that the primary objective of LEZs should be to support the achievement of Scottish Air Quality Objectives? If not, why not?

There was a high level of consensus among respondents with 95.9% (901) agreeing that the primary objective of LEZs should be to support the achievement of Scottish air quality objectives.

Some 92.9% (78) of organisations responding to the consultation were in agreement with 6 organisations disagreeing. Some 96.1% (823) of individuals were in overall agreement on the primary objective.

The results are shown in Table 4.2.

Table 4.2: Split by Respondent Type

	Yes	No	Total
<b>Substantive Response</b>	<b>161</b>	<b>39</b>	<b>200</b>
Organisations	78	6	84
Individuals	83	33	116
<b>Campaign Response</b>	<b>740</b>	<b>0</b>	<b>740</b>
<b>Total</b>	<b>901 (95.9%)</b>	<b>39 (4.1%)</b>	<b>940 (100%)</b>
Organisations	78 (8.3%)	6 (0.6%)	84 (8.9%)
Individuals	823 (87.6%)	33 (3.5%)	856 (91.1%)

All respondents were asked to provide a reason for their view and these are considered in the next sections.

#### 4.2.2.1 Reasoning - organisations

Of those organisations who did not agree with the primary objective of LEZs (as a single standalone objective), 1 was categorised as a trade body, 2 were NGO/third sector organisations and 3 were local authorities. Their reasoning was equally split with 2 local authorities and a trade body believing that LEZs should also aim to reduce congestion and improve access to city centres for buses, pedestrians and cyclists. They also felt integration between the car and other modes, whilst also reducing the delays to buses, essential freight and emergency services in our major conurbations, should be a goal of LEZs. The other 3 organisations felt that the primary objective cited (whilst focusing on environmental legislative requirements) did not go far enough as the standards in place within the legislation were still not safe for human health. Respondents referenced the World Health Organisation (WHO) who state there is no real “safe” level of pollution and that no level of exposure is good for human health. They wanted a commitment to continually improve the air in Scotland’s cities even beyond the Scottish legal objective values.

Of those organisations who agreed, 28.2% were classed as public bodies, 24.4% business/industry, 19.2% third sector/NGOs, 19.2% professional/trade body, 5.1% academic/research organisations and 3.9% community groups. Of the organisations stating agreement with the primary objective the majority also raised the same points as those who disagreed. For example, organisations agreeing with the principle objective stated that although they agreed, they also felt LEZs should go even further than the Scottish air quality standards and aim to reduce air pollution as much as possible to ensure compliance with European air quality legal limits and WHO air quality guidelines. In addition, most organisations felt LEZs should also support behavioural change such as increasing active travel levels and increasing use of public transport instead of private car use in urban areas and objectives could be set in these areas:

*“Whilst air quality should be the primary focus, LEZs should contribute to meeting wider national health and mobility objectives. For example, Scotland faces significant challenges related to obesity and physical inactivity. By encouraging more people to travel actively to access city centres, more people will meet daily recommended physical activity guidelines and there is the potential for significant savings on health expenditure. British Cycling estimates if Danish levels of cycling were achieved in the UK, the NHS could save around £17 billion over 20 years.” (British Cycling, Organisation)*

While most public bodies were also in agreement with the consensus view several also raised issues around place making and the need for policies in town and city centres to be considered holistically, not on a single issue. They considered an objective to improve air quality could be complementary to other environmental, economic and social objectives. One organisation went further and commented:

*“The overall objective should be the betterment of quality of life for all people living, working, and visiting cities, of which supporting the achievement of Scottish Air Quality Objectives is a primary objective.” (Tactran, Organisation)*

Business respondents included a range of operators, manufacturers and organisations that operate particularly in the construction sector. Again, while there was overall agreement, one noted that SMEs are the ‘bulk’ of HGV operators in construction in Scotland and the targets set out would put additional pressure on these businesses. One noted that a pragmatic approach to LEZs air quality objectives was required in order that sustainable economic growth, jobs growth and investment could be maintained. A bus operator also noted that:

*“It is noteworthy that some forms of emissions reduction can worsen vehicle fuel economy therefore increasing carbon dioxide production (indeed buses are generally less fuel efficient than they were 30 years ago despite being far cleaner).” (First Group Plc, Organisation)*

Respondents from academic or research organisations agreed with the primary objective but noted that the upper values would need to be reduced in future and that care needed to be taken not to unintentionally increase other emissions. A community organisation noted that vehicle standards were likely to improve over time and as a result LEZs may not need to be permanent and could be removed in a period of years.

#### 4.2.2.2 Reasoning - individuals

Of the 33 individuals disagreeing with the primary objective of LEZs, it was clear that 11 fundamentally did not agree with the LEZ concept, with respondents believing the proposals were political spin and the risks were being overstated. Some respondents also queried the evidence on which the proposals were based and questioned the evidence and assumptions on which it was based. However, some 6 respondents appeared to be supportive despite disagreeing with the primary objectives, believing the objectives did not go far enough or focused on the wrong narrow area:

*“Their objective should be to promote use of alternative transport and to remove need for car journeys or stationery traffic.” (Individual)*

Of those individuals in support of the primary objective the majority (739) also added that LEZs should seek to go beyond current emission standards in place (as noted above in relation to Scottish legal objective values):

*“Low Emission Zones should not only secure compliance with both European and Scottish air quality safety standards for all pollutants, but should go beyond these standards and achieve the cleanest air possible. This is because there is no safe level of exposure to certain pollutants including particulate matter.” (Individual, Campaign)*

Individuals also raised the importance of considering other issues within the objectives which may arise through LEZ implementation such as congestion, road safety and the benefits accruing from more active travel.

### 4.2.3 Q3a: Do you agree with the proposed minimum mandatory Euro emission criteria for Scottish LEZs?

The majority of respondents, 62.3% (114), agreed with the proposed minimum mandatory Euro emission criteria for Scottish LEZs though there was a lower level of consensus from respondents than on other topics.

Some 87.1% (61) of organisations responding to the consultation were in agreement with 9 organisations disagreeing. Of the organisations disagreeing there was no clear pattern with 4 businesses, 2 professional/trade bodies, 2 public bodies and 1 NGO.

Individual respondents were divided in their opinions with 47.7% (53) in agreement and 52.3% (58) against.

The results are shown in Table 4.3. No reasoning was requested from respondents on this question.

Table 4.3: Split by Respondent Type

	Yes	No	Total
<b>Substantive Response</b>	<b>114</b>	<b>67</b>	<b>181</b>
Organisations	61	9	70
Individuals	53	58	111
<b>Campaign Response</b>	<b>2</b>	<b>0</b>	<b>2</b>
<b>Total</b>	<b>114 (62.3%)</b>	<b>67 (36.6%)</b>	<b>183 (100%)</b>
Organisations	61 (33.3%)	9 (4.9%)	70 (38.3%)
Individuals	53 (29.0%)	58 (31.7%)	111 (60.7%)

### 4.2.4 Q3b: Do you agree with the proposal to use the NMF modelling in tandem with the NLEF appraisal to identify the vehicle types for inclusion within a LEZ?

Respondents were asked if they agreed with the proposal to use the NMF modelling in tandem with the NLEF appraisal to identify the vehicle types to include within the LEZ. This was an open-ended question and 172 respondents provided comments. Some 78 organisations provided comments and 94 individuals responded.

Analysis of the comments provided indicated that 52.9% (91) supported the proposal, with 18.0% (31) disagreeing and the remainder not providing a clear view within their answer.

Table 4.4: Split by Respondent Type

	Substantive	Campaign	Total
<b>Organisations</b>	78	0	78 (45%)
<b>Individuals</b>	92	2	94 (55%)
<b>Total</b>	<b>170 (99%)</b>	<b>2 (1%)</b>	<b>172 (100%)</b>

#### 4.2.4.1 Reasoning - organisations

Of the organisations providing their views on the proposal to use the NMF modelling in tandem with the NLEF appraisal to identify the vehicle types to include within the LEZ the majority were supportive (47 out of 60 organisations), with 13 against (the remaining 18 did not provide a clear positive or negative view).

Public bodies including local authorities, community groups and academic organisations were generally very supportive of the proposal. Comments suggested these organisations felt it important that the LEZ considers the mix of vehicles that are responsible for emissions but within a clear and consistent methodology such as this provides. Some suggested improvements to the modelling and approach were made by organisations including:

*“We believe it would be helpful if the NMF modelling could model taxis as a separate vehicle class so that their contribution to poor air quality can be made explicit.” (Academic Institution, Organisation)*

Of the organisations agreeing with the approach many caveated their response highlighting that there were other factors that needed to be taken into account. Organisations felt that while the NMF and NLEF should be part of the assessment it was only part of the information and while NMF only looks at engine type; it does not consider other measures which could be used to tackle air quality. Other issues raised included that the modelling was only as good as the information input and that it did not take into account traffic redistribution or behavioural effects:

*“[yes] In part. There are likely to be other factors that need to be taken into account in some circumstances - e.g. social and political implications of including all categories of vehicles in an LEZ. Transport/traffic modelling would also be required to identify the impacts of the displaced vehicles. For example an LEZ could cause traffic to redistribute onto the wider road network to avoid it. This must be identified as it may just move the air quality and transport problems. It could also impact on parking behaviour as people with older more polluting cars park out with the zone and walk to their final destination.” (Public Body, Organisation)*

Those organisations disagreeing with the use of NMF and NLEF to identify vehicle types to include in the LEZ comprised 6 out of 12 NGOs, in addition to a small number of businesses, professional organisations and public bodies. One trade body believed the appraisal should also consider the delivery of key outcomes (commute journeys), as a focus on just ‘per vehicle’ emissions would not result in the air quality improvements required. A number of responses focused on perceived issues with the modelling and the risk that waiting for this work to be completed would result in unacceptable delays to the LEZ implementation programme:

*“The NMF modelling has been useful, but it must be further enabled to model all available transport modes (the consultation only shows results for buses). The NLEF appraisal process is opaque, behind schedule, and incomplete and risks slowing down progress towards LEZs. In our view, it should be set aside.” (NGO, Organisation)*

#### 4.2.4.2 Reasoning - individuals

The key themes highlighted by individuals who were in support of the proposal (33/94) were that the approach appeared to be fair and reasonable and would ensure consistency of approach and would make them easier to implement and enforce. It was felt this would be important for operators of fleets/buses who work across different cities in Scotland. One respondent believed this national approach was also important for historic/vintage vehicle owners as they often travel to different locations across Scotland to take part in events. The importance of a national model in not duplicating efforts and expense creating regional models was also highlighted:

*“A national model can be refined and improved centrally, rather than requiring local authorities to commission their own models with associated duplication of effort/expense, and risk that outdated local models persist due to budgetary constraints.” (Individual)*

A small number of individuals highlighted the importance of the results of the modelling exercise to be independently verifiable, with another comment noting that the model should be adjusted to take into account the fuel efficiency per passenger.

Some 29 out of 94 individuals disagreed with the proposals for identifying vehicles to include within the LEZ proposals. Of those disagreeing with the proposal, key themes emerging were that individuals did not feel the standards used in the modelling would reflect real world driving conditions. Many respondents also highlighted issues of equality and that the proposals would unfairly target those low-income families who were unable to afford to purchase a new vehicle. They felt there should be at least a phased introduction to LEZs to allow car owners time to save and plan a replacement vehicle noting that not all families would be in a position to do so:

*“No. Any charge should be borne by all road users. Targeting older car makes penalises the poor / low income families by pricing them out of the reduced cost vehicles. It turns a scheme to improve air quality into a tax on the poor.” (Individual)*

In addition, other respondents who did not agree or disagree highlighted concerns around the Euro standards as they did not reflect real-world driving conditions. Concerns were also raised about the technical nature of the content consultees were expected to comment on.

#### 4.2.5 Q3c: Should emission sources from construction machinery and/or large or small van refrigerated units be included in the LEZ scope, and if so should their inclusion be immediate or after a period of time?

Some three quarters of respondents with 75.4% (126) agreed that emission sources from construction machinery and/or large or small refrigerated units should be included within the scope of LEZs.

Some 90.7% (49) of organisations responding to the consultation were in agreement with 5 organisations disagreeing. Some 68.1% (77) of individuals were in agreement that these should be included within the LEZ scope.

The results are shown in Table 4.5.

Table 4.5: Split by Respondent Type

	Yes	No	Total
<b>Substantive Response</b>	<b>124</b>	<b>41</b>	<b>165</b>
Organisations	49	5	54
Individuals	75	36	111
<b>Campaign Response</b>	<b>2</b>	<b>0</b>	<b>2</b>
<b>Total</b>	<b>126 (75.4%)</b>	<b>41 (24.6%)</b>	<b>167 (100%)</b>
Organisations	49 (29.3%)	5 (3.0%)	54 (32.3%)
Individuals	77 (46.1%)	36 (21.6%)	113 (67.7%)

All respondents were asked to provide a reason for their view and these are considered in the next sections.

#### 4.2.5.1 Reasoning - organisations

Of those organisations who did not agree, 3 were public bodies and 2 professional/trade bodies. One of the professional/trade bodies felt this could impact on industry and jobs in areas covered by LEZs and was unnecessary while the other believed it could be problematic to enforce and manage for construction machinery. They believed a permit system may be more appropriate than ANPR as some machinery would be delivered onto site on other vehicles. For simplicity, they suggested:

*“... that construction plant is not covered but road vehicles associated with construction (i.e. tipper trucks) are covered – this would go some way to change behaviours.” (Professional Body, Organisation)*

All of the public bodies were also in agreement with the views of the professional bodies. They noted that the Greater London Authority allowed exemptions to their LEZ in certain circumstances for Non-Road Mobile Machinery (NRMM), and that emission standards and enforcement options for such equipment is either not available or limited. As such they felt these vehicles should be excluded from the initial roll out of LEZs. In addition, one public body commented that including these vehicles in LEZs would negatively impact on food businesses within the zones and costs could be passed on to the customer which may have a greater impact on those on lower incomes.

Of those organisations who agreed, 32.7% were classed as public bodies, 26.5% third sector/NGOs, 22.5% business/industry, 10.2% professional/trade body, 4.1% community groups and 4.1% academic/research organisations. There was consensus among these organisations that these vehicles do contribute to emissions and therefore should be included within LEZs. Organisations were however split in their views as to when these vehicles/machinery should be included. The majority recognised that due to the longer life and high replacement costs of the vehicles/machinery involved, and to allow businesses to prepare, there would need to be a suitable (longer) lead in period than for other classes of vehicle. Twelve/44 (27%) organisations felt that these should be included from the outset and that the overall implementation of LEZs should not be held up as a result of problems due to the needs of particular classes of vehicles/industries.

#### 4.2.5.2 Reasoning - individuals

The majority of individual respondents in support of including these sources of emissions in a LEZ reasoned that these sources contributed to air pollution and therefore they should be included within the scope of the LEZ. For example:

*“Construction is almost permanent in most cities and towns and their pollution must make a significant contribution so should be included.” (Individual)*

Some 44 of the individual respondents agreed outright while 36 applied conditions to their response. These respondents recognised these vehicles were necessary and that they could be costly to replace therefore suitable phased start dates would be required. A number of respondents felt that while their inclusion in the LEZ scope was necessary there would be a greater impact on small businesses that they believed tend to have older vehicles. Respondents noted that there may be an impact on the long-term future of these businesses as not every business would be able to afford to purchase new vehicles.

Of the individuals disagreeing with the inclusion of construction machinery and refrigerated vehicles, many reasoned that this would impact negatively on businesses, particularly SMEs and increase costs which would be passed onto the customer. Many respondents also considered that these vehicle classes did not significantly contribute to overall emissions and that construction machinery in particular would only be in a location temporarily:

*“I believe the impact of these devices are minimal in the grand scheme of things, and particularly in construction equipment, much of which is specialised with long operating life's, would drive business away from the city.” (Individual)*

#### 4.2.6 Q4: What are your views on adopting a national road access restriction scheme for LEZs across difference classes of vehicles?

Respondents were asked to provide their views on adopting a national road access restriction scheme across vehicle classes. This was an open-ended question and 181 respondents provided comments.

The results for those who answered the question are shown in Table 4.6.

Table 4.6 Split by Respondent Type

	Substantive	Campaign	Total
<b>Organisations</b>	79	0	79
<b>Individuals</b>	100	2	102
<b>Total</b>	<b>179 (98.9%)</b>	<b>2 (1.1%)</b>	<b>181 (100%)</b>

Whilst not all respondents indicated their approval or disapproval on adopting a national road access restriction scheme, of those that did, the views provided showed 34 respondents supported the proposal, with a further 41 caveating their approval. This total of 75 in support represents 41.4% of those who provided comments. Some 18.7% (34 respondents) disagreed and 5 respondents indicated it would be unworkable (2.7%) and a further 13 (7.1%) would prefer a different alternative.

Out of the organisations answering the question some 11% (20) were in agreement with adopting a national road access scheme, and a further 14.3% (26) organisations were in approval but with conditions.

Of those who disagreed, 3.3% (6) were organisations and of those who indicated it would be unworkable, 1.1% (2) were organisations and 3.8% (7) organisations would prefer a different alternative.

Some 7.7% (14) of individuals were in agreement that a national road access restriction scheme should be included within the LEZ scope and a further 8.2% (15) with conditions. Some 15.4% (28) did not agree that it should be included.

##### 4.2.6.1 Reasoning - organisations

Of those organisations who did not agree, one was a public body, one was a community group, two were classified as business/industry and two were professional or trade bodies. Their reasoning was that a national road access restriction scheme was unworkable with respondents raising issues such as geographical differences, the impact upon construction vehicles, historic vehicles, freight operations and bus operators. They felt that other measures could be more effective such as addressing transport needs, other policy mechanisms and penalty charging. The comments and reasoning provided indicates that the views of organisations were influenced by their perception of the potential impact on themselves. An example of an organisation in disagreement is as follows:

*“FTA is opposed to this focus on LEZs. They are not a magic solution with merits above all others. Scotland’s issues will not be solved the day one or two LEZs are introduced. And other policy mechanisms might be more effective in improving air quality. The level of focus on introducing an LEZ of some sort within 2018 appears a narrow and blinkered policy approach.” (Freight Transport Association, Organisation)*

Of those organisations who approved or approved with conditions, 3 were academic/research groups, 8 were business/industry, there was 1 community group, 15 local government bodies, 7 professional or trade bodies, 3 public bodies and 9 third sector/NGO groups. The academic/research groups agreed due to the importance of achieving the proposed benefits but one group recognised the potential impact of social inequality on those who may not be able to replace their vehicle. The majority of the business and industry groups were supportive of a national road access restriction scheme but with conditions, as they were concerned for example on how it is implemented. Likewise, the community group was in approval but with conditions around the need for consistency.

Local government bodies were in approval due to factors such as the need for penalties and effectiveness, with 4 approving with conditions. These included comments on how it will be implemented, with approvals depending on whether penalties will be sufficient or effective and whether alternatives could be provided in the interim period such as a road charging scheme. Likewise, the majority of public bodies also approved but with conditions for similar reasons as those previously highlighted. The community group highlighted a need for consistency and how it is implemented and operated. The majority of professional or trade bodies agreed but with conditions as did just under half of the third sector/NGO groups with some commenting on how penalties should be allocated. For example:

*“We support the view that LEZs should be set up as a road access restriction scheme whereby ‘vehicles that do not meet LEZ Euro emission standards are not allowed to enter a LEZ and are subject to a penalty if they do.’ This should be a large enough penalty to ensure that drivers comply with the LEZ. The money gained from these fines should be invested into better, cleaner public transport and active travel provision.” (Spokes, Organisation)*

#### 4.2.6.2 Reasoning - individuals

The majority of individuals were classified as substantive, with only 2 Campaign Plus responses. The general trend from the substantive responses was that there were a wide range of views regarding adopting a national road access restriction scheme for LEZs across different classes of vehicles from the responses. As discussed in Chapter 5, it is evident that many of the substantive responses approve of a national road access restriction scheme either fully or with conditions.

Comments provided in support of the proposal included reasons such as the benefits to environmental impact, traffic and congestion and other comments made on approval of a national road access restriction scheme but with conditions due to concerns about implementation.

Of those disagreeing with the proposal, respondents commented that problems such as social inequality could arise due to the impact on low income earners, those with political concerns and those worried about local impact and how such a scheme could be implemented.

Of the two 2 Campaign Plus groups, one indicated the proposal would be unworkable due to concerns with the changes need for infrastructure to support such a scheme, whereas the other Campaign Plus group did not indicate a clear approval or disapproval with a national road access restriction scheme but raised comments on implementation in terms of allowances for public transport vehicles.

#### 4.2.7 Q5: What are your views on the proposed LEZ hours of operation, in particular whether local authorities should be able to decide on LEZ hours of operation for their own LEZs?

Respondents were asked to provide their views on the proposed LEZ hours of operation. This was an open-ended question and 920 respondents provided comments. The reason for this high number is due to the proportion of comments made which consisted of the Friends of the Earth Campaign.

The views provided showed that the most popular suggestion was for LEZs to operate 24 hours, 7 days a week and from the substantive responses, 8.2% (76) agreed that LEZs should operate 24/7 either fully or with conditions. These conditions included the need to take local circumstances into account, the need to reduce restrictions at times when there are less vehicles on the road and to offer exemptions for vehicles that need to undertake 'emergency repairs'.

From the Campaign responses, 79% (727) fully agreed that LEZs should operate 24/7. Furthermore, from the Campaign Plus responses, 8 responses either fully agreed or agreed with conditions that LEZs should operate 24/7.

Within the substantive responses, 5.4% (50) of organisations agreed that LEZs should operate 24/7, either fully or with conditions.

Some 3.9% (36) of the substantive respondents approved of local authority control, of these, 1.6% (15) were organisations. Just 1% (10) of respondents disagreed with local authority control. Of these, 1 (<1%) organisation indicated that local authorities shouldn't be given control. It is important to note that whilst these figures are low, this is due to the many variations in the substantive responses of views on the proposed hours of operation and whether local authorities should be able to decide on LEZ hours.

These variations include:

- During hours of peak traffic
- 0800-2000
- 0700-1930
- 0900-1700
- 0800-1730 Monday to Friday
- 0600-2000 Monday to Saturday
- 0700-1900
- 7 days a week with night time exemptions
- Operate at off peak times
- In line with public transport hours of operation

The table below indicates the proportion of those who answered the question.

Table 4.7: Split by respondent

	Substantive	Campaign	Total
<b>Organisations</b>	82	0	82
<b>Individuals</b>	100	738	838
<b>Total</b>	<b>182 (19.8%)</b>	<b>738 (80.2%)</b>	<b>920 (100%)</b>

#### 4.2.7.1 Reasoning - organisations

Of the organisations responding to the question, 4 were classified as academic/research, 15 were business or industry, 4 were community groups, 21 were local government, 14 were professional or trade bodies, 7 were public bodies and 17 were third sector or NGOs.

Of those who agreed either in full or with conditions that LEZs should operate 24/7, 2 were academic/research, 10 were business or industry, 14 were local government, 4 were professional or

trade bodies, 4 were public bodies and 16 were third sector or NGOs. Whilst some did not provide reasons as to why they should operate 24/7, of those that did, reasons included the need for national consistency and that variable hours are problematic. Of those who support it with conditions, they indicated that there may need to be special circumstances allowed or different hours whilst LEZs are being implemented. An example from a respondent is as follows:

*“Any scheme should operate continuously, 24 hours a day, seven days a week, all year round. To include restrictions is confusing to road users.” (West Coast Motors, Organisation)*

Furthermore, of those who agreed with local authority control, there was 1 academic/research respondent, 3 from business or industry, 1 community group, 4 local government bodies, 4 professional or trade bodies and 2 public bodies. Of those that provide reasons for this, some agreed with this form of control due to the need for detailed implementation and that local authorities are best placed to understand local conditions. An example from an organisation is as follows:

*“Ultimately, local authorities are best placed to understand at what times of the day air quality is likely to be at its worst. However, we do have concerns that different hours of operation in different LEZs might be confusing for drivers and businesses.” (RAC, Organisation)*

The organisation who disagreed that local authorities should be given control indicated this is due to the problem of inconsistencies that could arise across Scotland.

Furthermore, 2 organisations indicated that LEZs should operate at specific hours, (8am-8pm) and (daytime), being 1 local government body and 1 business/industry group and whilst one did not give a reason, the other indicated that there are no real problems with time based enforcement.

Factors which may influence some of the responses are local government bodies who are responding and are in favour of local control and in regard to hours of operation, certain organisations such as taxi organisations indicated that there could be room for some leniency at certain hours of the day such as night time hours and health organisations often also supported hours of operation 24 hours a day due to the need to provide maximum hours of benefit.

#### 4.2.7.2 Reasoning - individuals

Of the 100 individuals who provided substantive responses, there were a number of suggestions as to the hours of operation as well as thoughts on who should decide on this. However, the most frequently raised response was that LEZs should operate 24 hours a day, 7 days a week and the majority agreed that local authorities should be given control.

Some of the reasons provided for this view included the need for LEZs to be effective, for national consistency, in order to combat pollution and for simplicity. For full details, please refer to Chapter 5 and analysis of the substantive responses.

Of the 730 individuals who provided a Campaign response, the standard text used by respondents was:

*“Low Emission Zones should operate 24 hours/day.”*

Reasoning was not provided by Campaign respondents. Furthermore, of the 8 individuals who provided Campaign Plus responses, respondents indicated that low emission zones should operate 24 hours a day but some expanded upon the reasons why they think this. Reasons given included concerns about inconsistency, those stating that LEZs should operate 24 hours/a day but that this may not be needed in every LEZ and factors such as that peak traffic need to be taken into account.

## 4.2.8 Q6: What are your views on Automatic Number Plate Recognition enforcement of LEZs?

Respondents were asked to provide their views on the use of Automatic Number Plate Recognition (ANPR) to enforce LEZs. This was an open-ended question and 928 respondents provided comments. The views provided showed a high level of consensus with 91.6% (850) in favour of using ANPR to enforce LEZs, with a further 2.8% (26) in approval only in the case of LEZs or with certain conditions. Those opposed to ANPR represented 3% (28) of all responses given.

Another one of the most popular responses to this question was LEZ offence enforcement and this was indicated in 81.7% (758) of responses.

The total numbers of respondents providing an answer to the question is indicated in the table below.

Table 4.8: Split by respondent

	Substantive	Campaign	Campaign Plus	Total
Organisations	83	0	0	83
Individuals	108	729	8	845
<b>Total</b>	<b>191 (20.6%)</b>	<b>729 (78.6%)</b>	<b>8 (0.8%)</b>	<b>928 (100%)</b>

### 4.2.8.1 Reasoning - organisations

Of the organisations responding to this question, 4 were classified as academic/research, 16 were business/industry, 4 were community groups, 21 were local government bodies, 14 were professional or trade bodies, 7 were public bodies and 17 were classified as third sector/NGO.

Of those who indicated that they were in favour of using ANPR to enforce LEZs, 3 were academic/research groups, 11 were business/industry, 2 were community groups, 20 were local government bodies, 8 were professional or trade bodies, 4 were public bodies and 16 were third sector/NGO groups. Whilst many of the organisations did not give a reason as to why they were in favour of using ANPR, of those that did, comments provided in support included suggestions that it was vital for effective enforcement, that ANPR could be tied into existing infrastructure, would be essential for the implementation of LEZs and is a practical method. An example from a respondent is as follows:

*“This will help to identify potential offenders as strict enforcement is essential.” (Hawkhead and Lochfield Community Council, Organisation)*

Of those that were in favour of using ANPR only in this case or with conditions, this consisted of 1 academic/research body, 3 business/industry groups, 1 community group, 1 local government body, 2 professional or trade bodies, 2 public bodies and 1 third sector/NGO group. The general trend among those who were in favour conditionally is that ANPR needs to achieve compliance, concerns about the cost of ANPR enforcement, the need for adequate monitoring and an appropriate database and suggestions on the implementation of LEZs in conjunction with the introduction of ANPR. Some respondents also referenced experiences of the usage of ANPR in other locations e.g. London and Dartford. An example of some of the reasons given for the support for ANPR from a respondent is:

*“GVVT is broadly supportive of ANPR for enforcement, only provided that the national database is kept up to date with exempt vehicles and that a mechanism exists for vehicles to be exempted at short notice for specific circumstances/ events. The administration required to do this needs to be considered, what organisation is responsible to do this, and any staff resource implications. There needs to be an appeal process for specific circumstances, for example:*

*-cases where an exemption has been granted but not reflected in the database. For example, a change of vehicle tax class or MOT status – where there might be a delay in updating the database.*

*-defective signage or road markings*

*-emergencies.” (Glasgow Vintage Vehicle Trust, Organisation)*

Furthermore, of those organisations opposed to ANPR, this consisted of 1 public body and 1 professional or trade body. Of those disagreeing with the use of ANPR, the public body had privacy concerns whilst the professional or trade body believed other alternatives could be used.

#### 4.2.8.2 Reasoning - individuals

Of the 108 individuals who provided a substantive response to this question, the majority approved of ANPR enforcement of LEZs fully or approved with conditions, as many see it as an effective form of technology and a way of collecting data. However, respondents raised concerns about the costs involved, data protection as well as privacy issues to be taken into account. Of the 108 substantive individuals who responded to the question, 26 indicated their opposition, and this represents almost one quarter of individual substantive respondents. For example, one individual made reference to a thesis on ‘The health and socioeconomic impact of traffic-related air pollution in Scotland’ (Hyland, 2017) to defend the position of why ANPR is not needed due to there already being a system linked to number plate recognition.

Moreover, the Campaign response given by the 729 individuals who answered the question was:

*“Low Emission Zones should be properly enforced, using automatic number plate recognition technology. The Government should enable LEZ offences to be enforced by council wardens.”*

This corresponds to the large proportion of individuals who chose to comment on the need for LEZ offence enforcement and it is clear that the Campaign responses were in approval of ANPR but that enforcement needs to be undertaken through council wardens. Respondents who provided this Campaign text did not expand on why LEZ offences should be enforced in this manner.

A further 8 individuals were classified as Campaign Plus and provided further details in addition to the text above. Of those that provided additional comments, they stated that ANPR is necessary for enforcement, others commented on other alternatives such as tracking systems and some commented on vehicle exemptions.

#### 4.2.9 Q7a: What exemptions should be applied to allow LEZ to operate robustly?

Respondents were asked to provide their views on what exemptions should be permitted in order to allow LEZs to operate robustly. This was an open-ended question and 923 respondents provided comments. The number of respondents who answered the question is outlined in the table below.

Table 4.9: Split by respondent

	Substantive	Campaign	Campaign Plus	Total
<b>Organisations</b>	81	0	0	81
<b>Individuals</b>	103	731	8	842
<b>Total</b>	<b>184 (19.9%)</b>	<b>731 (79.2%)</b>	<b>8 (0.9%)</b>	<b>923 (100%)</b>

The most frequent response was an exemption for emergency vehicles and 82.7% (763) cited this, with a further 4 respondents conditionally agreeing. These conditions included time periods for emergency vehicle exemption and exemptions only when using blue lights. The second most frequent response was in relation to vehicle exemption periods and time periods and was raised by 82.4% (761) respondents.

The views provided showed that 3% (28) were against any exemption, with a further 1 respondent indicating there should be no exemptions for unavoidable vehicles, 5 respondents indicating there should be no exemptions for HGVs and/or buses, 1 against refuse vehicle exemption, 1 against military vehicle exemption, 2 against emergency vehicle exemption, 1 against government/council vehicle exemption, 2 against historic vehicle exemption and a further 2 respondents against exemptions for blue badge holders.

#### 4.2.9.1 Reasoning - organisations

Of the organisations responding to this question, 4 were classified as academic/research, 16 were business/industry, 4 were community groups, 20 were local government bodies, 14 were professional or trade bodies, 7 were public bodies and 16 were classified as third sector/NGO.

Of those who were against any exemption, 1 was a business/industry group, 1 was a local government body and 3 were third sector/NGO groups. Whilst 2 respondents did not give reasons, of those that did, some indicated that residents and blue badge holders should be given longer to comply and that blue badge holders should also be given financial assistance.

From the most popular response that emergency vehicles should be exempt, of those that agreed fully or with conditions, this consisted of 3 business/industry groups, 8 local government bodies, 7 third sector/NGOs and 1 professional or trade body. Whilst not all provided reasons as to why they believe emergency vehicles should be exempt, of those that did, they indicated that these are vital services and made comments on their compliance, with some stating they should be given longer to comply or that their compliance should be voluntary. An example from a respondent is as follows:

*“Emergency vehicles are an obvious exemption – although it is hoped that financial assistance could be given to services to make their vehicles compliant – the other exemptions – particularly function of journey would require further consideration – particularly as the number of non-compliant vehicles will reduce due to natural turnover.” (Anonymous, Organisation)*

Furthermore, of those organisations commenting on vehicle exemption periods and time periods, 3 were local government bodies, 8 third sector/NGOs, 5 business/industry groups, 2 professional or trade bodies and 1 community group. Comments made by respondents indicated that time needs to be given to allow people to adjust to LEZs so as not to impact on disadvantaged people, those indicating that a set lead-in period needs to be agreed in order to tackle pollution, comments that timescales need to be realistic and comments on time periods in relation to implementation and compliance.

Some respondents also referenced examples of exemptions from other locations such as Oxford or made reference to scientific articles in relation to the impact of air quality on health in order to help determine exemptions e.g. for the vulnerable. For the full list of references in response to Question 7a, please refer to Appendix C.

One NGO respondent considered that community transport operators should be exempt due to their carrying of vulnerable people and the costs associated with communities upgrading minibuses. A bus operator suggested that for bus and coach operator travelling long distances exemptions should apply if they only travel through a LEZ for a short period of time.

Generally, most of the academic or research groups agreed with few exemptions and responses from business/industries were varied with some agreeing with certain exemptions whereas others indicating there should be none and community groups all agreeing with historic vehicle exemption. Furthermore, local government bodies responses were also varied with the majority agreeing with some form of exemption and with exemptions for all vehicles defined in the consultation paper.

Professional or trade bodies agreed with exemptions for commercial/business vehicles, specialist vehicles, historic vehicles, emergency vehicles, exemptions that would otherwise cause hardship and others who indicated there should be few exemptions. Public bodies agreed with exemptions for all vehicles defined in the consultation paper, exemptions for low frequency vehicles, historic vehicles, specialist vehicles, buses and coaches and others who indicated there should be few exemptions.

#### 4.2.9.2 Reasoning - individuals

Of the 103 substantive individuals who responded to this question, 22.3% (23) indicated there should be no exemptions and whilst many did not provide reasons, of those that did, reasons included the need for effectiveness and the importance of considering the environmental impact. Generally, the responses indicated that there were a variety of suggestions for exemptions and the general pattern is that there are a range of concerns across the spectrum, from those who worry if any exemptions are made to those who are concerned if certain vehicles aren't exempt. Further detail of the full list of exemptions developed can be found in the Substantive Chapter 5.

The Campaign response given by 731 individuals was the following:

*“Emergency vehicles should be exempt from having to comply with LEZs. Vehicles that have a disabled or disabled passenger vehicle tax class, and residents with vehicles who live in LEZs should be granted a three-year sunset period to comply with standards.”*

Of those who expanded upon the text above, some indicated that whilst the proposals seem adequate, there may be a need for them to be revised, comments that negotiation may be needed with public transport regarding exemption and another Campaign Plus respondent commenting on the need for funding for infrastructure in order for LEZs to operate robustly.

#### 4.2.10 Q7b: Should exemptions be consistent across all Scottish local authorities?

The majority of respondents, 86.3% (151) agreed that LEZ exemptions should be consistent across all Scottish local authorities.

Some 92.9% (65) of organisations responding to the consultation were in agreement with 5 organisations disagreeing. Of the organisations disagreeing 4 were public bodies and 1 was a business with all of the organisations involved in the public transport sector.

Some 81.9% (86) of individuals were in overall agreement that exemptions should be consistent across authorities.

The results are shown in Table 4.10. No reasoning was requested from respondents on this question.

Table 4.10: Split by Respondent Type

	Yes	No	Total
<b>Substantive Response</b>	<b>149</b>	<b>24</b>	<b>173</b>
Organisations	65	5	70
Individuals	84	19	103
<b>Campaign Response</b>	<b>2</b>	<b>0</b>	<b>2</b>
<b>Total</b>	<b>151 (86.3%)</b>	<b>24 (13.7%)</b>	<b>175 (100%)</b>
Organisations	65 (37.1%)	5 (2.9%)	70 (40.0%)
Individuals	86 (49.1%)	19 (10.9%)	105 (60.0%)

#### 4.2.11 Q8: What are your views on LEZ lead-in times and sunset periods for vehicle types shown in Table 2?

Respondents were asked to provide their views on lead in times and sunset periods for LEZs for the vehicle types shown in the consultation document. This was an open-ended question and 913 respondents provided comments including 80 organisations and 833 individuals. The breakdown of respondents is shown in Table 4.11.

Table 4.11: Split by Respondent Type

	Substantive	Campaign	Total
<b>Organisations</b>	80	0	80
<b>Individuals</b>	94	739	833
<b>Total</b>	<b>174</b>	<b>739</b>	<b>913</b>

##### 4.2.11.1 Reasoning - organisations

Some 51 out of the 80 organisations provided an indication that they were in some way supportive of LEZ lead-in times and sunset periods. Some 20 organisations did not provide a view about support and 9 organisations stated that they were not supportive.

Of those indicating some level of support, some 19 organisations were clearly supportive of LEZ lead-in times and sunset periods. Several noted that, as outlined in the consultation document, other UK and European LEZs have adopted a 4-year lead in time. Out of these 19 respondents, 12 felt that Scotland should follow this example.

*“We agree need for reasonable lead-in times (e.g. 2-4 years) to avoid economic problems both for fleet operators and for private users.” (Public Body, Organisation)*

Some organisations highlighted a key issue to consider in setting lead-in times and sunset periods should be the time required by public transport providers to retrofit or replace their fleet. Indeed, organisations classed as business (including operators) noted this would be essential as the vehicles have a high purchase cost and high retrofitting costs. This was also felt to be an issue for HGV fleet operators. A public body noted that sufficient time was required to create a funding regime, provide retrofitting

centres with sufficient qualified engineers and for bus operators to programme the upgrade of vehicles. Some respondents felt more than 4 years was required with one operator commenting:

*“As an example, for a LEZ covering the city centre of Glasgow, with a combination of vehicle replacement and retrofit, a combined lead-in period plus sunset period of at least 7 years will be required to bring our local bus fleet up to a Euro VI standard.” (FirstGroup Plc UK Bus Division, Organisation)*

Nine organisations disagreed that both lead-in and sunset periods were required and that as soon as LEZs were implemented they should be enforced. It was felt that other proposals could lead to public confusion. Seven of the 9 organisations including 5 NGOs stipulated that the Scottish Government had an obligation to tackle air pollution in the shortest time possible and lead in and sunset periods would delay the potential positive effects from LEZs. An NGO commented:

*“Sustrans Scotland believe LEZs should be implemented as soon as the advertised date is reached and enforcement is possible, and that this should mark the end of access for non-compliant vehicles. There is potential for confusion and poor communication by over-complicating implementation timelines.” (Sustrans Scotland, Organisation)*

#### 4.2.11.2 Reasoning - individuals

Individual respondents demonstrated a very high level of support (739) for a 3-year sunset period for the vehicles of those living within LEZs along with vehicles with a “disabled or disabled passenger vehicle tax class”. This high level of support was due to the large numbers of Campaign respondents answering this question. Campaign respondents also highlighted that emergency vehicles should be exempt from LEZs and therefore did not require a lead-in or sunset period. The full Campaign text is shown Chapter 6.

In addition to the Campaign respondents supporting a 3-year sunset period for some groups, 16 substantive individuals felt a 4-year lead-in period was appropriate.

In contrast, a further 11 substantive individuals felt a lead-in period and sunset period was not required. They felt that action needed to be taken quickly and that these periods would delay the effective implementation of LEZs.

*“Far too slow. The health crisis is now. The delay between enforcement and activation of the scheme is just going to make a mockery of the scheme.” (Individual)*

Many individuals providing a substantive response did not provide clear support or disagreement and there was no clear consensus of opinion. Some comments highlighted the need for consistent lead-in times and sunset periods regardless of the time period decided. In contrast, 2 individuals highlighted that lead-in and sunset times required should vary depending on the location and size of the proposed LEZs. A further individual noted that it would be important to be flexible and not make small LEZs put in long lead-in periods where it was not necessary.

Some 29 respondents provide comments regarding appropriate length of lead in times. These included:

- 0-1 years (3 respondents)
- 2 years (3 respondents)
- 3 years (1 respondent)
- 4 years (12 respondents)
- 4 years + (8 respondents)
- 2-4 years (2 respondents)

Similarly, the trends in the length of sunset period times are outlined below. It is evident from the responses that the preference for a sunset period of 3 years is the preferred option, with the 728 Campaign respondents making up the majority of those suggesting this period:

- 2 years (1 respondent)
- 3 years (740 respondents)
- 4 years (2 respondents)
- 4 years + (4 respondents)

A number of respondents did not specify whether the length of period they suggested was for lead-in periods or sunset periods and the count of those who provided a general time period is outlined below:

- 2 years (1 respondent)
- 3 years (1 respondent)
- 4 years (3 respondents)
- 4 years + (6 respondents)

#### 4.2.12 Q9: What are your views about retrofitting technology and an Engine Retrofitting Centre to upgrade commercial vehicles to cleaner engines, in order to meet the minimum mandatory Euro emission criteria for Scottish LEZs?

Respondents were asked to provide their views on retrofitting technology and an Engine Retrofitting Centre. The Scottish Government propose to introduce an Engine Retrofitting Centre in Scotland to support the delivery of LEZs. This was an open-ended question and 920 respondents provided comments including 80 organisations and 840 individuals. The breakdown of respondents is shown in Table 4.12.

Table 4.12 Split by Respondent Type

	Substantive	Campaign	Total
<b>Organisations</b>	80	0	80 (9%)
<b>Individuals</b>	102	738	840 (91%)
<b>Total</b>	<b>182 (20%)</b>	<b>738 (80%)</b>	<b>920 (100%)</b>

##### 4.2.12.1 Reasoning - organisations

Of the 80 organisations that responded, the views provided indicated that 46 demonstrated clear support for the principle of retrofit technology with 10 organisations not offering support. The views of the remaining 24 organisations did not demonstrate support or a lack of support but highlighted a number of issues to consider.

Of the organisations that cited support, 35% were classified as public bodies, 30% NGOs, 15% professional/trade bodies, 13% business and 7% academic organisations. The majority of public bodies (16), NGOs (14) and professional organisations (7) responded to highlight their support for the principle of retrofit technology. A range of reasons were provided for their views with a key reason being this approach has worked well in other areas. Respondents highlighted that the costs would need to be realistic or grant funded to be attractive with one respondent noting that it should be restricted to

vehicles with long lifespans in order to make best use of limited funding. It was noted by 3 respondents that retrofitting may lead to vehicle owners using older vehicles rather than investing in new technology which would not support the aims of LEZs. In addition, one organisation noted there may be difficulties in persuading commercial companies to retrofit based on their previous experience running a grant scheme:

*“Previous attempts to engage with commercial bus companies to consider retro-fitting proved challenging and ultimately there was no uptake of grant funded upgrades. Commercial bus companies expressed concerns about timetable scheduling to allow works to be undertaken as well as concerns about the impact that the retrofitted technology would have on fuel economy and maintenance costs.”*  
(Public Body, Organisation)

The 3 academic organisations responding were all in favour of retrofitting as a principle. They highlighted the benefits such an industry would bring in terms of jobs and investment:

*“This is absolutely essential in order to reduce the impact of the LEZ on commercial vehicle owners and operators, and also to create a useful skills pool in Scotland. Also, given that no vehicles are manufactured in Scotland (with the exception of bus bodies at Alexander Dennis), increasing the rate of purchase of new vehicles would be leakage of investment out-with the country which is also undesirable particularly at a time of great economic uncertainty.”* (Academic Organisation)

Of those expressing disagreement with the principle of retrofitting, 3 were community groups, 3 businesses, 3 public bodies and 1 professional/trade body. The reasoning provided varied with 2 community organisations highlighting issues with historic vehicles and the view that retrofitting was not suitable for this group of vehicles.

*“Given that the very purpose of their retention is to preserve authentic examples of past technologies, retrofitting is not a desirable option for these vehicles from the cultural and heritage point of view and defeats the primary object of both their retention and the reasons for permitting their ongoing use.”*  
(Community Organisation)

Businesses were divided with one respondent noting their organisation had already invested a large amount of money in upgrading the business fleet to make it Euro 6 compliant. They felt it would be providing an unfair business advantage if their competitors were offered this help at a cost to the tax payer. Another business felt that while the proposals appeared to be positive, it would not be suitable for some fleets for reasons including current fleet investment and renewal patterns. A further organisation reasoned that with appropriate LEZ phasing retrofit should not be required and would unlikely be a realistic and effective option.

#### 4.2.12.2 Reasoning - individuals

Some 95% of individuals (799) responding to this question expressed support of retrofitting in some form. Of the substantive individuals responding some 62 expressed their proposals with reasoning including factors such as preventing the scrapping of good working vehicles, minimising the costs to businesses operating within the LEZ and the creation of jobs in Scotland. A further 737 Campaign respondents expressed support for retrofitting grants to be available to bus operators via the Green Bus Fund.

Of the individuals disagreeing with the principle of retrofitting, a range of reasons were provided. These included the view that providing “welfare” to private businesses should not be tax payer funded. Other respondents agreed with this view, asking why commercial vehicles should be given retrofit help and not private vehicles? It was felt by some that with appropriate lead-in periods, private companies could plan for the changes and not therefore require taxpayers help. Another respondent highlighted that they did not think bus operators would take up retrofitting options, they reasoned:

*“Given that buses tend to have a 15-year working life with their first operator, the reaction of the major bus operating groups is likely to be to transfer non-compliant vehicles elsewhere in exchange for newer, compliant, ones, thus giving some other authority/community the problem.” (Ian Alexander Souter, Individual)*

#### 4.2.13 Q10: How can the Scottish Government best target any funding to support LEZ implementation?

Respondents were asked how the Scottish Government could best target any funding to support LEZ implementation. This was an open-ended question and 904 respondents provided comments including 77 organisations and 827 individuals. The breakdown of respondents is shown in Table 4.13.

Table 4.13: Split by Respondent Type

	Substantive	Campaign	Total
<b>Organisations</b>	77	0	77 (8.5%)
<b>Individuals</b>	90	737	827 (91.5%)
<b>Total</b>	<b>167 (18.5%)</b>	<b>737 (81.5%)</b>	<b>904 (100%)</b>

##### 4.2.13.1 Reasoning - organisations

Of the organisations responding 32% were public bodies, 23% businesses, 21% NGOs, 17% professional or trade body, 4% community and 3% academic organisations.

The most frequently cited suggestion as to where the Scottish Government should target any funding to support LEZ implementation from organisations was in public transport (31/77). Organisations believed that emissions from buses are significant contributors to air quality issues in Scottish cities and that significant improvements could be achieved if low emission vehicles were introduced. Some organisations felt that low emission buses could be targeted at routes passing through areas with the worst air quality. In addition, some of the organisations noted that improving the bus fleet and service levels would also enable individuals to switch from cars to public transport:

*“The quickest and most cost-effective solution to our air quality epidemic is to put the bus at the centre of the strategy. If we are to ensure the success of LEZs in Scotland’s cities the role of the bus must be maximized. Measures to encourage modal switch from car to bus can be transformative. Bus priority measures can deliver 75% fewer emissions per bus passenger km than for car passengers. Buses also reduce congestion. A fully loaded double decker bus can take up to 75 cars off the road.” (Stagecoach Group Plc, Organisation)*

Some 24 organisations felt targeting funding at a retrofitting programme would support the LEZ programme. They felt it could be a cost-effective route to older, high value and long-life vehicles achieving new emission standards but that in order to achieve value for money the programme should be managed by Transport Scotland. One organisation noted that any funding should be targeted at high value vehicles that could not be excluded from city centres. It was felt that this should cover buses, wider public transport fleets and refuse vehicles:

*“First believes that the best value for such funding would be achieved through retrofit equipment for local buses. A programme managed by Transport Scotland would most likely secure best value prices with retrofit suppliers. There is a need to avoid a fragmented or devolved approach which would offer comparatively poor value for money and would likely be wasteful and administratively complex.” (FirstGroup Plc UK Bus Division, Organisation)*

Eight organisations noted that significant financial support would be needed for buses to operate at the minimum emission standards identified by the Scottish Government. One noted that in 2017 the Scottish Green Bus Fund was capped at £1 million for operators rather than £1.5 million in previous years while operators are finding it more and more costly to invest in hybrid and zero emission technology. Seven organisations felt that taxis operating in Scottish cities would not comply with the Scottish Government's LEZ standards and these vehicles are expensive with long operational lives. One respondent noted that an existing Energy Savings Trust scheme offers taxi operators an interest free loan over ten years to purchase a new taxi if their existing vehicle is at least eight years old and this could be extended. Another felt funding should be focused on setting up a Scottish Government-led grant scheme to retrofit these vehicles:

*“Building on the learnings of successful projects such as that in Birmingham, we propose that the Scottish Government establishes an LPG retrofit funding scheme to allow taxi drivers to extend their life of their vehicles rather than being forced to purchase a brand new taxi. Indeed, efforts to limit the most polluting taxis from entering Scottish cities will simply lead to these vehicles being displaced elsewhere.”*  
(Business Organisation)

Other vehicle sectors suggested for targeted funding included support for the logistics industry to upgrade vehicles more quickly.

Organisations recognised the challenges that would need to be overcome in implementing LEZs and there was recognition that support would need to be made available to local authorities in order to put the infrastructure in place, monitor and enforce LEZs. Organisations also noted the importance of funding for communications and education on LEZs. There were many diverse opinions provided of other areas that would benefit from targeted funding in support of LEZs including scrappage schemes, new ULEV purchase schemes, electric charging infrastructure, traffic management funding and active travel funding:

*“Ensuring ANPR technology is in place for large geographical areas presents a significant upfront cost, but offers benefits for compliance, flexibility and for administering exemptions. Successful implementation will also depend on public awareness campaigns and help for people to find alternative options to polluting modes of transport. In areas implementing an LEZ, behavioural change programmes such as Smarter Choices should be supported to ensure that the most benefit is gained from this investment. NHS marketing should be employed to capitalise on changes to people's travel habits to persuade more people to make healthier travel choices. Funds should be available to incentivise the electrification of vehicle fleets and clean public transport. There should be funding to help local authorities increase public transport uptake (the government may wish to consider the necessity of bus re-regulation in parallel to this). However, the most desirable modal shift which would contribute to reductions in air pollution is through reductions in private car use and increases in walking and cycling.”*  
(Sustrans Scotland, NGO/Third Sector Organisation)

Another respondent highlighted issues with cycle lanes for blind and visually impaired people and believed that along with LEZ implementation any changes to street layout should remove these areas and funding for improving town/city cycle infrastructure should be concentrated on measures that encourage "slow cycling" which would ensure the areas were more accessible to the visually impaired

A small number of organisations (3) noted that LEZs should not be considered in isolation and were only one part of a wider approach to regional transport, and as such funding should be considered likewise with funding to support LEZs complementing the wider regional policies and priorities. On the topic of integrated policies one organisation highlighted that:

*“It [The Scottish Government] should continue with its commitments in Programme for Government to increase investment in walking and cycling. It should consider the impact of City Deal road building programmes that may encourage car use between towns and cities, without considering what will happen to the vehicles when they arrive.” (Paths for All, NGO/Third Sector Organisation)*

#### 4.2.13.2 Reasoning - individuals

Of the individuals responding to this question the most frequently suggested area to target funding was local authorities to support them in implementing the LEZs (745 individuals), closely followed by public transport funding (740 individuals). These high response rates were due in the main to the Friends of the Earth Scotland Campaign submitted by 730 individuals on this question. Further detail on the Campaign response can be found in Chapter 6.

Individuals also highlighted funding for retrofitting, through there was some variation in how they believed it should be targeted. Some believed this should be for buses, taxis and refuse vehicles, others also suggested commercial vehicles. Some respondents felt this should also be available to private vehicle owners:

*“I think the government should pay to retrofit buses and refuse trucks etc and provide a grant to cover some of the costs of retrofitting private vehicles. I also think the government should subsidise electric vehicles.” (Individual)*

As with the organisations responding there were large numbers of suggestions on how to focus any funding in order to support LEZs. These were wide ranging from active travel support, electrification support, scrappage, reallocation of existing transport subsidies, LEZ infrastructure, monitoring and traffic management. One respondent noted:

*“Funding should be targeted at those with exemptions, to reduce the number of exempt vehicles. Once this is addressed, funding to compensate other drivers may be considered.” (Individual)*

Nine individuals were not supportive of any taxpayer funding being used to support LEZ implementation:

*“Stop wasting public money on this clearly classist policy!” (Individual)*

#### 4.2.14 Q11: What criteria should the Scottish Government use to measure and assess LEZ effectiveness? Please be as specific as possible in your reasoning.

Respondents were asked what criteria the Scottish Government should use to measure and assess LEZ effectiveness. This was an open-ended question and 175 respondents provided comments including 77 organisations and 98 individuals. The breakdown of respondents is shown in Table 4.14.

One of the most popular suggestions was that the Scottish Government should use pollution or air quality levels, which was highlighted by 48.6% (85) of respondents. Another popular suggestion was a measure of traffic volume or flow which was cited by 16% (28) of respondents.

Table 4.14: Split by Respondent Type

	Substantive	Campaign	Total
<b>Organisations</b>	77	0	77
<b>Individuals</b>	96	2	98
<b>Total</b>	<b>173 (98.9%)</b>	<b>2 (1.1%)</b>	<b>175 (100%)</b>

#### 4.2.14.1 Reasoning – organisations

Of the 77 organisations who answered the question, 4 were academic/research groups, 14 were business/industry groups, 3 were community groups, 19 were local government bodies, 12 were professional or trade bodies, 8 were public bodies and 17 were third sector/NGO groups.

Of those who cited that pollution or air quality criteria could be used, this consisted of 3 academic/research groups, 9 business/industry groups, 7 local government bodies, 5 professional or trade bodies, 11 third sector/NGO groups and 2 public bodies. Of those organisations who indicated why this form of criteria should be used, reasons included respondents indicating that this would help to improve air quality or avoid deterioration, would be the most appropriate and effective method in order to achieve compliance and to assess progress of LEZs. An example from a respondent is as follows and indicates how some respondents provided more than one suggestion of criteria to be used:

*“The existing networks of air quality sensors and diffusion tubes should be used to monitor air quality improvements across all regulated pollutants. Consideration should be given to increasing the number of locations where these monitoring stations are placed as with urban spread there are many satellite areas becoming more congested and polluted. It should be noted for example, that no monitoring currently takes place in Livingston. We are in favour of measuring emissions per passenger-kilometre as opposed to vehicle-kilometre. Modal shift should be an indicator of success. How many people have shifted from using cars to public transport, cycling or walking? Decrease in usage of motorised vehicles. Decrease in congestion.” (Spokes, Organisation)*

From the popular suggestion of using traffic volume or flow as criteria to measure LEZ effectiveness, of those organisations who cited this, 1 was a business/industry group, 6 were local government bodies, 2 were academic/research groups, 4 were professional or trade bodies, 3 were public bodies and 7 were third sector/NGO groups. Of those who provided reasoning as to why using traffic data such as volume and flow would be an effective method, respondents indicated that this form of criteria would indicate what benefits or negative effects the LEZ has delivered in terms of how people are travelling within the low emission zones. Other reasons included respondents indicating that monitoring volume of traffic would indicate whether excluding non-compliant vehicles results in less vehicles overall, to understand what pollution has been displaced and to identify the total number of vehicles in LEZs and the correlation between vehicle counts and air quality.

Other criteria mentioned by organisations included economic indications, additional traffic and driving statistics, modelling data, public transport patronage, public health statistics and others. For example, some respondents made references to public health statistics to indicate that Scottish Government should use health as a criterion to measure the effectiveness of LEZs. Full details of all the suggestions made by organisations in their substantive responses, please refer to Chapter 5.

Factors which may influence some respondents’ views include for example, many of the third sector/NGO groups making suggestions that environmental criteria such as pollution and air quality levels should be used and this may be due to the nature of some of these groups and their work and investment in environmental and health matters.

#### 4.2.14.2 Reasoning - individuals

Of the 96 individuals who provided substantive responses, there are numerous criteria that respondents believe should be used to assess and measure LEZ effectiveness. Again, one of the most popular suggestions is from individuals citing that pollution or air quality could be used. It is also clear that there is some overlap between criteria and many respondents suggested a number of different forms of criteria that could be used in conjunction with each other, similarly to the suggestions made by organisations. Therefore, this shows that many are keen for the effectiveness of LEZs to be assessed and measured.

Many individuals did not provide reasons as to why they feel this criterion should be used but of those that did, reasons included comments such as that it is needed to better understand the data and to identify who is causing the most problems, to identify pollution hotspots and to indicate whether LEZs are achieving their aims. For further detail on all the suggestions made in substantive responses, please refer to Chapter 5.

Two Campaign Plus responses suggested that mobile and time weighted sampling is needed in order to ensure that LEZ regulations are effective and that further air quality measurement sites are needed in a standardised approach.

#### 4.2.15 Q12: What information should the Scottish Government provide to vehicle owners before a LEZ is put in place, during a lead-in time and once LEZ enforcement starts? Please be as specific as possible in your reasoning.

Respondents were asked what information the Scottish Government should provide to vehicle owners before a LEZ is implemented, during the lead-in time and also once LEZ enforcement starts. This was an open-ended question and 173 respondents provided comments including 77 organisations and 96 individuals. There were no Campaign responses to this question and the breakdown of respondents is shown in Table 4.15.

A wide range of suggestions were made as to what information the Scottish Government should provide, with 31.8% (55) of all responses indicating that information on implementation and compliance, exemptions, fines, appeals and penalties should be provided by the Scottish Government.

Table 4.15: Split by Respondent Type

	Substantive	Campaign	Total
<b>Organisations</b>	77	0	77
<b>Individuals</b>	94	2	96
<b>Total</b>	<b>171 (98.8%)</b>	<b>2 (1.2%)</b>	<b>173 (100%)</b>

##### 4.2.15.1 Reasoning - organisations

Of those organisations who responded to Question 12, 4 were academic/research groups, 15 were business/industry groups, 3 were community groups, 20 were local government bodies, 13 were professional or trade bodies, 6 were public bodies and 16 were third sector/NGOs.

Of those who indicated that the Scottish government should provide information on implementation and compliance, exemptions, fines, appeals and penalties (one of the most popular citations), this consisted of 1 academic/research body, 8 business/industry groups, 9 local government bodies, 7 professional or trade bodies, 1 community group, 3 third sector/NGO groups and 5 public bodies. Of those who provided reasons as to why the Scottish Government should provide this type of information, comments included organisations suggesting that this type of information would raise awareness of LEZs and indicate who is affected and to provide reassurance for the public. Others indicated that people need to know reasons for the implementation of LEZs and how the proposals would work. An example from a respondent is as follows:

*“Information on how to check whether your vehicle is compliant, and encouragement to consider alternative transport modes as an alternative to obtaining a compliant vehicle or risking penalties.” (BYD UK Ltd, Organisation)*

Generally, from academic and research groups, suggestions of what information the Scottish government should provide were varied and included agreement with the proposals included in the consultation paper, information as early as possible, information on local impact, national information, a website or online tool, information on implementation and compliance, exemptions, fines, appeals and penalties and environmental information. One respondent also indicated that a soft launch would be needed to allow for people to adjust to LEZ enforcement and another indicated the need to adopt exemplar approaches that have already taken place in other cities. In comparison, business/industry groups also gave a wide range of suggestions, with other alternatives such as financial advice, maps and geographical information, clear and helpful road signage, information on reasons/targets/impacts or benefits and some indicating that some form of communications campaign or strategy is needed.

Furthermore, of the community groups, one chose to make no specific comments whereas the other two agreed that maps and geographical information would be needed. Other information they believed should be provided included information to vehicle owners, clear and helpful road signage, national information and political and legislative information, to name but a few. Local government bodies also gave a wide variety of suggestions for what information should be provided and other alternatives indicated by them were information on contacts for help and advice, information on retrofitting, information on operation and fees, detailed, transparent and clear information and information on timescales. Likewise, suggestions from public bodies were very similar.

Comments made by public bodies indicated a wide range of suggestions including some of those already mentioned as well as information on alternatives and information needed to get the public on board. Lastly, third sector/NGO groups gave a wide range of suggestions with some commonalities arising from a few who made the same suggestions such as information local impact, environmental information and the need for a communications campaign or strategy.

The reasoning behind many of the responses is for the public to be as well informed as possible and for the message about LEZs to be clear, with concerns from respondents right from before a LEZ is implemented right through to the need for information once LEZ enforcement starts.

While many organisations appear to agree on a number of key themes for the information provision required from the Scottish Government, (such as on the implementation, compliance, exemptions, fines, appeals and penalties), the narrative responses show that there are some variations between organisation type and sector reflecting the organisations background and how the LEZ may affect them. For example, businesses are more likely to suggest information is required on the details of implementation, whereas academic and NGO organisations are more likely to suggest that the wider benefits and reasoning are communicated to the public:

*“There is also a need to set these schemes into the wider context of reducing climate change emissions, addressing health threats, reducing congestion, increasing opportunities for active travel and creating more liveable environments.” (Academic/research Organisation)*

*“Information outlining the scope of the LEZ including location, timings and minimum standards. For people using private transport, information on practical alternatives such as active travel and public transport should be readily available. A structured timeline created after engaging with bus operators and any other relevant party, which includes manageable lead in times. Information on secured current and future funding provision.” (Business Organisation)*

#### 4.2.15.2 Reasoning - individuals

From the 94 individuals who provided substantive responses, it is evident that there is an array of information respondents feel should be used to provide information to vehicle owners before a LEZ is put in place, with many commenting on the specific types of information and others on how this information should be conveyed. Some respondents made references, for example to chapters of scientific papers such as ‘An assessment of policy development and behaviour change’ to indicate that a

range of information is needed on vehicle emissions including incentives, wider benefits and what options are available in terms of cleaner vehicles. For full details of all the types of information respondents feel should be provided, please refer to Chapter 5.

An additional 2 individuals were classified as Campaign Plus and one of their responses indicated that there is a need for information on alternatives such as alternative means of travel, with another indicating that information on implementation and compliance, exemptions, fines, appeals and penalties is needed. These responses did not however indicate specific reasons as to why they feel these are the best forms of information to be provided.

#### 4.2.16 Q13: What actions should local or central government consider in tandem with LEZs to address air pollution?

Respondents were asked what actions local and/or central government should consider in tandem with LEZs to address air pollution. This was an open-ended question and 921 respondents provided comments including 83 organisations and 838 individuals. The breakdown of respondents is shown in Table 4.16.

A wide range of actions were cited by respondents, with the three most popular comments being public transport, sustainable modal shift and that LEZs should be introduced alongside additional measures. 86.4% (796) cited public transport, 83.7% (771) cited sustainable modal shift and 79.6% (733) indicated that LEZs should be introduced alongside additional measures.

Table 4.16: Split by Respondent Type

	Substantive	Campaign	Total
<b>Organisations</b>	83	0	83
<b>Individuals</b>	104	734	838
<b>Total</b>	<b>187 (20.3%)</b>	<b>734 (79.7%)</b>	<b>921 (100%)</b>

##### 4.2.16.1 Reasoning - organisations

Of the organisations who responded to the question, there were 3 academic/research groups, 18 business/industry groups, 3 community groups, 21 local government bodies, 14 professional or trade bodies, 8 public bodies and 16 third sector/NGO groups.

Of those who cited that public transport should be one of the actions that local or central government should consider, this included 12 local government bodies, 5 business/industry groups, 2 professional or trade bodies, 6 third sector/NGO groups and 3 public bodies. Of those who provided reasons as to why they feel that local or central government should consider this, organisations commented on the need to address the decline in public transport usage, to encourage people to use forms of public transport and to move from using private vehicles to cars. This goes hand in hand with the second most popular code of sustainable modal shift. An example from a respondent is as follows:

*“More should be introduced to discourage private vehicles into the city and improve infrastructure for public transport. This could be in the form of incentives such as salary sacrifice schemes plus road network improvements and public transport information provision.” (West Coast Motors, Organisation)*

Of the organisations that indicated that a sustainable modal shift was needed, 7 were business/industry groups, 7 were local government bodies, 4 were professional or trade bodies, 3 were public bodies and 9 were third sector/NGO groups. Respondents indicated that more investment is needed in encouraging a modal shift, actions to promote modal shift and measures to support the reduction of vehicles.

Thirdly, it was only individuals that cited that LEZs should be introduced alongside additional measures. A number of other suggestions were made by respondents, with some making references to Scottish Air Quality Documents and links to magazines and studies making the case for local pollution from (biomass) boilers as a source for air pollution, references to reports making the case for incentivising people to use buses and other reports on air quality in different locations such as London.

Factors which may influence some of the respondents' answers are - for example - local councils often mentioning the need for actions targeted at public transport and active travel due concerns with getting people to change the way they travel in cities. Furthermore, health bodies and associations are often interested in actions to promote the safety, health and wellbeing of the public.

#### 4.2.16.2 Reasoning - individuals

Of the 104 individuals who provided substantive responses, the general pattern is that respondents believed a wide range of actions and measures should be considered in tandem with LEZs to address air pollution, of which measures targeted at traffic, vehicles and public transport were some of the most popular. This indicates that there are concerns with the ways in which people travel and the amount of car usage in relation to air pollution. One respondent for example, provided a reference to the chapter of a scientific paper ('A socioeconomic analysis of Low Emission Zones') and made the case that planning should be at the heart of measures to be considered in order to prevent air pollution. For full details of all actions respondents cited, please refer to Chapter 5.

727 individuals provided a Campaign response text and this was as follows:

*"To maximise their effectiveness, LEZs should be introduced alongside other measures to encourage a shift to cycling, walking and public transport."*

The Campaign responses indicate why such a high proportion of the respondents to the question agree with measures to encourage modal shift and public transport. In addition to this, 8 respondents were classified as Campaign Plus, with some of these respondents either expanding on Campaign text in response to other questions or to this question.

Of those who expanded upon the Campaign text, some indicated that the consultation document covers most of the actions required, some indicated additional measures such as the need for measures to tackle traffic, environmental measures and some commenting on behaviour change and the reasoning behind it is in order to maximise the effectiveness of LEZs, as indicated in the first part of the text response.

#### 4.2.17 Q14: How can LEZs help to tackle climate change, by reducing CO2 emissions in tandem with air pollution emissions? Please be as specific as possible in your reasoning.

Respondents were asked how LEZs could help tackle climate change by reducing CO2 emissions in tandem with air pollution emissions. This was an open-ended question and 163 respondents provided comments including 75 organisations and 88 individuals. The breakdown of respondents is shown in Table 4.17.

One of the most popular suggestions for how LEZs could help to tackle climate change was respondents citing the need for improvements in public transport. Some 20.9% (34) of all respondents raised this with another popular suggestion being improved environmental conditions, with 20.3% (33) citing this. Suggestions around improving environmental conditions included the fact that measures taken to reduce air pollution often overlap with the measures required to reduce greenhouse gas emissions so they should be mutually beneficial. Others commented that LEZs would result in a reduction of emissions by either restricting traffic volumes or encouraging the move to cleaner engines, both of which would help climate change.

Table 4.17: Split by Respondent Type

	Substantive	Campaign	Total
<b>Organisations</b>	75	0	75
<b>Individuals</b>	81	7	88
<b>Total</b>	<b>156 (95.7%)</b>	<b>7 (4.3%)</b>	<b>163 (100%)</b>

#### 4.2.17.1 Reasoning - organisations

Of those organisations who responded to the question, 4 were academic/research groups, 16 were business/industry groups, 3 were community groups, 20 were local government bodies, 11 were professional or trade bodies, 7 were public bodies and 14 were third sector/NGO groups.

Of those who indicated there is a need for the encouragement of public transport, 6 were local government bodies, 7 were third sector/NGO groups, 3 were business/industry groups and 2 were public bodies. Of those who provided reasons as to how this can help to tackle climate change, organisations mentioned that the encouragement of public transport will help to remove vehicular traffic and in turn benefit in terms of the decline of CO2 emissions, would help in terms of the investment in public transport infrastructure and further carbon savings from less polluting forms of public transport. An example from a respondent is as follows:

*“Only if there is a modal shift to active travel and public transport. LEZs could provide a focus for this but there needs to be spending on infrastructure too.” (Anonymous, Organisation)*

Another popular suggestion was that improved environmental conditions would help to tackle climate change as a result of LEZs, and of the organisations who cited this, 4 were business industry groups, 7 local government bodies, 1 public body, 7 third sector/NGO groups, 2 academic/research group, 1 community group and 3 professional or trade bodies. The reasoning behind some of the answers is that LEZs will contribute to the reduction in greenhouse gases, improve environmental conditions more generally, as well as others indicating that there will be environmental benefits from alternative or cleaner forms of transport. For example, one respondent made reference to the targets of the Climate Change Plan by the Scottish Government (also known as RPP3) and highlighted how zero emission vehicles will be vital to contributing to improved environmental conditions and tackling climate change. Another respondent referenced the Strathclyde Bus Alliance Report of 25 April 2016 and indicated that using public transport may have a positive impact on reducing emissions. The organisation made the following statement:

*“LEZs will encourage an increase in uptake of more sustainable and/or active options which will have benefits in terms of reducing CO2 emissions. Low emission vehicles are recognised as being positive for air quality and climate change as recognised within the EPUK guidance: Air Quality and Climate Change - Integrating Policy Within Local Authorities. Estimates from a recent Urban Transport Group, as referenced within the Strathclyde Bus Alliance Report of 25 April 2016, indicate that the best used bus services in urban centres may be reducing carbon emissions from road transport by 75% or more.” (South Lanarkshire Council, Organisation)*

Other suggestions made by organisations included measures such as reducing traffic and congestion, encouraging active travel, improving infrastructure and encouraging natural/clean energy and fuel.

It is important to note that 4 business/industry groups, 1 local government body, 1 public body and 1 academic/research group indicated that LEZs cannot or are unlikely to tackle climate change due to reasons such as it being a global issue and issues with a lack of evidence that LEZs can significantly make a difference.

Factors which may influence some organisations views include for example many local government bodies making suggestions regarding vehicles, transport and active travel in tandem with environmental conditions and this may be due to some of the aims of local councils in reducing emissions as part of their strategies and concerns over the need for improvement of the transport network in local authority areas.

#### 4.2.17.2 Reasoning - individuals

Of the 81 individuals who provided substantive responses, it is evident is that respondents believe that there are a range of ways in which LEZs can help to tackle climate change. Many suggestions are interlinked and this is evident from people’s responses. One of the general patterns emerging is that through encouraging people to reduce private vehicle usage, this will in turn increase public transport usage and active travel and contribute to lower emissions. However, it is also evident that some respondents are not confident that LEZs can help to tackle climate change and this needs to be taken into consideration. For further information on all of the suggestions made in the substantive responses, please refer to Chapter 5.

Whilst Campaign respondents did not answer this question, 5 Campaign Plus respondents chose to provide an answer. One respondent indicated that baseline data needs to be used in order to measure air quality, another indicated that wider measures should be implemented such as provisions for more greenery and investment in infrastructure and another indicated there is a need for cleaner transport. Of the remaining 2 respondents, one highlighted concerns with buses and their resulting noise and air pollution and the other made a number of suggestions for improving infrastructure and encouraging public transport and alternative travel as well as traffic control measures.

Finally, a further 2 Campaign Plus respondents raised the point that alternative forms of transport must be encouraged and that more effort is required to improve environmental conditions.

#### 4.2.18 Q15: What measures (including LEZs) would make a difference in addressing both road congestion and air pollution emissions at the same time? Please be as specific as possible in your reasoning.

Respondents were asked what measures would make a difference in addressing road congestion and air pollution emissions at the same time. This was an open-ended question and 172 respondents provided comments including 75 organisations and 97 individuals. The breakdown of respondents is shown in Table 4.18.

One of the most popular measures cited by respondents was public transport, with 47.7% (82) of all respondents highlighting this in line with the response to Question 14. Another popular suggestion was active travel improvements, which was cited by 30.2% (52) of respondents. A further 26.2% (45) suggested that traffic management measures would make a difference.

Table 4.18: Split by Respondent Type

	Substantive	Campaign	Total
<b>Organisations</b>	75	0	75
<b>Individuals</b>	95	2	97
<b>Total</b>	<b>170 (98.9%)</b>	<b>2 (1.1%)</b>	<b>172 (100%)</b>

#### 4.2.18.1 Reasoning - organisations

Of the 75 organisations who answered the question, 4 were academic/research groups, 15 were business/industry groups, 3 were community groups, 19 were local government bodies, 12 were professional or trade bodies, 6 were public bodies and 16 were third sector/NGO groups.

Of those who cited public transport as a measure that would make a difference, 1 was an academic/research group, 6 were business/industry groups, 1 a community group, 8 local government bodies, 6 professional or trade bodies, 4 public bodies and 12 third sector/NGO groups. Of those who provided reasons as to why public transport would make a difference, organisations indicated that this would change people's attitude to travelling and that fewer private vehicles on the road would result in less congestion and in turn be beneficial for air pollution. For example, some respondents referred to the work of Professor David Begg (2016) where in one response, the respondent indicates how Begg makes the case for bus priority measures as there *"is a direct correlation between operating speeds and patronage: a 10% decrease in speeds reduces patronage by at least 10%."* With measures to make bus services more attractive, this may encourage the use of public transport.

Furthermore, of those who cited that active travel would make a difference, 1 was an academic/research group, 3 were business/industry groups, 6 were local government bodies, 4 were professional or trade bodies, 3 were public bodies and 13 were third sector/NGO groups. Of those who provided reasons as to why active travel would make a difference, respondents indicated that again this would reduce the number of vehicles on the road, take less road space up and the production of less emissions due to a modal shift in how people travel. For example:

*"Tactran welcomes the Scottish Government's proposal to incorporate congestion management into all stages of LEZ design and operation. As outlined in the document this encompasses technology solutions such as low carbon vehicles and demand management measures to reduce congestion and increase urban traffic speeds. Promotion of public transport, active travel, reducing the need to travel, travel planning, car clubs and providing information on alternative to private car use all have a contribution to reducing emissions and are integral to Tactran's RTS and current priorities for RTS delivery." (Tactran, Organisation)*

Those organisations who commented on traffic management measures, consisted of 1 academic/research group, 5 business/industry groups, 11 local government bodies, 3 professional or trade bodies, 3 public bodies and 1 community group. The reasoning behind many of respondents' answers is that traffic management measures such as roadworks management, priority measures for certain public transport vehicles, measures to address traffic signal prioritisation, discouraging car use and keeping traffic flow moving efficiently.

Other suggestions made by organisations as to what measures would make a difference in addressing both road congestion and air pollution included parking measures, government intervention, i.e. more focus on the issues by local or national government and road pricing/congestion charging to name but a few. For more details on all the different suggestions made by respondents, please refer to Chapter 5 on all of the substantive responses.

Factors which may influence some organisational groups include business/industry groups for example suggesting measures which are most appropriate to their relevant industry e.g. buses, roadwork measures, freight and shipping measures. Likewise, many third sector/NGO groups mention active travel as one of the key measures that would make a difference, and this may be due to some having a heavy investment in promoting modes of active travel and health e.g. Cycling Scotland.

#### 4.2.18.2 Reasoning - individuals

Of the 95 individuals who provided substantive responses, it is clear again that respondents have suggested a range of measures that would make a difference in addressing both road congestion and air

pollution. It is evident that measures are largely focused around transport and the ways in which people travel and the resulting impact on emissions.

Respondents made suggestions for measures such as public transport and active travel which have already been mentioned, as well as infrastructure improvements, vehicle exclusions and different considerations to be made such as social inequality and speed limits. For further details of all the different suggestions made in the substantive responses by individuals, please refer to Chapter 5.

Two Campaign Plus respondents chose to provide answers to Question 15. Both were in agreement with the encouragement of public transport, with one adding that taxes on parking in congested areas is needed and the encouragement of active travel e.g. cycling is also important, with the other indicating that traffic management measures are needed to reduce the amount of vehicle usage.

#### 4.2.19 Q16: Do you have any other comments that you would like to add on the Scottish Government’s proposals for LEZs?

Respondents were asked if they had any other comments on the LEZ proposals from the Scottish Government. This was an open-ended question and 151 respondents answered the question, including 71 organisations and 80 individuals. The breakdown of respondents is shown in Table 4.19.

Whilst a number chose not to provide any further comments, of those that did, a wide range of additional comments were made on the Scottish Government’s proposals for LEZs and one of the more popular suggestion was regarding economic impact, with 12.6% (19) citing this issue.

Table 4.19: Split by Respondent Type

	Substantive	Campaign	Total
<b>Organisations</b>	71	0	71
<b>Individuals</b>	78	2	80
<b>Total</b>	<b>149 (98.7%)</b>	<b>2 (1.3%)</b>	<b>151 (100%)</b>

##### 4.2.19.1 Reasoning - organisations

Of the 71 organisations who responded to the question, 3 were academic/research groups, 15 were business/industry groups, 3 were community groups, 19 were local government bodies, 10 were professional or trade bodies, 6 were public bodies and 15 were third sector/NGO groups.

Of those who made comments relating to economic impact, 5 were professional or trade bodies, 1 was classified as business/industry, 2 were local government bodies and 3 were public bodies. Comments included concerns over the impact on businesses and industry, costs involved, economic impact on bus operators e.g. fares and the economic impact on members of the public such as on low income earners. For example, one organisation referenced the Scottish Transport Statistics and made the case for a need to consider the costs of public transport:

*“According to the Scottish Transport Statistics No. 35 report, 2016 edition 50% of bus use was by persons with earnings below £20,000 per annum and 13% were in further education. A recent report by the Urban Transport Group noted that in British cities outside London, 77% of jobseekers do not have regular access to a car, van or motorbike. This suggests that there would be a higher uptake of public transport amongst jobseekers. If costs for public transport increase to accommodate fleet upgrades / retrofitting could there be potential for some of these costs to be passed on to those with the least potential to absorb price increases?” (South Lanarkshire Council, Organisation)*

Other comments made by respondents included those on infrastructure, implementation, public transport, funding and investment, governance structures in relation to local authority partnerships and alternative pollutants to name but a few.

Some patterns in comments made include community groups choosing to state that they had no further comments to make and some local government bodies commenting on funding and investment and that additional measures are required in support of the Scottish Government’s proposals for LEZs, such as taking into account other challenges that may be faced in local areas.

Additionally, more third sector/NGO groups chose to make comments compared to any other organisation type, with many reiterating their support for LEZs and some making comments related to health and active travel. Factors which may influence some of their views are again due to the nature of some of these third sector and NGO groups advocating for better environmental conditions and improved public health and so many have indicated that LEZs are a step towards achieving this. Of those that had no further comments to make, this may be due to the bulk of their response being outlined in response to previous questions already.

#### 4.2.19.2 Reasoning - individuals

Of the 78 substantive responses from individuals, there were a wide variety of comments on the Scottish Government’s proposals for LEZs. Some chose to indicate that they had no further comments to make, whilst of those who had comments, some other popular comments beyond economic impact were suggestions for the need for rapid action, comments indicating approval or disapproval of LEZs and comments on implementation. For more detail on the range of comments made by individuals with substantive responses and some of the reasoning behind their suggestions, please refer to Chapter 5.

Finally, of the Campaign Plus respondents, 1 indicated support, as in their view, Scotland is setting a leading example to other countries. The other respondent chose to state that they had no other comments to make.

#### 4.2.20 Q17: What impacts do you think LEZs may have on particular groups of people, with particular reference to the ‘protected characteristics’ listed in paragraph 5.2?

Respondents were asked what impacts they thought the LEZ proposals may have on particular groups of people. They were asked to particularly consider the “protected characteristics” listed within the consultation document. The protected characteristics for considerations consisted of; age, disability, gender reassignment, marriage and civil partnership, pregnancy and maternity, race, religion and belief, and sex and sexual orientation. The consultation also noted the need to consider the very young and old.

This was an open-ended question and 152 respondents provided comments of which 45% were organisations and 55% individuals. The breakdown of respondents is shown in Table 4.20.

Table 4.20: Split by Respondent Type

	Substantive	Campaign	Total
<b>Organisations</b>	68	0	68 (45%)
<b>Individuals</b>	82	2	84 (55%)
<b>Total</b>	<b>150 (99%)</b>	<b>2 (1%)</b>	<b>152 (100%)</b>

#### 4.2.20.1 Reasoning - organisations

Of those organisations responding 40% were public bodies, 22% NGOs, 16% businesses, 10% professional/trade body, 6% academic and 5% community groups. Of the protected groups set out by Transport Scotland, 10 organisations felt there would be no impact to any group. The groups organisations referenced most frequently were age and disability. Some organisations felt that the disabled would be exempt from LEZs so would not be negatively impacted, while other respondents felt that they could still be negatively impacted due to their inability to use other modes and other drivers not being able to pick up/drop off within an LEZ. Reference was made by one respondent to potential impacts on the Motability scheme which they believed should be considered within the design of LEZs. Several respondents also noted that disabled people who did not qualify for a blue badge would be negatively impacted.

Some organisations expressed concern for older drivers with one business organisation noting that restrictions on vehicles could have a greater impact on the elderly as they may need to take their vehicle closer to central city areas due to reduced mobility.

A number of the organisations highlighted potential social inequality issues. Several organisations noted that there would likely be more positive than negative impacts since poorer and more vulnerable people currently suffer disproportionately from the impacts of poor air quality and LEZs may reduce this impact on them:

*“There is a risk that LEZs will exacerbate existing inequalities among disadvantaged groups including the socio-economically deprived, the disabled, those with pre-existing poor health etc. especially where such people might rely on older vehicles that might be excluded from an LEZ and suffer from an existing lack of access to alternative means of transport.” (Health Protection Scotland, Organisation)*

Two organisations referenced possible pregnancy and maternity impacts. One noted a positive impact as pregnant women and their developing babies are at risk from air pollution leading to premature birth, low birth weight and organ damage. It was considered LEZs would reduce exposure to harmful pollutants and reduce the risk. Conversely, another organisation noted that pregnancy may require some women to use their vehicles more to drive into city centres because of their short term reduced mobility which could result in unfairly disadvantaging expecting mothers.

#### 4.2.20.2 Reasoning - individuals

Of the individuals responding to the question there was a wide range of views provided. In addition to the potential impacts on the groups highlighted by organisations in the paragraph above, other factors raised included impacts on religious groups travelling to churches or schools within an LEZ.

In addition to the protected groups set out in the consultation document, individuals highlighted other groups who may be impacted. These included groups such as shift workers who cannot use public transport are often the lowest paid and healthcare staff who need their own vehicle to move between sites or patient’s homes. One respondent noted potential negative impacts on low income workers living in rural areas including the rural / urban fringe when workers needed to travel to areas proposed for LEZs.

#### 4.2.21 Q18: Do you think the LEZ proposals contained in this consultation are likely to increase or reduce the costs and burdens placed on any sector?

Respondents were asked if they thought the LEZ proposals within the consultation would likely increase or reduce the costs and burdens on any particular sector. This was an open-ended question and 165 respondents provided comments including 72 organisations and 93 individuals. The breakdown of respondents is shown in Table 4.21.

Table 4.21: Split by Respondent Type

	Substantive	Campaign	Total
<b>Organisations</b>	72	0	72 (44%)
<b>Individuals</b>	92	1	93 (66%)
<b>Total</b>	<b>164 (99%)</b>	<b>1 (1%)</b>	<b>165 (100%)</b>

#### 4.2.21.1 Reasoning - organisations

Of the organisations responding 35% were public bodies, 21% NGOs, 21% businesses, 14% professional/trade organisations, 6% academic and 4% community groups. The most common theme raised by 21 organisations (including 12 public bodies) was the likely costs to the public sector including the Scottish Government and local authorities. These were particularly in relation to the set-up of LEZs. Some respondents also noted that ongoing cost increases were likely as a result of public sector transport operations, including procurement of transport/haulage services, with increasing prices likely to reflect the increased operating costs:

*“I believe the LEZ proposals will incur significant costs to local authorities to set up the infrastructure, however this should be covered by the proposed funding arrangements to be outlined by the Scottish Government. Any costs to any sectors should be identified in the Business and Regulatory Impact Assessment.” (Local Authority, Organisation)*

Some 18 organisations (8 of which were businesses) believed there would be an increase in public transport costs with organisations noting increased costs for bus and taxi operators to upgrade their vehicles. They felt these costs would be passed onto the consumer. One respondent also noted issues for the community transport sector which may impact on services as additional costs are difficult for such services to absorb:

*“Without exemptions then we think that the community transport sector will face new extra costs which they will have difficulty in absorbing because of their nature and size.” (NGO, Organisation)*

11 organisations felt there would be an increased cost on businesses, with 11 also noting a likely increased cost on transport and haulage operations. Other cost increases noted by organisations included increased cost burdens in the construction sector (2), and increased costs for private motorists. Some 17 organisations (9 NGOs, 7 public bodies and 1 business) also believed there would be a positive impact in the health sector through reduced healthcare costs:

*“While we recognise that there will be costs required in the implementation of LEZs, we believe that benefits of improved cardiovascular health that our research suggests will vastly outweigh implementation costs.” (NGO, Organisation)*

#### 4.2.21.2 Reasoning - individuals

Of the individuals responding to this question, the most common theme emerging was the likelihood of increased costs and burdens on multiple sectors which was referenced by 20 individuals. In addition, 14 specific references were made to increased costs for the transport, haulage and public transport sectors, 12 on businesses in general and 1 to the construction sector:

*“LEZ proposals will increase costs across all sectors with the exception of healthcare.” (Individual).*

It was also clear that in addition to increased costs on various sectors of the economy, individual respondents were concerned around the potential increased costs to themselves as tax payers and as private vehicle owners with 15 individuals raising this view. Eight individual respondents also highlighted the additional costs that would fall on the public sector and Police Scotland in terms of

enforcing LEZs. One respondent raised concern that any increase in costs to visit city and town centres would encourage more people to out of town shopping locations and encourage city centre decline. Some individuals also highlighted positive impacts with 7 citing likely reductions in health costs for the NHS:

*“Improved health will reduce the burden of disease and could reduce health care costs. This is particularly likely in children whose lung capacity and mental health are affected by pollution from traffic.” (Individual)*

One individual believed that the experiences of other European cities showed that it was likely active travel and public transport links would improve where LEZs were introduced and rather than increasing burdens and costs, travel to cities would be easier for all, not just motorists:

*“Certain businesses and motoring lobby groups will claim that this will hurt business. Evidence from multiple European cities shows that LEZs ‘do not harm business’, and instead can provide better public transport links and make walking and cycling to cities much easier, resulting in everyone being able to spend time in cities, not just motorists.” (Individual)*

#### 4.2.22 Q19: What impacts do you think LEZs may have on the privacy of individuals?

Respondents were asked what impacts they believed LEZs may have on the privacy of individuals. This was an open-ended question and 146 respondents provided comments including 60 organisations and 86 individuals. The breakdown of respondents is shown in Table 4.22.

Table 4.22: Split by Respondent Type

	Substantive	Campaign	Total
<b>Organisations</b>	60	0	60 (41%)
<b>Individuals</b>	85	1	86 (59%)
<b>Total</b>	<b>145 (99%)</b>	<b>1 (1%)</b>	<b>146 (100%)</b>

##### 4.2.22.1 Reasoning - organisations

Of the organisations responding 42% were public bodies, 20% NGOs, 15% businesses, 13% professional/trade organisations, 5% academic and 5% community groups. The general consensus amongst organisations was that there should not be any concerns over privacy as a result of LEZ implementation. One organisation (NGO) noted that there had originally been concerns over the London scheme when it was implemented but it has now been in place 15 years and is working well. Organisations felt as long as appropriate safeguards were put in place there should not be a privacy issue. Possible safeguards included deletion of ANPR and image data after fines were paid, personal details being kept confidential and if enforcement was subcontracted then ensuring monitoring of the contractor to prevent abuse of information:

*“There are no obvious privacy issues that arise as a consequence of the proposals other than those which currently exist for ANPR schemes. These are adequately covered by the Data Protection Act, and associated legislation.” (Local Government Organisation)*

Nine organisations (6 public bodies, 2 NGOs and 1 professional/trade organisation) noted that some may have concerns over privacy as a result of the ANPR system. All organisations agreed that this should not present a barrier to implementation and the technology is already in use with no issues:

*“There may be concerns over privacy regarding ANPR enforcement. This can be dealt with fairly easily by restricting the amount of time that personal details are held and deleting the data automatically after this period or after the fine has been paid. There are many cities in the world that have used this technology successfully without breaching the privacy of individuals.” (NGO, Organisation)*

#### 4.2.22.2 Reasoning - individuals

Individual respondents were more likely to be concerned about privacy issues than organisations with 29/85 referencing this in their comments. Individuals used terms such as spying, big brother, state monitoring, a breach of the rights to private life, government intrusion, big brother, and Orwellian to highlight their concerns. The views can be summarised by:

*“While I accept that APNR is the best option to manage LEZs, it represents an invasion of privacy in my opinion. It will identify owners and, in the case of private cars, record an individual’s location at a particular time. There will be people who won’t like the principle of the authorities knowing where they are or have been.” (Individual)*

Despite the concerns raised, more individuals (41/85) believed there was unlikely to be any privacy issues and these would only be a concern for those who were seeking to conceal their activities:

*“None. Libertarians may object, but with no substantial grounds for doing so.” (Individual)*

Another 12 individuals felt unsure, unable or uninformed to make a view.

#### 4.2.23 Q20: Are there any likely impacts the proposals contained in this consultation may have upon the environment?

Some 89.3% (117) of respondents believed there were likely impacts that the proposals contained within the consultation would have on the environment. The majority of organisations responding to the consultation believed the proposals may have an impact upon the environment and 97.7% (43) were in agreement with just 1 organisation disagreeing. Some 96.1% (74) of individuals believed the proposals could impact the environment.

The results are shown in Table 4.23.

Table 4.23: Split by Respondent Type

	Yes	No	Total
<b>Substantive Response</b>	<b>115</b>	<b>14</b>	<b>129</b>
Organisations	43	1	44
Individuals	72	13	85
<b>Campaign Response</b>	<b>2</b>	<b>0</b>	<b>2</b>
<b>Total</b>	<b>117 (89.3%)</b>	<b>14 (10.7%)</b>	<b>131 (100%)</b>
Organisations	43 (32.8%)	1 (0.8%)	44 (33.6%)
Individuals	74 (56.5%)	13 (9.9%)	87 (66.4%)

All respondents were asked to provide a reason for their view and these are considered in the next sections.

#### 4.2.23.1 Reasoning - organisations

The organisation that did not agree was a community group, however they did not provide any reasoning for their views.

Of those organisations who agreed, 39.5% were classed as public bodies, 20.9% third sector/NGOs, 18.6% business/industry, 14.0% professional/trade body, 2.3% community groups and 4.7% academic/research organisations.

The majority reiterated that since the primary objective of LEZs was proposed to be the achievement of Scottish air quality objectives there should be some level of impact upon the environment. They noted that the LEZ would need to be part of a wider integrated programme of initiatives including place making, active travel and considering other emission sources.

Organisations did raise a number of caveats with the majority of organisations commenting that there was a risk that older vehicles that did not comply with the LEZ criteria would simply be rerouted or diverted to another location. In this instance, the emissions would simply be displaced and affect a different location rather than seeing an overall reduction in harmful emissions in Scotland. Several organisations also noted that the issue was wider than tailpipe emissions and with the ongoing trend to electric vehicles there are wider environmental impacts which are difficult to assess including electricity generation of lithium mining of resources such as lithium for the batteries.

#### 4.2.23.2 Reasoning - individuals

Of the 13 individuals who disagreed there would be any impacts on the environment as a result of the proposals, 7 provided a reason. One individual reasoned that without removing the need to travel you will not reduce it regardless of LEZs. Two believed the proposed impacts were speculative and unlikely to materialise with another reasoning there would be no impact unless the rest of the world implemented these zones too. One respondent summarised their view as:

*“I believe that LEZs address at best very local problems and risk creating new problems elsewhere. The risk is that there are unintended consequences and no net gain”. (Andrew Cruickshank, Individual)*

Of the 74 individual respondents agreeing the proposals could impact the environment 69 provided a reason. Some 15 respondents considered that there should be some level of improvement in air quality in line with the aim of the LEZ proposals. A further 5 considered that there should be lower traffic levels and reduced emissions within the designated LEZs. While 21 believed there would be some level of wider environmental improvement. Two respondents believed that if congestion was removed from cities, space could be reallocated to improve the public realm. While some individuals responded positively to the yes/no part of this question many expressed reservations on the level of impact in their comments. Some 8 individuals stated that while it was likely there would be some level of improvement within the LEZ, traffic would likely redistribute and the issue would be displaced elsewhere.

Other individuals had responded yes there would likely be an impact but did not mean a positive one and provided a negative environmental impact in their reasoning. For example, respondents noted the visual environment would be burdened by more signage and cameras, there would be wastage as serviceable vehicles are scrapped early and vehicles would travel more miles to travel around LEZs rather than through.

# Analysis of Responses – Substantive Responses

## 5.1 Overview

This chapter provides an analysis of the responses categorised as substantive responses. Substantive responses are defined as those responses from individuals and organisations which provided their views and did not contain the suggested wording provided by the Friends of the Earth Scotland online Campaign.

## 5.2 Analysis

### 5.2.1 Q1: Do you support the principle of LEZs to help improve Scottish air quality?

As detailed in Table 5.1, 171 substantive respondents supported the principle of LEZs to help improve Scottish air quality, representing 80% of those who answered the question. Some 43 respondents (20%) did not support the principle of LEZs. Of the 214 respondents who answered the question, 122 respondents (57%) were individuals and 92 respondents (43%) were organisations.

Of those who supported the principle of LEZs, 47% were individuals and 53% were organisations and of those who did not support the principle, 95% were individuals and 5% were organisations.

Table 5.1: Split by Respondent Type

	Yes	No	Total
<b>Individual</b>	<b>81 (47%)</b>	<b>41 (95%)</b>	<b>122 (57%)</b>
<b>Organisation</b>	<b>90 (53%)</b>	<b>2(5%)</b>	<b>92 (43%)</b>
<b>TOTAL</b>	<b>171 (80%)</b>	<b>43 (20%)</b>	<b>214(100%)</b>

Many respondents supported the principle, for example:

*“Toxic fumes from private motor vehicles (mostly driven under 2 miles by healthy adults) are poisoning our children and most vulnerable people. The cost to the NHS of 2000 early deaths and treating the illnesses leading up to them is very high and avoidable. Provided LEZs cover sufficient area, are adequately enforced, and tackle the most polluting vehicles (e.g. single occupant private motor vehicles), this can go a long way to preventing pollution.” (Ed Hawkins, Individual)*

*“There is a need to reduce environmental pollution to safeguard the health of the population.” (Hawkhead and Lochfield Community Council, Organisation)*

Of those who did support the principle of LEZs, a number of respondents caveated their response stating that certain conditions would have to be in place in order for their view to change to becoming supportive. Of the 171 respondents who were supportive, 65 caveated their response (37%). Many respondents suggested that other factors needed to be taken into consideration, such as the public transport improvements and the fair implementation of LEZs. Comments regarding the need to consider other emission sources were made as well as the need for prioritisation to focus on those vehicles most

responsible for emissions. Conditional support was also on the proviso that LEZs need to be part of a range of other measures e.g. tackling traffic flow and congestions etc.

Those who did not support the principle of LEZs presented a variety of reasons for their viewpoint. Respondents considered that LEZ schemes may increase ‘social inequality’ and that other more effective ways of improving air quality could be achieved without LEZs, such as by addressing traffic congestion as one example. Furthermore, many had political concerns with a focus particularly on government policy. Examples of responses from both an individual and an organisation are as follows:

*“It penalises the poorer members of our society.” (Karl Alexander, Individual)*

*“FTA is opposed to this focus on LEZs. They are not a magic solution with merits above all others. Scotland’s issues will not be solved the day one or two LEZs are introduced. And other policy mechanisms might be more effective in improving air quality. The level of focus on introducing an LEZ of some sort within 2018 appears a narrow and blinkered policy approach.” (Freight Transport Association, Organisation)*

### 5.2.1.1 Reasoning

Respondents were asked to provide a reason for their response. These have been categorised and analysed according to the methodology stated in Chapter 3 and summarised below:

#### **Implementation**

Of the total 214 respondents, 80 responses (37%) raised issues regarding the implementation of LEZs. Those supportive of the principle of LEZs raised issues regarding the timescale of implementation, delivery, restrictions on motor vehicles and suggestions for methods on how LEZs should be implemented e.g. as part of other strategies and measures, and what criteria should be used. Of those not supportive of the principle of LEZs, concerns included those stating they would only be in favour if there were certain vehicle exemptions.

#### **Health**

Of the total 214 respondents, 62 responses (29%) provided reasoning relating to health. Those supportive of LEZs felt that reducing air pollution would improve peoples health and increase life expectancy. Of those not supportive of LEZs, respondents raised issues including their lack of confidence that LEZs would have a significant impact on health. They also noted that high death rates from air pollution result from other sources beyond private motorists e.g. buses.

#### **Public Transport**

Similarly, 30% (65 responses) of the 214 total responses included comments relating to public transport. Of those supportive of LEZs, some reasoned that it may encourage a shift to the use of public transport, others considered that adequate public transport would need to be in place prior to LEZs in order for these to be successful. Of those not supportive of LEZs, respondents raised the view that public transport is not adequate, available or affordable and therefore not a suitable alternative to the private car.

#### **Infrastructure**

Infrastructure was mentioned a total of 37 times and consisted of 17% of the total responses. Those supportive of LEZs, raised comments relating to the need for improved infrastructure, such as charging points, technology for providing information regarding LEZs and infrastructure for vehicles and retrofitting and the need for the advancement of infrastructure prior to the introduction of LEZs. Of those not supportive of LEZs, respondents raised issues concerning the lack of infrastructure in place to make them work such as charging points.

### **Economic**

Some 35 responses (16%) raised comments relating to economic factors. Those supportive of LEZs noted that economic considerations need to be taken into account due to the impact upon people's income and taxpayers for example. Other comments raised related to the need to encourage sustainable economic growth and the need for polluters to pay for the cost from pollution. Of those not supportive, it was noted that LEZs would have a negative impact upon respondents' income and low-income groups, the costs associated with LEZs as well as the negative perception as LEZs as a money-making scheme.

### **Traffic Management and Congestion**

Some 16% (34 responses) related to traffic management and congestion. Those supportive of LEZs felt that LEZs would reduce traffic and therefore ease congestion. It was also considered that the number of high polluting vehicles would be reduced and therefore the detrimental contribution of traffic and congestion to emission levels. Furthermore, some were supportive due to the reduction of congestion in city centres. Of those not supportive of LEZs, respondents suggested that targeting traffic is the solution rather than putting in place LEZs. It was felt that improving traffic flow through cities would reduce congestion and improve pollution.

### **Social Inequality**

A further 23 responses (11%) included comments relating to social inequality. Of those in favour of LEZs, this was due to reasons such as air pollution negatively affecting people on low incomes and vulnerable groups and the connection between air pollution and social deprivation. Some respondents also in favour caveated their view by stating that consideration needs to be given to those most vulnerable who cannot afford a new car. Of those that oppose LEZs, this was due to factors such as the negative impact LEZs may have upon lower income and vulnerable groups and the problem of LEZs widening social inequality:

*“They are a form of 'social cleansing' and part of a wider agenda of regressive social policy designed to widen inequality whilst sating a political appetite for political 'spin'; feeding on vacuous myths as society spirals ever-downwards back to levels of GeoVictWardian inequality.” (Anonymous Individual)*

### **Environmental Impact**

Some 7% or 16 responses of the total 214 responses raised comments relating to environmental impact. Of those supportive of LEZs, comments focussed on the reductions to air quality and air pollution from motor vehicles and the reduction in emissions such as nitrogen oxides (NOx). Of those not supportive, issues raised included the view that LEZs would displace pollution from one area to another. Other views suggested included that by encouraging people to buy newer vehicles, air pollution would increase globally. Others considered that it was not environmentally friendly to encourage the scrapping of older cars. It was also noted that where LEZs had been implemented elsewhere they had had marginal impacts on improving air quality.

### **Active Travel**

Some 21 responses (10%) raised comments relating to active travel. Of those who supported the principle of LEZs, respondents were of the view that LEZs would promote the use of active travel such as walking and cycling. They noted that LEZs were only one of a number of other measures needed to improve public health, with active travel being one of those measures. Those who did not support the principle of LEZs did not raise comments relating to active travel.

### **Political and Legal**

Furthermore, 41 responses (19%) raised political comments in their answers. Of those in favour of LEZs, comments related to the recognition of the need for the Scottish Government to do something and referenced the CAFS strategy. Of those in opposition, many are opposed due to the lack of confidence

in the government and its policies. In addition, 11 responses (5%) raised comments regarding legal issues. Of those in favour of LEZs, these related to example of suggestions relating to EU and government legislation, regulation and legal enforcement and legal matters in the media.

### **Locational concerns**

Finally, 25% of respondents (54) made comments related to local impact. Of those in favour of LEZs' comments were raised regarding a number of areas, including:

- Edinburgh
- Glasgow
- Dundee
- Perth
- Crieff
- Uddingston
- Aberdeen
- Mount Florida
- Grampian region

Of those not in favour of the principle of LEZs, concerns were raised in relation to the following areas:

- Glasgow
- Rural areas
- Aberdeen
- Edinburgh

Concerns raised related particularly to city centre roads where traffic is high with comments regarding particular modes e.g. buses and taxis. Furthermore, concerns were raised regarding the impact upon local residents such as the negative impact of air pollution upon their health.

In summary, the majority were supportive of the principle of LEZs, however it is evident that a wide variety of factors need to be taken into consideration. The manner in which LEZs are to be implemented is a concern among respondents. The resultant impacts from LEZs were important to respondents, particularly health and wellbeing and so the relationship between air quality and health needs to be considered.

### **5.2.2 Q2: Do you agree that the primary objective of LEZs should be to support the achievement of Scottish Air Quality Objectives? If not, why not?**

As detailed in Table 5.2, 165 respondents agreed that the primary objective of LEZs should be to support the achievement of Scottish Air Quality Objective, representing 81% of those who answered the question. Some 38 respondents (19%) did not agree it should be the primary objective. Of the 203 respondents who answered the question, 116 respondents (57%) were individuals and 87 respondents (43%) were organisations.

Of those in agreement 50% were individuals and 50% were organisations and of those who were not in agreement, 87% were individuals and 13% were organisations.

Table 5.2: Split by Respondent Type

	Yes	No	Total
<b>Individual</b>	<b>83 (50%)</b>	<b>33 (87%)</b>	<b>116 (57%)</b>
<b>Organisation</b>	<b>82(50%)</b>	<b>5 (13%)</b>	<b>87 (43%)</b>
<b>TOTAL</b>	<b>165 (81%)</b>	<b>38 (19%)</b>	<b>203 (100%)</b>

Many respondents agreed with the primary objective to support the achievement of Scottish Air Quality Objectives, for example:

*“I agree that the primary objective is to remove nitrous dioxide and particulates with a side issue of reducing traffic to the benefit of pedestrians and cyclists, and reduction of accidents.” (Jack Hugh, Individual)*

*“GCOC agrees with the primary objective of LEZs however would encourage a pragmatic approach to the delivery of LEZs to meet air quality objectives whilst delivering sustainable economic growth, creating jobs and attracting investment.” (Glasgow Chamber of Commerce, Organisation)*

However, it is important to note that whilst agreeing with the primary objective, many felt that objectives should be aligned with one another and other objectives considered alongside the statement presented in the question. Of the 165 respondents who were supportive of the primary objective, 56 respondents (34%) caveated their response by stating that certain additional conditions should also be considered/included.

Those who did not agree that the primary objective of LEZs should be to support the achievement of Scottish Air Quality Objectives stated a variety of reasons for this viewpoint. For example, this included those stating that the objective becomes too narrow and that other objectives should be primary such as alternative transport, reduction in congestion, reduce all greenhouse gases and to improve health, among others. Furthermore, those not in agreement also had political concerns and a lack of confidence in LEZs and Government policy. Examples from both an individual and an organisation are as follows:

*“No. This makes it sound as if Scottish Air Quality Objectives are an outcome more important than devising a way of improving the city economy while also achieving these objectives. There is a danger that a narrow objective becomes more important than the overall and desirable objective of developing the economy.” (Dr. Mike Mitchell, Individual)*

*“Achieving Scottish Air Quality Objectives would be a great first step but even these standards are not safe for human health. There’s no ‘safe’ level of exposure to some pollutants, including particulate matter. The primary objective of the LEZs should be to continually improve the air in Scotland’s cities.” (Mount Florida Community Council, Organisation)*

### 5.2.2.1 Reasoning

The survey asked respondents to provide a reason for their response. Of the total 203 responses, 165 agreed that the primary objective of LEZs should be to support the achievement of Scottish Air Quality Objectives whilst 38 respondents did not agree with the primary objective. As detailed in Chapter 3 the reasons for the responses have been themed and summarised below:

#### Environmental Impact

Some 45 respondents (22%) raised environmental comments in relation to the agreement or disagreement with the primary objective of LEZs. Those in support stated that there is a need to reduce environmental pollution and progress improvements in air quality. Others mentioned that the objective must be complementary to other environmental objectives such as taking account of carbon emissions.

Those who did not agree suggested that other environmental objectives beyond air pollution should not be neglected, e.g. noise and visual pollution and that there is a need to focus on reducing all greenhouse gases.

### **Implementation**

Some 32 respondents or 16% of respondents raised comments about implementation. The majority of these were in agreement with the primary objective, respondents suggested ways in which LEZs should achieve standards and the methods in which they should be implemented e.g. such as targeting polluting vehicles. Some of those in agreement also suggested that other approaches should be taken into consideration such as objectives targeting traffic and congestion. Respondents not in agreement considered that Scottish Air Quality Objectives do not go far enough and should also include a limit on nitrogen oxides.

### **Traffic Management and Congestion**

Some 9% or 19 responses related to traffic management and congestion, and of those in agreement with the primary objective, respondents stated that whilst they agree, they believe other objectives linked to reducing traffic congestion should be considered. Others stated that they would likely see benefits to issues such as road safety and congestion as a result of LEZs. Of those not in favour, respondents believed objectives should be focussed on reducing congestion through improving transport links and roadworks. Others suggested that improving traffic signals and traffic control measures was of more importance.

### **Economic**

Some 10% (20 respondents) related to economic factors. Respondents who were in agreement with the primary objective stated that whilst agreeing with the primary objective, economic growth, job creation and investment should also be encouraged. Some commented that LEZs would help to achieve economic benefits. Others commented that they agree with the primary objective due to negative economic impacts such as fines and charges. Those not in agreement with the primary objective raised issues such as the view that LEZs will be damaging financially to the area covered by the LEZ and that economic development and growth is more important.

### **Health**

Twenty respondents (10%) included comments in relation to health. Of those in agreement with the primary objective, they agreed due to the need to address poor air quality for health reasons e.g. cardiovascular and lung problems. Of those not in agreement, it was suggested that the primary objective should be to improve and protect public health instead of supporting the achievement of Scottish Air Quality Objectives.

### **Public Transport**

Some 14 responses (7%) related to public transport. Respondents in agreement with the primary objective commented on the need for more public transport facilities and were supportive of objectives to reduce the reliance on cars. Others commented on the adjustments required for buses and coaches in light of the introduction of LEZs and the role of public transport in delivering air quality improvements. Respondents not in agreement with the primary objective commented that improving alternatives such as public transport should be a priority and primary tool instead.

### **Active Travel**

Linked to public transport, the encouragement of active travel was a common theme among respondents, consisting of 13 respondents (6%). Those in agreement with the primary objective commented for example, that an improvement in air quality could promote active travel and that LEZs should encourage more walking and cycling. Those disagreeing stated that primary objectives should be

focused to improve access for pedestrians and cyclists and that improving air quality should not neglect the encouragement of active travel.

### **Locational concerns**

Equally, another 14 respondents (7%) also related to local impact. Of those in agreement with the primary objective, comments were raised about areas such as:

- Edinburgh
- Aberdeen
- Glasgow

Of those not in agreement with the primary objective, comments were also raised about areas such as Aberdeen. Some respondents did not mention specific areas in their responses but raised concerns about the local impact of the objectives in relation to areas used by the general public e.g. town centres and schools. Locational concerns in the cities mentioned above related to issues such as on street traffic and the resultant pollution, vehicle technology, routes through city centres and fines and charges.

### **Infrastructure, Evidence**

Some 9 respondents commented on infrastructure and 7 referenced scientific evidence and/or other facts. Of those in agreement with the primary objective, comments were made about the need to keep up to date with technology improvements. Of those not in agreement with the primary objective, comments concerned the need for other objectives such as improved vehicle technology and the development of adequate infrastructure such as park and ride options. Other respondents suggested that they didn't agree with the primary objective as the scientific evidence remains unproven and some suggested a lack of confidence in the facts presented by Transport Scotland in the consultation document.

### **Safety, Legal, Behaviour Change and Social Inequality**

Of those not in agreement with the primary objective, reasoning focused on other objectives that need to be considered including road safety and the need to focus on exposure to pollutants. In regard to behaviour change, suggestions included that roads should be pedestrianised.

Of those in agreement with the primary objective, comment was made that the objectives should aim for compliance with EU guidelines as soon as possible and strive for WHO guidelines.

In summary, the majority of respondents agree that the primary objective of LEZs should be to support the achievement of Scottish Air Quality Objectives, however, many note that other factors and conditions must also be taken into account. For example, it is clear that environmental impact and implementation of LEZs are two key areas of concern.

## **5.2.3 Q3a: Do you agree with the proposed minimum mandatory Euro emission criteria for Scottish LEZs?**

Question 3a was a closed question and as detailed in Table 5.3, 113 respondents agreed with the proposed minimum mandatory Euro emission criteria for Scottish LEZs, representing 63% of those who answered the question. Some 66 respondents (37%) did not agree with the proposed minimum mandatory Euro emission criteria. This indicates that the majority are in favour of the proposals. Of the 179 respondents who answered the question, 111 respondents (62%) were individuals and 69 respondents (38%) were organisations.

Of those in agreement with the proposed minimum mandatory Euro emission criteria, 47% were individuals and 53% were organisations and of those not in agreement, 86% were individuals and 14% were organisations.

Table 5.3: Split by Respondent Type

	Yes	No	Total
<b>Individual</b>	<b>53 (47%)</b>	<b>58 (87%)</b>	<b>111 (62%)</b>
<b>Organisation</b>	<b>60 (53%)</b>	<b>9 (13%)</b>	<b>69 (38%)</b>
<b>TOTAL</b>	<b>113 (63%)</b>	<b>67 (37%)</b>	<b>180 (100%)</b>

#### 5.2.4 Q3b: Do you agree with the proposal to use the NMF modelling in tandem with the NLEF appraisal to identify the vehicle types for inclusion within a LEZ?

Question 3b was an open-ended question and as detailed in Table 5.4, 90 respondents agreed with the proposal to use the NMF modelling in tandem with the NLEF appraisal, which represented 74% of those who answered the question. Some 31 respondents (26%) did not agree with the proposal. Indicating that the majority were in favour of the proposals.

It is important to note that whilst a total of 170 respondents answered the question, a number of respondents either presented no views (5 respondents), no comment (8 respondents) or their answer was not applicable (3 respondents). The remaining 33 respondents did not provide a clear yes/no response to the question asked and their responses were allocated codes according to the coding framework detailed in Chapter 3. Therefore, the total number of those in agreement or disagreement with the proposal represented 71% of all answers given, with the remaining 29% not providing a definitive yes/no response.

Table 5.4: Split by Respondent Type

	Yes	No	Total
<b>Individual</b>	<b>32 (36%)</b>	<b>29 (93%)</b>	<b>61 (502%)</b>
<b>Organisation</b>	<b>58 (64%)</b>	<b>2 (7%)</b>	<b>60 (50%)</b>
<b>TOTAL</b>	<b>90 (74%)</b>	<b>31 (26%)</b>	<b>121(100%)</b>

Of those who were in agreement, comments included the following:

*“Yes, Seems a reasonable approach. Regarding standards, stick to those that are widely understood and accepted.” (Peter Roberts, Individual)*

*“Yes, South Lanarkshire agrees with the proposal to use the NMF modelling in tandem with the NLEF. The use of modelling to develop scenarios allows a more informed decision in terms of identifying initial priorities. Future development options can then be expanded using this approach.” (South Lanarkshire Council, Organisation)*

Of those who agreed with the proposal, a number of respondents caveated their responses stating that certain conditions and other factors need to be considered. Of the 90 who were in agreement, 49 respondents (54%) caveated their response. Respondents made comments on the criteria, information and other forms of assessment, appropriateness and use of the models and the way in which it is implemented.

Those who did not support the proposal stated a variety of reasons for this viewpoint. Respondents felt that the model does not reflect real world conditions, issues with targeting older vehicles and their

owners, reliability and not taking into account other modes of transport. Others were not supportive due to a lack of confidence in the overall approach or viewed it as a money-making scheme. Examples from both an individual and an organisation are as follows:

*“No, in terms of technical standards it should be left to the Euro standards. There should not be any exclusions as for example refuse vehicles are probably one of the main offenders and exclusion as well as creating an administrative burden would breed uncertainty. If you didn't want to fine someone, for example from an old cars rally you could do it through the number plate recognition scheme. Just feed the rally cars numbers into the database, to not charge them.” (George Horne, Individual)*

*“We are not convinced that focus on vehicle types is necessarily the best approach. This focus will help to deal with some of the environmental issues but takes no account of how people’s lives may be diminished. In focusing on vehicle type rather than the user of those vehicles there are potentially a number of unintended consequences that could restrict the mobility of some of Scotland’s community transport users. Under the current proposals there is a danger that for many providers of these services it may become uneconomical for them to run Section 19 services in parts of Scotland. This is because their vehicles tend to be older and as services are run on a not-for-profit basis organisations are unlikely to have the cash reserves to absorb the potential new costs to meet new emission standards.” (Community Transport Association, Organisation)*

#### 5.2.4.1 Reasoning

##### **Implementation**

Some 53 respondents, (34%) provided comments related to implementation. Of those in agreement with the proposal, it was recognised that it would take time to fully implement LEZs and therefore the Scottish Government should aim for the highest standards. Others simply agreed with the proposals presented. Of those not in agreement with the proposal, respondents stated that the criteria should not apply to domestic vehicles and that it did not take into account motorcycles travelling through cities.

##### **Modelling, criteria and data and/or facts presented**

Some 46 responses (30%) commented on the modelling, criteria and data/facts presented. A number stated they were in agreement but that certain conditions must be met such as modelling vehicle types, using the modelling as a guide and increasing the criteria in line with technology advances.

Those not in agreement with the proposal, generally lacked confidence with the modelling conditions and the definition of criteria. Beyond this, answers without a definitive agreement highlighted a lack of trust in data, issues with modelling and appraisal processes and evidence and work which needs to be considered in conjunction with other tools or factors.

##### **Political**

Some 20 respondents (13%) raised political reasons. Of those in agreement with the proposal comments included that they agree as it can be used to inform public decisions and that political implications of including all vehicle categories need to be taken into account. Of those not in agreement, some respondents highlighted a lack of confidence with policy and standards with one suggesting this was a “tax grab”. Of those who did not state a definitive “yes” or “no” in regard to agreement with the proposal, responses were similar with respondents highlighting a lack of confidence with government policy and legislation, comments on guidance and that more information is needed to inform their position.

##### **Public transport**

Some 16 respondents included comments relating to public transport (10%). Of those who were in agreement with the proposal, some caveated their response stating that due consideration needs to be given to modelling different types of public transport, especially buses. Concern was raised as to the

suggestion that “bus only LEZs are not being considered” given that buses can be seen as significant contributors to air pollution. Others raised comments on coaches and taxis. Of those who were not in agreement with the proposal, respondents suggested that before any implementation public transport provision must be a viable choice for communities.

### **Environmental Impact**

Some 13 responses or 8% of the total 154 answers to the question raised comments relating to environmental impact. Those who were in agreement with the proposal suggested the need for models to identify the highest pollutants, and the need for the appraisal of the impact from transport upon the environment. Of those not in agreement with the proposal, concerns were raised with the impact of air pollution from other means of transport beyond private cars e.g. public transport such as buses. Of those who did not provide a definitive agreement with the proposal, examples of environmental concerns raised included those raising comments on climate change, the worsening and high levels of air pollution and greenhouse gas emissions.

### **Infrastructure**

Ten responses (6%) raised comments regarding infrastructure, and of those in agreement, comments included the need to engage with the retrofit industry. Of those not in agreement, comments included those relating to how vehicle manufacturers focus solely on achieving Euro standards compliance which does not reflect the “real world”. Those who did not provide definitive agreement with the proposal, suggestions were made stating that the infrastructure needs to be there for LEZs, infrastructure for LPG (liquid petroleum gas) stations as well as electric charging stations and infrastructure for rural areas.

### **Economic**

Nine out of the total 154 responses raised comments relating to economic factors. Of those who agreed with the proposal, comments related to how the modelling would be funded, public transport funding and modelling in relation to the benefits of national investment and impact on the local economy. Of those who did not agree with the proposal, comments alluded to the lack of confidence with government policy and the negative economic impact. Other comments from those with no definitive yes/no answer commented on the financial resources and support needed e.g. for local authorities, a lack of confidence with the government in making money and comments on other solutions which may be less costly.

### **Social inequality**

Six responses or 4% raised comments relating to social inequality. Four of these responses were from those not in favour of the proposal with comments such as the negative impact on low income earners and affordability due to the targeting of the standards at older vehicles, which low income earners may not be able to replace. The other 2 responses were from respondents who did not state whether they were in favour or not but highlighted problems that the standards will be penalising those unable to use public transport and who cannot afford newer vehicles.

### **Traffic Management and Congestion**

Some 5% (7 responses) raised comments about traffic management and congestion. Of those who were in favour of the proposal, statements included the need to prioritise traffic and congestion reduction and that local traffic factors need to be taken into account in the model. Of those who were not in favour of the proposal, comments were made such as the need to reduce all vehicular traffic as opposed to defining certain vehicles for inclusion in a LEZ and the negative impact of traffic control and management measures in contributing to pollution. Of those with no definitive view, respondents highlighted the need for traffic free city centres and the replication of real life traffic conditions in modelling.

## Health

Four responses commented on health issues. One respondent was in agreement with the proposal, on the provision that the criteria is used as a nationwide approach to tackle health problems. Another response was not in favour of the proposal due to the significant impact of buses in relation to air quality and health. A further 2 responses did not provide a definitive view but highlighted the importance of the protection of public health.

### Locational concerns

Some 17 responses or 11% related to local impacts. Of these responses in favour of using the NMF modelling in tandem with the NLEF appraisal, areas mentioned by respondents included:

- Glasgow e.g. Hope Street
- Aberdeen e.g. Aberdeen Western Peripheral Route
- Edinburgh

Of those not in favour with the proposal, the area of concern mentioned by some respondents was Glasgow. Of those without a definitive yes/no answer, other areas of concern included Glasgow and Edinburgh.

Examples of the types of concerns raised included particular locations within the cities with heavy traffic, the notion that modelling should be applied differently as per each city's conditions, or that modelling should be used in conjunction with other models e.g. Aberdeen's, that modelling should consider levels of emissions and infrastructure in certain locations e.g. Edinburgh.

In summary, responses to Question 3b demonstrate that the majority agreed with the proposal to use the NMF modelling in tandem with the NLEF appraisal to identify the vehicle types for inclusion within a LEZ, however a wide variety of answers were provided and a simple "yes" or "no" cannot be applied to all of the responses. Respondents highlight that many factors need to be taken into consideration such as the way in which the identification of vehicle types for inclusion is implemented.

### 5.2.5 Q3c: Should emission sources from construction machinery and/or large or small van refrigerated units be included in the LEZ scope, and if so should their inclusion be immediate or after a period of time?

As detailed in Table 5.5, 144 substantive respondents supported the statement that sources from construction machinery and/or large or small van refrigerated units should be included in the LEZ scope, representing 77% of those who answered the question. Some 43 respondents (23%) did not support the statement. Of the 187 respondents who answered the question, 113 respondents (60%) were individuals and 74 respondents (40%) were organisations.

Of those who supported the statement 53% were individuals and 47% were organisations and of those who did not support the statement, 84% were individuals and 16% were organisations.

Table 5.5: Split by Respondent Type

	Yes	No	Total
<b>Individual</b>	<b>77 (53%)</b>	<b>36 (84%)</b>	<b>113 (60%)</b>
<b>Organisation</b>	<b>67 (47%)</b>	<b>7 (16%)</b>	<b>74 (40%)</b>
<b>TOTAL</b>	<b>144 (77%)</b>	<b>43 (23%)</b>	<b>187 (100%)</b>

Many respondents agreed that emission sources from construction machinery and/or large or small van refrigerated units should be included in the LEZ scope and made comments on the time period for inclusion, for example:

*“Ultimately yes. In the interim, there needs to be a greater understanding of the effects of such equipment. The extent of the emission of pollutants and the duration of emission from both fixed and mobile plant needs to be understood in order to identify and respond to the worst sources/practices. Blanket imposition of Euro VI engines may not be the most effective response in the short term. In the case of standby generators, by the nature of their application they get little use and are not operating in the streets where the pollution problem is most acute.” (Ian Alexander Souter, Individual)*

*“All such emission sources should be included and it is our opinion that a phased approach is preferable.” (SWestrans, Organisation)*

Of those who did agree with the proposal a number of respondents caveated their response, making comments on only one of the mentioned categories for example and providing certain conditions or time periods are met. Of the 144 respondents who were in support 84 respondents caveated their response. Respondents suggested that all or other emission sources should be included, different suggestions on the approach of implementation and time period and comments on exceptions.

Those who did not agree with the proposal highlighted different reasons for this. Respondents raised comments such as the negative impact on business, the need for them to be exempt, lack of evidence for their emission contributions or that they are too few to be included. Examples of those who disagreed are shown below:

*“No, as this would harm our construction and food industry. There is not enough of these machines around to cause major pollution harm.” (Ewan Gray, Individual)*

*“No, these areas can be cleaned up enough without affecting jobs, industry and business, without going over the top.” (Scottish representative for The National Wedding Car Association and its 100 plus members, Organisation)*

### 5.2.5.1 Reasoning

#### Implementation

Some 83 respondents considered the implementation of the LEZ. Of those in agreement with the statement, views differed as to whether implementation should be immediate or over a period of time. It was considered that they should be included as they did contribute to emissions. Of those not in agreement with the statement, comments suggested that applying it to construction vehicles may be difficult due to the output sizes of the machinery.

Of those who did not provide a definitive agreement to the proposal, comments regarding implementation included those commenting on the timescale of inclusion, statements about compliance and it being problematic and evidence and enforcement.

#### Emissions from both should be included in the LEZ scope

The second most popular category with 62 responses, or 33% of respondents was that emission sources from both categories should be included in the LEZ scope. Respondents provided a variety of reasons as to why they should be included. It was considered that these vehicles cause high levels of emissions and are damaging to health and infrastructure, e.g. in city centres and that it would be unfair to exclude them. Furthermore, a high number of respondents said their inclusion should be immediate, with a lower proportion highlighting that they should be phased in over time.

### **Emissions from both should be included in the LEZ scope (with conditions)**

In addition to those who agreed that emission sources from construction machinery and/or large or small van refrigerated units should be included in the LEZ scope, a further 45 responses (24%) agreed but only if certain conditions were met. Examples of conditions that respondents gave included those stating that inclusion should be immediate for one source e.g. vans but phased for another, the need for exceptions for certain engines and that they should be included but phased in due to the potential impact on businesses.

### **Emissions from both shouldn't be included in the LEZ scope**

Some 38 respondents stated that emissions from construction machinery and/or large or small van refrigerated units shouldn't be included in the LEZ scope. As mentioned previously, reasons included those commenting on the negative impact upon businesses and a lack of evidence for their emission contributions. It was also suggested that there were too few vehicles to be included. In addition to these factors, others stated that construction vehicles are essential in terms of contributing to economic growth and that penalising such emission sources would encourage alternative usage of these vehicles at different times of the day. Others stated that emissions from other sources were more important e.g. buses and HGVs.

### **Environmental impact**

Some 34 respondents or 9% made comments relating to environmental impact. Those in agreement considered that the emission sources should be included due to their high level of pollution and damaging impact upon the environment. Those not in agreement with the statement stated that such emission sources do not have a significant impact upon the environment and that including these vehicles would have consequences i.e. the encouragement of building in the evening creating noise pollution.

### **Economic and/or business reasons**

Some 35 responses, or 19% of respondents gave reasons relating to economic and/or business reasons. Of those who agree reasons suggested included the fact that targeting these vehicles would have the least financial cost to the population and that it is their responsibility to accept their share of the cost of updating vehicles. It was also suggested that there is a need to consider the affordability for businesses to replace vehicles and consideration of economic growth in relation to these vehicles and the care to be taken so as not to impact upon business. Of those not in agreement, comments were similar and respondents raised concerns about the negative economic impact if construction machinery and/or large or small van refrigerated units were to be included and the affordability and costs to customers and businesses.

### **Health, Political and Traffic**

Comments relating to health focussed on the need to include all vehicle types as they contribute to air pollution and therefore are harmful to health. It was also suggested that legislation should be used to enforce inclusion and that the Scottish government needs to engage with the relevant sectors affected and comments on EU regulation. Responses relating to traffic raised issues such as construction machinery and vans contributing to traffic, that inclusion would reduce traffic volumes, problems of rat running and other sources of traffic e.g. marine. Of those not in agreement, comments included the cost of machinery and the need for appropriate technology in terms of infrastructure before criteria for inclusion can be determined and a lack of confidence with government policy and comments on standards.

### **Locational concerns**

Finally, 15 respondents made reference to local impacts, areas of concern raised among respondents included the following areas listed below. For those in support of the statement these were:

- Aberdeen e.g. Torry, Wellington Road
- Glasgow e.g. city centre, Glasgow Central, Glasgow Queen Street
- South Lanarkshire
- Edinburgh

For those not in support, Aberdeen was cited. Concerns included the number of vehicles or traffic in cities such as Aberdeen, economic concerns e.g. with Glasgow, the application of legislation to cities and air pollution hotspots, to name but a few.

Overall, from Question 3 it is clear to see a general trend that there was a higher proportion in agreement with the question than those opposed but that there are a wide variety of answers from respondents and so the data cannot be treated simply in terms of support or opposition. Of those who supported some of the answers, it is evident that there are a high number of conditions and factors that need to be taken into consideration before certain criteria can be determined.

In summary, the majority of respondents agreed that emission sources from construction machinery and/or large or small van refrigerated units should be included in the LEZ scope, however it is clear that a definitive “yes” or “no” in response to Part 1 of the question cannot be applied to all from the review of respondents’ answers. For example, some are partially in agreement and the responses allude to a wide range of factors that need to be taken into account when deciding on what vehicles should be included in the LEZ scope.

#### 5.2.6 Q4: What are your views on adopting a national road access restriction scheme for LEZs across difference classes of vehicles?

Question 4 was an open-ended question and as such the responses could not be categorised into a yes/no answer. However, the split between individuals and organisations who answered the question is shown below in Table 5.6. A total of 179 substantive respondents answered this question.

Table 5.6: Split by Respondent Type

Respondent Type	Total answers
Individual	100 (56%)
Organisation	79 (44%)
<b>TOTAL</b>	<b>179 (100%)</b>

Some 15 themes emerged from the responses to this question. Of these, 34 respondents (19%) indicated their approval of a national road access restriction scheme. Reasons for this approval included respondents stating their preference for it over other options, the positive impact it may have e.g. in reducing pollution, the need for national standards and the delivery of compliance. Comments from respondents included the following:

*“I agree that this would be a better option than a road charging scheme.” (Steve Gregory, Individual)*

*“For the purpose of LEZs we prefer a road access restriction over a road use charging scheme. Although not currently Government policy, charging may be more appropriate in future for regulating overall road use. A discriminatory [road pricing] charging system would be a source of confusion and may prejudice the public against wider use of charging for traffic control in future.” (Cults, Bielside and Milltimber Community Council, Organisation)*

Furthermore, 41 respondents caveated their answer, indicating their approval of a national road access restriction scheme but conditionally. Conditions stated by respondents included those making

comments on how the scheme should operate, the need for evidence and consistency, comments on implementation and timescales and the scheme’s aims and objectives. For example, quotes from respondents indicating this included:

*“I prefer the Road Access Restriction approach, provided that adequate signage (and turning facilities) are provided at access points. There must also be the ability to check online that a particular vehicle may/may not enter by using ANPR displays saying something to the effect “[Reg no] is permitted [green] prohibited [red] from entering the LEZ.” (Dr. Mike Mitchell, Individual)*

*“We would support road access restrictions; however, it is essential that the Taxi industry is exempt in the first instance to allow a reasonable period of time for operators to depreciate their existing vehicle and source a suitable/affordable replacement. The policy on the age of vehicles varies widely across the 32 local authorities, it’s essential that every Council is consulted before adopting a restriction policy.” (Scottish Taxi Federation, Organisation)*

Some 33 responses, or 18% of respondents indicated their disapproval with adopting a national road access restriction scheme for LEZs. Reasons for the disapproval of adopting a national road access restriction scheme include those who disagree with LEZs as a whole, some respondents stating it will impact on low income earners, issues with affordability e.g. of purchasing a new vehicle, a lack of confidence in government policy, issues with restriction on freedom of movement and others:

*“I disagree with the Road Access Restriction Scheme, I would prefer to pay a fee. I can't help that I have a vehicle that doesn't meet the LEZ emissions. I cannot afford to change the car but it should not stop me being able to pick up my daughter from a night club in city centre, for example. Ask me to pay when I enter the LEZ in my non-complaint vehicle (price dependent on Euro level), but don't stop me from getting to work/family/social appointments. I would be happy to pay a small fee to enter the LEZ, but I would prefer to pay for a permit, like a residential parking permit. I can obtain one for 1 day, 1 month, 1 year, they can be bought and renewed online.” (Paul Griffin, Individual)*

*“FTA is opposed to this focus on LEZs. They are not a magic solution with merits above all others. Scotland’s issues will not be solved the day one or two LEZs are introduced. And other policy mechanisms might be more effective in improving air quality. The level of focus on introducing an LEZ of some sort within 2018 appears a narrow and blinkered policy approach.” (Freight Transport Association, Organisation)*

### 5.2.6.1 Reasoning

#### Road Pricing v Road Access Restriction

A number of respondents (26) made reference to road pricing in their response. Of those in favour of the road access restriction scheme a number of people commented that this was because they considered a charging scheme allowed people who could afford it to buy an exemption. Respondents also noted that a road access restriction scheme would encourage behavioural change more than a charging scheme. Others were against charging schemes because they allowed polluting vehicles to enter the LEZ. Three respondents who were against the road access restriction scheme specifically made reference to road pricing in their response. One stated that they would prefer to pay a fee as they couldn’t afford to upgrade their vehicle. One felt that a road charging policy favoured those with more money and the third respondent was against road charging in general.

#### Implementation

Some 81 respondents, or 45% related to comments about implementation of a national scheme. Those in favour suggested that implementation would result in quicker changes and consistency was required in implementation. Those in favour also suggested that buses and taxis should be exempt in the short term. Respondents gave a wide variety of suggestions for ways in which the national road access restriction scheme should work and what restrictions could be applied, indicating that whilst there are

more responses in favour of the scheme than there are who disapprove of it. Those disapproving suggested that each city should be assessed on merit and that the same limit should be implemented for all vehicles. Others considered that road pricing charging was a more favourable solution.

### **Economic**

Some 44 responses or 25% of respondents raised economic reasons. Those in favour suggested that any money generated from the scheme should be reinvested into public transport. It was also suggested that the fine should be set at such a level to be a deterrent.

Those against the scheme considered that they would prefer to pay a fee instead as this would still allow them to access the city centre. Those organisations with fleets noted that there would be a negative financial impact if the introduction of the LEZ fell mid fleet cycle renewal. Many of these related to the resultant charges and costs that would come from a national road access restriction scheme, with some stating that this would impact upon private vehicle owners and divert traffic elsewhere. Furthermore, respondents also noted the economic impact of such a scheme on the general public e.g. those with a lower income.

### **Political, Traffic and Congestion**

Some 15 or 8% of respondents raised political reasons. Many of these were linked to disapproving of LEZs and the belief that other policy mechanisms may be more effective, or those with a negative opinion of the Scottish Government. Other respondents who were more supportive of the scheme gave suggestions relating as to how rules and policies should be laid down e.g. in relation to local authorities.

Similarly, 16 or 9% related to traffic and congestion. Comments raised included those stating that traffic flow will still be a problem, with one person commenting that a similar policy had made London's traffic worse. Others believed that it may have the benefit of reducing congestion. Others linked this into road pricing charging and made suggestions such as the introduction of congestion charging.

### **Infrastructure, Social Inequality and Would prefer a different alternative**

There was an equal split of 6% each respectively for reasons including "Infrastructure" (10 responses) and "Social Inequality" (11 responses). Those both in favour and opposed suggested that the correct infrastructure must be in place. Responses about social inequality included those raising concerns about the scheme contributing to social inequality through penalising those who cannot afford to replace older cars, as well as the negative impact upon residents of inner city centres. Furthermore, some indicated that wealthier people may be at an advantage e.g. can afford to buy exemptions.

A further 13 responses (7%) considered that there were other options to be considered instead of a national road access restriction scheme, such as road price charging and penalty schemes and the need to consider developments.

### **Environmental Impact**

Some 22 responses, or 12% raised comments relating to the environmental impact. Those in favour recognised that this proposal would benefit the environment. Those opposed suggested that older well-maintained vehicles may have better emissions than new vehicles. Others are not so confident that the scheme will make a big difference on reducing the levels of harmful emissions and that other factors are causing environmental pollution such as speed restrictions.

### **Alternative Transport**

Some 18 responses, or 10% of respondents made comments relating to alternative transport. Those in favour suggested that there needed to be improvements in public transport in order for the proposal to work. Public transport would need to be affordable and dependable. Those against the proposal suggested that alternative transport solutions could help improve air quality.

Respondents suggested that there should be certain exemptions for buses or that different rates should be applied. Other comments included the need for funding to be applied to the investment of public transport or facilities for active travel such as cycling. Moreover, some responses highlighted the need to consider situations where restrictions may have to be lifted e.g. in the event of the breakdown of a public transport vehicle.

### **Local Impact**

Some 32 responses, or 18% raised comments about local impacts. Locational concerns raised referenced areas including:

- Glasgow e.g. Hope Street, Grangemouth industrial area
- Edinburgh
- South Lanarkshire
- Edinburgh
- Aberdeen

Concerns included the impact on commuters e.g. from cities to rural areas, concentrations of air pollution in certain areas, the application of the scheme to specific locations and public transport in some of the locations.

### **Standards, Data and Criteria**

Eight respondents raised comments relating to standards, data and criteria. This related to those commenting on the need for further assessments and more data to be undertaken prior to restrictions being implemented.

### **Unworkable**

Finally, 4 responses stated that a national road access restriction scheme for LEZs across different classes of vehicles would be unworkable. Responses included those indicating how they could not see that a national scheme could be applied consistently, the practicalities e.g. difficulty of enforcement and that other methods such as traffic management may be more effective.

In summary, there are a wide range of views on adopting a national road access restriction scheme for LEZs across different classes of vehicles from the responses. Some 42% of respondents approve of a national road access restriction scheme either fully or with conditions. It is important to take into account that a wide range of factors need to be considered if the scheme were to be introduced, with implementation being a main concern among respondents.

## 5.2.7 Q5: What are your views on the proposed LEZ hours of operation, in particular whether local authorities should be able to decide on LEZ hours of operation for their own LEZs?

Question 5 was an open-ended question and as such could not be categorised into a yes/no answer. The split between individuals and organisations who answered the question is shown below in Table 5.7. A total of 150 substantive respondents answered this question.

Table 5.7: Split by Respondent Type

Respondent Type	Total answers
Individual	99 (66%)
Organisation	51 (34%)
<b>TOTAL</b>	<b>150 (100%)</b>

The views on this question are summarised below:

### 5.2.7.1 Reasoning

#### Proposed Hours of LEZ Operation

With regards to the first part of the question on the proposed LEZ hours of operation, there were a number of variations in respondent's answers. The most popular theme emerging was that LEZs should operate 24 hours a day, 7 days a week, with 63 respondents indicating this (42%). Reasons for this included the view that pollution will be shifted to a different time period if they did not operate 24/7, for ease of implementation, consistency and to avoid confusion and to be more effective. Other reasons included the need to promote and encourage behaviour change such as active travel and more time in urban areas. Examples of some responses are as follows:

*“Quite simply you can't restrict the hours it needs to be 24 hours otherwise people will change their habits to get round it.” (John Gilbertson, Individual)*

*“Dundee City Council agrees with Scottish Government preference of 24-hour application to ensure consistency across all cities with LEZs and avoid confusion, e.g. for companies who operate deliveries across all cities. 24-hour application would also reduce negative impacts such as road traffic noise at night which may occur if the LEZ operating times covered daytime periods only.” (Dundee City Council, Organisation)*

Other variations of LEZ hours of operation included the following:

- LEZs to operate 24/7 with conditions (13 responses)
- LEZs to operate at specific hours (14 responses)

Of those who stated LEZs should operate 24/7 with conditions, respondents stated whilst this was their preference, they understood certain exceptions may have to be made and to consider the economic impact of introducing them for such a time period. Others commented that the operating hours could be different during the lead in period. An example is outlined below:

*“Generally, we would support 24/7 operation as the preferred framework but recognise that there may be circumstances where this is not practical.” (BYD UK Ltd, Organisation)*

Of those who made comments that LEZs should operate at specific hours, respondents made a variety of suggestions. For example, some respondents had a preference for hours of operation during the day, whilst others had a preference for hours of operation at peak hours only. Some suggestions included the following:

*“Operation hours should be during day time 8 am - 8pm.” (Hawkhead and Lochfield Community Council, Organisation)*

*“At local council's choice but has to be at least 7am to 730pm to make sure traffic is lighter.” (Christopher Droy, Individual)*

Furthermore, a number of respondents also suggested that variable hours of operation would be problematic (7%). Reasons for variable hours being a problem included concerns with this added

complexity and the confusion and frustration for businesses and drivers and unintentional non-compliance.

### **Control of LEZ hours of Operation**

With regards to the second part of the question on whether local authorities should be able to decide on LEZ hours of operation, 36 responses (24%) agreed that local authorities (LAs) should be given control to decide on LEZ hours of operation. Reasons for this included that local authorities are more familiar with local situations and will know the most appropriate hours to enforce operation and suggestions for how local authorities should decide on hours of operation and work in partnership with other stakeholders to make the most appropriate decisions. Examples include the following:

*“Let local authorities chose. If the LEZ operated from 9-5 the delivery trucks would come in overnight. The fumes may however be dissipated by morning. I don’t have that information.” (John Stevenson, Individual)*

*“Local authorities should be given authority to decide on LEZ hours of operation and work together with local partners, businesses and agencies to define what those hours should be.” (Glasgow Chamber of Commerce, Organisation)*

Contrary to this, some 10 responses (3%) disagreed that local authorities should be able to decide. Reasons for this included those with a lack of confidence in the ability of local authorities to make decisions, that they could cause confusion, worries about LAs profiting and abusing their power and the inconsistencies that could result from different local authorities applying different hours of operation. For example:

*“Local authorities have constantly shown they don't care about the people they are supposed to serve. Thus, they are unfit to make a decision like this, as is the Scottish government.” (Ronald Plushkis, Individual)*

*“We agree with the Scottish Government’s preference that LEZs should operate continuously, 24 hours a day, 7 days a week, all year round, as this will maximise air quality improvement. We think that this should not be at the discretion of local authorities and that it should be mandated by the Scottish government across all regions.” (Spokes, Organisation)*

Other suggestions included the following:

- Should be controlled at a national level (8 responses)
- Scottish Government shouldn't be given control (2 responses)
- Other alternatives (3 responses)

Reasons for the suggestion that hours of LEZ operation should be controlled at a national level included those who would prefer it due to a lack of confidence in local authorities, the need for a consistent approach and adequate enforcement. Another suggestion was that the Scottish Government should regulate the hours but using information from local authorities. Of those who did not wish the Scottish Government to be given control, one response is outlined in the quote above where it is deemed that they are “unfit to make a decision”. Another reason is that local authorities would be more able to impose regulations according to local conditions.

Other alternatives suggested by 3 respondents were that any phasing must be zero tolerance, that LEZ hours of operation must apply to other modes of transport e.g. aviation and calls for other simpler approaches such as mechanisms for improving air quality and health instead. This represented 1% of all respondents.

The remaining reasons are discussed below. Beyond these reasons a further 3 responses stated that they had no view and a further response was not applicable to the question.

### **Local Circumstances and/or Impact**

Some 32 respondents, or 21% related to local circumstances and/or impact. This also included any references made by respondents to any health impacts. For example, respondents included those stating that LEZ hours of operation must be relevant to local needs and circumstances and the need to take into consideration impacts on locals and residents such as resultant health problems from air pollution.

### **National Consistency**

Some 29 responses, or 9% of respondents commented on the need for national consistency in terms of LEZ hours of operation. For example, many suggested there is a need for national consistency so that compliance can be followed accordingly and so that people can understand the rules more easily. Respondents also suggested this would make the enforcement of LEZs easier e.g. fines and penalties.

### **Flexibility and Exemptions**

A total of 26 respondents raised comments about flexibility and exemptions. For example, some respondents stated that there should be exemptions for certain vehicle types with the operating hours of LEZs and the need for flexibility for those working certain types of jobs who need access to vehicles at night. Other comments on the need for flexibility included the consideration for special events in cities, the level of air pollution in different locations and flexibility during the period of implementation of LEZs.

### **Environmental Impact**

Some 19 responses, or 13% related to environmental impact. Respondents noted that although operating 24 hours a day is preferable this may be deemed unreasonable on the basis of a lack of evidence for emissions during parts of the day.

### **Traffic and Congestion**

Some 15 responses, or 10% of respondents raised comments about traffic and congestion. Respondents commented on the relationship between traffic volumes and the hours of LEZ operation and the resultant impacts. One suggestion was to reduce the minimum vehicle standards at night when traffic flow is reduced. Others suggested that operational hours should be applied when traffic is at its greatest.

### **Opposition**

A total of 14 respondents were opposed to allowing local authorities deciding on the LEZ hours of operation or LEZs in principle. For example, there were those who opposed the idea of 24/7 operation when there is no 24/7 public transport operation. Other suggestions were that a designated time period would simply shift pollution. Others were simply against the premise of LEZs.

### **Infrastructure**

A further 3 respondents commented on infrastructure raising the need for unnecessary signage advertising the LEZ.

### **Consider data, Political, Economic and Behaviour Change**

Some 6 respondents commented on the need to consider data in relation to deciding LEZ operating hours. For example, this included suggestions to use the modelling results to inform operational hours, studying seasonal variation and EU targets.

Some 5 respondents made political comments with reference to Government and its policy, powers, restrictions and standards and the Scottish Government's position. Generally, responses were more negative than positive and highlighted the concern from the public as to the governance of LEZ.

A further, 5% (7 responses) made comments along an economic theme. For example, respondents commented on the funding required for LEZs in order for them to operate, the resultant economic impacts from LEZs and those who view LEZs as a money-making scheme.

Finally, a further 3% (5 responses) related to behaviour change. Respondents commented on the relationship between LEZ hours of operation and behaviour change e.g. from drivers and the encouragement of changes in behaviour for example during night periods.

In summary, from this question it is clear to see that there are a number of variations by respondents as to the hours of operation as well as thoughts on who should decide on this. However, the most common responses are that LEZs should operate 24 hours a day, 7 days a week and the majority agree that local authorities should be given control.

### 5.2.8 Q6: What are your views on Automatic Number Plate Recognition enforcement of LEZs? Please be as specific as possible in your reasoning?

Question 6 was another open-ended question as such could not be categorised into a yes/no answer. However, the split between individuals and organisations who answered the questions is shown below in Table 5.8. A total of 191 substantive respondents answered this question.

Table 5.8: Split by Respondent Type

Respondent Type	Total answers
Individual	108 (57%)
Organisation	83 (43%)
<b>TOTAL</b>	<b>191 (100%)</b>

Firstly, the majority of respondents indicated approval of ANPR enforcement of LEZs, consisting of a total of 119 out of the 191 respondents (62%). Of those who approve of ANPR, reasons for this included the view that this method of enforcement will be the most adequate to identify those who do not comply with LEZs, comments on the cost effectiveness and technology and the practicalities of using it. For example:

*“An automatic system should be more robust than manual detection. Already existing ANPR infrastructure e.g. in bus lanes should be adapted so it can also be used to enforce LEZs where possible.”  
(Andrew Birchby, Individual)*

*“Sustrans Scotland support the use on Automatic Number Plate Recognition (ANPR) technology. This would offer the highest rates of compliance with LEZ standards, and permits simple administration of any agreed exemptions or times of operation. The set-up cost of ANPR technology should in no instances lead to limited geographical areas of implementation or smaller areas of operation. LEZ implementation areas should span all air quality management areas within urban areas. Investment now in ANPR technology would allow government to respond flexibly to future challenges or urban mobility changes.”  
(Sustrans Scotland, Organisation)*

Furthermore, a total of 26 responses approve ANPR enforcement only in this case and/or with conditions, comprising a total of 14%. Reasons for those who approve ANPR conditionally included those stating that enforcement would need to be appropriate, comments on the reliability of data and how the data collected is used, comments on the appeals process and certain exemptions as well as the costs involved. For example:

*“If the proposals are adopted, this would be the only workable solution, however a robust and fit for purpose data protection regime would need to be implemented.” (John Crouch, Individual)*

*“GVVT is broadly supportive of ANPR for enforcement, only provided that the national database is kept up to date with exempt vehicles and that a mechanism exists for vehicles to be exempted at short notice for specific circumstances/ events. The administration required to do this needs to be considered, what organisation is responsible to do this, and any staff resource implications. There needs to be an appeal process for specific circumstances, for example:*

*-cases where an exemption has been granted but not reflected in the database. For example, a change of vehicle tax class or MOT status – where there might be a delay in updating the database.*

*-defective signage or road markings*

*-emergencies.” (Glasgow Vintage Vehicle Trust, Organisation)*

A total of 28 responses, or 15% indicated their opposition to ANPR enforcement. Many of these respondents gave the reason that such enforcement is a form of privacy invasion, with others commenting that ANPR enforcement will be expensive or those with a lack of confidence that it will work and vehicle drivers may be wrongly penalised. For example:

*“I think it would be an expensive way to manage a minimal problem.” (Zac Graham, Individual)*

*“The use of such systems raises potential concerns about excessive surveillance and monitoring of otherwise legal road users going about their legitimate business. There may also be data protection issues regarding the use of such a system if it was not originally designed for this purpose.” (Health Protection Scotland, Organisation)*

The views provided by respondents on this question are summarised below:

### 5.2.8.1 Reasoning

#### **LEZ offence enforcement and Cost**

Some 33 respondents made comment as to the financial impact of ANPR enforcement. Those in favour noted that there would be a cost but that this was a sensible way to operate. It was noted that initial set up costs would be high but the long-term costs of a manual scheme would be greater. Those against the proposal considered it to be costly to operate and that it would financially impact drivers.

#### **Data and LEZ offence enforcement**

A further 32 respondents made comment about data and LEZ offence enforcement. It is clear that respondents were concerned about how the data collected from ANPR will be used and protected and the accuracy and reliability of the data. In regard to LEZ offence enforcement, respondents gave a range of suggestions as to how offence enforcement should work in conjunction with ANPR. These included that it should be automatic, be able to detect non-UK vehicles and have the ability to be easily updated with exempt vehicles.

#### **Technology and Infrastructure**

Comments on technology and infrastructure (26 responses) included those who view ANPR as a good form of proven technology and recognise it as essential in enforcement. It was also suggested that ANPR enforcement needed to work with complementary telematics.

#### **Privacy**

Privacy was raised by 19 respondents (10%). As noted earlier, one of the reasons why many are in opposition to ANPR is due to the issue of privacy, with respondents stating it restricts their freedom and is a form of invasion of their privacy. Of those in approval of the use of ANPR, some commented that

whilst they approve it is important to bear in mind the worries of many of the population that ANPR can be viewed as a form of intrusion.

### **Queries regarding usage/practicalities and Efficiency**

Some 14 respondents raised queries regarding the usage and practicalities of ANPR enforcement. For example, respondents noted issues with ANPR use in car parks. Others wanted to see reassurance that databases would be kept up to date and there was concern that this would require significant manpower.

In addition, 10 respondents raised comments about the efficiency of ANPR. Respondents commented on the need for the system of ANPR enforcement to be efficient, for the purpose of adequately enforcing LEZs. Others commented that they view ANPR enforcement as the most efficient method over other means of enforcement.

### **Political, Appeal process and/or penalties and Vehicle exemptions**

Some 8 respondents raised political comments, 9 respondents (2%) raised comments on the appeal process and/or penalties and 8 responses (2%) raised comments on vehicle exemptions. Those raising issues on a political theme included comments on the Government and its policy, those who opposed ANPR enforcement due to a lack of confidence with councils and the Government and comments relating to legislation. Comments on the appeal process and/or penalties related to those commenting that the process needs to be uncomplicated, that it needs to be reviewed for example to avoid errors and other suggestions as to how it should work to make it adequate e.g. use of fines.

Those commenting on vehicle exemptions raised queries as to whether certain vehicles can be exempt e.g. historic vehicles and public transport. Respondents commented on the reasons for such exemptions to be considered, including the notion that penalties can be wrongly enforced in certain cases.

### **Other comments**

Respondents raised a number of other comments which did not fit into the themes outlined above. Four respondents made comments related to 'crime' (2%) with the suggestion that ANPR could be used to identify crime and criminal behaviour e.g. stolen vehicles. Five respondents commented on 'public transport' (3%), in relation to how ANPR can be used in conjunction with the operation of public transport e.g. buses and bus lanes. Four respondents (2%) highlighted environmental impacts and agreed with the use of ANPR as part of LEZs in order to help reduce emissions. Some queried how ANPR could be used to pick up the levels of pollutants from vehicles.

Two respondents made comments in relation to 'social inequality' (2%), raising the issue that lower income groups will be negatively impacted, as raised in responses to previous questions e.g. they may not be able to afford a newer vehicle.

Furthermore, 2 respondents (2%) commented on their opposition to the original idea of LEZs and 5 others (3%) raised comments on other alternatives to ANPR such as other forms of tagging systems or alternatives related to traffic management. 1 respondent also commented on the need to consider ANPR at a local level.

Lastly, a further 4 responses included no comment, 1 response included no view and a further 2 were not applicable to the question asked.

In summary, it is clear that the majority of respondents approve of the use of ANPR enforcement of LEZs, as many see it as an effective form of technology and a good way of collecting data for enforcement.

## 5.2.9 Q7a: What exemptions should be applied to allow LEZ to operate robustly? Please be as specific as possible in your reasoning.

The split between individuals and organisations who answered the question is shown below in Table 5.9. A total of 184 substantive respondents answered this question, with the majority being individuals (56%).

Table 5.9: Split by Respondent Type

Respondent Type	Total answers
Individual	103 (56%)
Organisation	81 (44%)
<b>TOTAL</b>	<b>184 (100%)</b>

Respondents provided a wide range of suggested exemptions which have been themed into 5 groups.

### Suggestions of who should be exempt

Respondents raised a wide range of suggestions as to who should be exempt in order to allow LEZs to operate robustly. The most popular category was emergency vehicle exemption, with 29 respondents highlighting the need for them to be exempt. For example:

*“Emergency vehicles must be exempt.” (George Wylie, Individual)*

*“Emergency service vehicles should be exempted from the LEZ. As they are providing vital, often life-saving, services, it is not practical or correct for the restrictions to apply to them.” (Cycling Scotland, Organisation)*

A further 2 respondents highlighted that emergency vehicles should only be exempt for a period of time.

The second most popular group of who should be exempt were historic vehicles, coming to a total of 27 responses. Reasons for this included those commenting on the contribution they make in terms of transport heritage, those commenting that their emissions are too few to be of great impact and that they contribute to public life e.g. events. Comments from respondents included the following:

*“My strongest feeling on exemptions within LEZ is around historic/preserved vehicles. I am a member of the Glasgow Vintage Vehicle Trust in Bridgeton and own 2 preserved buses, we have a collection of 80 heritage buses from the 90s right back to the 30s. Whilst at 20 and 22 years old these two vehicles cannot be classed as Classic/Historic vehicles by law, they have a limited use of around 1000 miles a year and maybe visit the city 4 or 5 times a year for our annual running events which attract many members of the public to enjoy memories of our transport heritage. This would be all over for us, effectively killing our hobby and we would struggle to leave our premises without breaching the LEZ. I feel that vehicles (cars, buses, trucks) over 20 years old should be allowed to visit the LEZ as long as they register as limited/historic use with whoever manages the LEZ in the area (local authority) and that they would not really be causing any extra pollution due to the limited use they see - only visiting these areas on the odd occasion, and the fact they are only used for enjoyment and not commercially.” (Ewan Gray, Individual)*

*“There should be exemption for historic vehicles. The majority of historic vehicles are restored and maintained to a high standard by private individuals in their own time and at their own expense. They are often used at rallies and running days for the enjoyment and education of the public. The country has a rich transport heritage, both manufacturing and operational and it is important that historic vehicles can move freely throughout cities, towns and countryside. Historic vehicles travel on average only a few hundred miles per annum and any contribution to emissions is insignificant. I suggest that the definition of a historic vehicle should be determined following consultation with organisations such as the Albion Vehicle Preservation Trust, the Biggar Albion Foundation, the Glasgow Vintage Vehicle Trust, the National Association of Road Transport Museums, the Scottish Vintage Bus Museum, etc.” (Albion Vehicle Preservation Trust, Organisation)*

The third most popular group as to who should be exempt were those groups where it would cause financial hardship e.g. vulnerable, elderly, people with a lack of access to alternatives, shift workers, coming to a total of 18 responses. For example:

*“There should be exemption for cars used for shift work. I work in railway but cannot use public transport for majority of early or late shifts as nearest public transport is over 1.3 miles and operates hourly. Starting work at 3-5.20 am or finishing 2330-0030 that is not feasible. On lates I could wait 45 mins for next bus then 1.3m walk after 10/11 hour day.” (Anonymous Individual)*

Some 18 respondents suggested that those with a blue badge should be exempt. Furthermore, another 17 responses agreed with exemptions for all vehicles defined in the Transport Scotland Consultation paper. Another popular suggestion was for private and/or residential vehicle exemption (10 responses) e.g. due to impact on business, those living within LEZs and city centres who have no choice and those highlighting this for financial reasons.

### **Suggestions of who should not be exempt**

Similarly, there were also a wide range of suggestions as to who should not be exempt from LEZs in order for them to operate robustly. Some 28 respondents considered that there should be no exemptions. Reasons for this included the need for consistency and no exemptions in order for LEZs to work properly, as well as in order for it to be more robust and to tackle the problem of air quality more effectively. For example:

*“In a word. Nothing. If LEZ is to work properly there can be no exemptions.” (John Mitchell, Individual)*

*“None.” (Anonymous Organisation)*

No exemptions for HGVs and/or buses was the second most popular suggestion (5 responses). Reasons as to why HGVs and buses shouldn't be exempt included the view that they spend more time in LEZs due to the speed at which they travel and due to their engines running for longer and contributing to pollution. For example:

*“Buses should not be exempt.” (Anonymous Organisation)*

Furthermore, other suggestions of who shouldn't be exempt included blue badge holders, unavoidable vehicles e.g. vehicles from traffic diversions or road closures, historic vehicles, military vehicles and others.

Those who believe certain groups should not be exempt, appears to be largely due to concerns around the loopholes that could be created and concerns over the limiting ability to reduce pollution if there were to be such exemptions.

### **Factors to take into account when considering exemptions**

There were a number of factors raised by respondents including the themes of 'economic' (20 responses), 'local circumstances, evidence and/or impact' (27 responses), 'health' (1 response),

‘environmental impact’ (21 responses), ‘social inequality’ (11 responses), ‘availability of public transport’ (12 responses) and ‘vehicle exemption period/time period’ (25 responses).

The most commonly cited factor to consider when looking at exemptions was local circumstances, evidence and/or impact. Comments included the importance of giving due attention to local impacts if there are to be exemptions e.g. upon specific groups, to residents and businesses and that the application of exemptions should consider local conditions. Any vehicle exemption period or time period related to the idea that exemption periods need to be considered in order to address air pollution quickly and to ensure that there aren’t disadvantages to certain groups. ‘Economic’ responses highlighted the need to consider costs and funding in relation as to whether certain exemptions should be applied, support for exemptions where it is positive in economic terms and those who disagree with implementing LEZs and exemptions for economic reasons such as financial concerns.

### **Suggestions regarding the application of exemptions**

Reasons were categorised as ‘exemptions for local authorities to decide’ (5 responses), ‘implementation’ (31 responses) and ‘effectiveness’ (5 responses).

The most popular suggestion was around how exemptions should be implemented and these ranged from those making comments on the timescale of implementation, the limits to exemptions, criteria used, methods of enforcement and how LEZs should operate in light of exemptions. Moreover, some were specific as to how exemptions should be decided by stating that local authorities should be the ones to decide, for reasons such as consistency. In addition, some respondents commented on the effectiveness of the application of exemptions, for example if LEZs are to operate properly, they need to be enforced effectively.

### **Alternative comments and suggestions**

Furthermore, a number of respondents raised alternative comments and suggestions including 5 respondents making alternative suggestions such as how LEZs should operate robustly including those commenting on the need to concentrate on public wellbeing, the application of LEZs to specific areas and alternative schemes. Another 6 respondents opposed LEZs more generally, and a further 2 respondents commented on the need for retrofitting for refuse trucks.

### **More work/detail needed**

Two respondents stated that more work and detail is needed before a clear answer on exemptions could be given and a further 3 respondents made no comment.

In summary, Question 7a included a wide variety of suggestions for exemptions and it is clear that there are a range of concerns across the spectrum, from those who worry if any exemptions are made to those who are concerned if certain vehicles aren’t exempt. Overall, there are more responses in favour of certain exemptions and there are a number of factors to consider if exemptions are made, such as the resulting impact this will have for different groups.

## **5.2.10 Q7b: Should exemptions be consistent across all Scottish local authorities?**

Part 2 of Question 7 was a closed question and as detailed in Table 5.10, 149 respondents agreed that exemptions should be consistent across all Scottish local authorities, representing 86% of those who answered the question. Some 24 respondents (14%) did not agree that exemptions should be consistent across all Scottish local authorities. This indicates that the majority of respondents are in favour of exemptions being applied consistently. Of the 173 respondents who answered the question, 103 respondents (60%) were individuals and 70 respondents (40%) were organisations. Of those in agreement that exemptions should be consistent, 56% were individuals and 44% were organisations and of those not in agreement, 60% were individuals and 40% were organisations.

Table 5.10: Split by Respondent Type

	Yes	No	Total
<b>Individual</b>	<b>84 (56%)</b>	<b>19 (79%)</b>	<b>103 (60%)</b>
<b>Organisation</b>	<b>65 (44%)</b>	<b>5 (21%)</b>	<b>70 (40%)</b>
<b>TOTAL</b>	<b>149 (86%)</b>	<b>24 (14%)</b>	<b>173 (100%)</b>

### 5.2.11 Q8: What are your views on LEZ lead-in times and sunset periods for vehicle types shown in Table 2?

The split between individuals and organisations who answered this question is shown below in Table 5.11. A total of 174 substantive respondents answered this question, with the majority being individuals (54%). Analysis of the narrative responses indicated 99 of the total of 174 respondents offered some level of agreement with the principle of lead-in times and sunset periods as set out in the consultation.

Table 5.11: Split by Respondent Type

Respondent Type	Total answers
<b>Individual</b>	<b>94 (54%)</b>
<b>Organisation</b>	<b>80 (46%)</b>
<b>TOTAL</b>	<b>174 (100%)</b>

Respondents provided a range of views on lead in times and sunset periods. Reasons included those stating the periods of around 4 years set in other cities and discussed in the consultation paper seem fair or reasonable, will potentially be successful if implemented and are realistic. For example, one individual and one organisation commented:

*“Those outlined in the paper, or something along these lines, seem to me to be appropriate.” (Douglas Forbes, Individual)*

*“Tactran is supportive of LEZ lead-in times and sunset periods. As outlined within the document, Belgium and France as well as other UK LEZs have adopted a 4-year lead in time. Given this experience Scotland should adopt a similar timeframe.” (Tactran, Organisation)*

One respondent stated they agreed with the sunset period only as they believed the timescales for lead in periods were not realistic for industry.

Some 22 respondents noted that there should be no lead-in periods or that LEZs should be implemented immediately. Other respondents suggested minimum phasing with some vehicles covered immediately and others within the shortest time possible. Respondents commented that action was needed now to address air quality and that vehicles either met the standard or they did not. One organization commented:

*“... does not support the proposal for “lead-in times” as described in the consultation document as it refers to a period of time when the LEZ has been declared but is not yet operational or enforceable. We believe this could be confusing for the public and therefore undermine public confidence in, and compliance with the LEZ. LEZs should be operational and enforceable by the dates set out by the Scottish Government – 2018 for Glasgow and 2020 for the three other cities, with buses, vans and lorries covered immediately and cars included within two years.” (NGO, Organisation)*

In addition, 8 respondents clearly stated their opposition to LEZ lead in times and vehicle transitioning as well as disagreeing with the LEZ concept overall. Reasons for this included those highlighting their lack of confidence with government policy, opposition to the original idea of LEZs and those concerned with the need to change private vehicles. For example:

*“Don't agree with the original premise on LEZs.” (Jon Anslow, Individual)*

A further 2 respondents stated that timescales are irrelevant and that LEZs should be implemented immediately.

Some 40 respondents in their narrative didn't provide a view as to their agreement or disagreement with the proposals.

### **Themes raised**

Respondents raised a number of factors to take into account when thinking about lead-in and sunset periods. Factors included affordability (14 responses), health (3 responses), government funding/support (8 responses), public transport strategy (6 responses), local context (3 responses) and personal/local circumstances dependent on the compliance period (8 responses). In relation to affordability, respondents noted that LEZs would impact on low income earners and lead-in and sunset periods should be set to help support those who may need to change their vehicles. Respondents noted this would be an issue for transport organisations/businesses as well as private vehicle owners. Several respondents noted health concerns and that LEZs should be implemented immediately in order to start addressing this public health issue.

Respondents commented on the need for government funding or support during lead-in periods – particularly for bus operators. It was felt that grant funding would be required to help achieve the lead-in and sunset periods set out in the consultation document. Linked to this, comments on public transport strategy included those re-enforcing the idea that investment and provision of public transport is needed as a priority alongside LEZs and that discussions on lead-in times and sunset periods should involve public transport operators to fully understand the timescales they will need to work to.

Finally, responses on local context raised comments that local conditions need to be considered and that implementation should be relevant to the location and not national.

### **Implementation**

There were a wide range of suggestions relating to implementation made by respondents in relation to lead-in and sunset period requirements. These included, new vehicle discount (1 response), retrofitting (15 responses), national LEZ consistency (10 responses), immediate implementation (19 responses), enforcement (4 responses), phased transition by Euro standards (4 responses), buses/taxis implemented first (1 response), shorten viable vehicle service lives (5 responses), stricter targets (1 response), compliance over one 3 year MOT period (1 response), strict but fair implementation period (3 responses), clear information communication (5 responses) and phased transition (3 responses).

Of these, the most frequently cited view was immediate implementation. Comments from this category highlighted that LEZs need to be operational as soon as possible and not delayed, or that lead-in times should be as short as possible so that LEZs can operate. The second most popular theme raised was retrofitting and respondents raised comments that lead-in times are needed so that retrofitting can take place and to give vehicle owners, the general public and businesses enough time to adjust as well as in order for the retrofit industry to meet the demand.

The third most popular theme raised in regard to implementation was the need for national consistency across LEZs, with reasons from the 10 responses highlighting those mentioned in answers to previous questions such as the need for the application of consistency.

## Timescales

A range of suggestions relating to timescales were raised by respondents in relation to lead-in and sunset period requirements. Comments made included fixed LEZ transition date (3 responses), generous lead-in periods required/proposed lead-in periods too short (33 responses), timescale must be suitable for procurement and installation (37 responses), lead-in periods proposed are too long (12 responses), generous sunset period (1 response), phase out periods (1 response) and period dependent upon vehicle (1 response). The most popular suggestion was that the timescale must be suitable for procurement and installation. For example, respondents stated:

*“The lead in time must realistically reflect the timescale for procuring and installing the necessary equipment, and establishing related procedures.” (I.M. Johnson, Individual)*

*“We think that lead-in times and sunset periods should stretch to a reasonable period of time to allow people and organisations to raise the capital they need to meet with new standards.” (Community Transport Association, Organisation)*

The second most popular theme raised by respondents in relation to timescales was generous lead-in periods with comments made including suggestions that the lead-in periods should be more generous in terms of timescale and not be too short. Reasons for this lie hand-in-hand with other comments made e.g. to allow time for people to adjust and due to the scale of the changes. Conversely, a number of respondents also felt the lead-in periods proposed were too long, or too slow to be implemented, with respondents raising concerns that the timescales were too extended. They commented that the timescales either need to be shorter, or more appropriate in terms of fitting to the timing required to set up adequate infrastructure and adjust to the changes.

### More detail/clarity needed

Some 13 respondents felt that further research or discussion was required on the subject of lead-in periods. Reasons for this included the need to make comparisons to other cities and countries and further engagement with those who may be affected e.g. public transport operators. Furthermore, 7 respondents believed they needed more information, did not understand the terminology used or could not locate the correct information in the consultation document.

### Exemptions

A few responses made comments on exemptions for certain types of vehicles, including 2 responses highlighting the need for emergency vehicle exemptions and 2 responses for historic vehicle exemptions.

A further 14 responses were categorised as not applicable to the question, for example where respondents had no view, no comment or the answer did not relate to the question asked.

In summary, there is some agreement with LEZ lead-in times and sunset periods for vehicle types, however it is clear that there is concern about the timescales in regards to allowing time for the public to adjust and for vehicles to be updated. This will need to be taken into account going forward.

## 5.2.12 Q9: What are your views about retrofitting technology and an Engine Retrofitting Centre to upgrade commercial vehicles to cleaner engines, in order to meet the minimum mandatory Euro emission criteria for Scottish LEZs?

As detailed in Table 5.12, a total of 182 respondents answered this question, with just over half of all respondents being individuals (56%).

Table 5.12: Split by Respondent Type

Respondent Type	Total answers
Individual	102 (56%)
Organisation	80 (44%)
<b>TOTAL</b>	<b>182 (100%)</b>

The Scottish Government proposal is to utilise the CVRA Scheme to inform any future retrofitting grant programme for commercial vehicles associated with Scottish LEZs and to introduce an Engine Retrofitting Centre in Scotland to support the delivery of LEZs.

### Support

Some 104 respondents (57%) indicated their support for this proposal. Reasons given included those suggesting it is a sensible and reasonable approach and those who indicated that they agreed with the initiative but other factors would need to be taken into account such as funding, the evidence base, environmental impact and impacts such as economic, to name but a few. For example, respondents indicated:

*“I fully support this action, it will minimise the required costs for businesses operating within the LEZ.” (Zac Graham, Individual)*

*“The RAC welcomes this, and we believe that immediate focus should be given to buses, coaches and to HGVs and commercial vehicles regularly entering areas with poor air quality. We note that the Scottish Government has said that a retrofitting programme may be limited due to resource. However, there are vehicle owners that also have limited resources to purchase newer, cleaner vehicle which are compliant with LEZ minimum standards and it would be unreasonable to penalise them unless the Scottish Government were doing everything within its power to help address the problem with all vehicle types.” (RAC, Organisation)*

### Opposition

In contrast 11 respondents indicated their disapproval of the retrofitting initiative and a further 3 stated their opposition to LEZs. For example:

*“Not enthusiastic. Such a programme assumes that quantities of acceptable engine designs will be available for the multitude of vehicle designs involved and also that the vehicle designs can accommodate the additional exhaust, etc, equipment. Given that buses tend to have a 15 year working life with their first operator, the reaction of the major bus operating groups is likely to be to transfer non-compliant vehicles elsewhere in exchange for newer, compliant, ones, thus giving some other authority/community the problem.” (Ian Alexander Souter, Individual)*

*“We do not support this. There are concerns with guaranteeing continued effectiveness of new-build vehicles (as mentioned earlier), and these concerns will be greater on retrofit systems. We note that LowCVP data on emissions from buses shows wide divergence between the emissions performance of different bus types that use the same engine platforms, even when running identical test cycles under laboratory conditions. It therefore seems likely that in-service variability will be large, even for new-build systems, and would be even larger for retrofit equipment.” (BYD UK Ltd, Organisation)*

Reasons for the disapproval and lack of confidence in a retrofitting initiative included those indicating that it is not a strong enough tool to combat emissions, issues with the cost, a lack of confidence in retrofitting technology and the effectiveness, as alluded to in some of the responses above.

Some 6 respondents indicated that retrofitting in isolation is insufficient.

## Economic

Respondents making comments on an economic theme included references to, business/economic impact (13 responses) funding issues (14 responses), free market (2 responses), new jobs (9 responses), local/national government funding support (11 responses), reduced business/economic costs (11 responses) and affordability (6 responses). The responses provided indicate that respondents were divided in their opinion with both positive and negative views raised with regards to the economic implications of retrofitting technology.

The most popular issue raised by respondents making comments on an economic theme was funding issues. A number of respondents were concerned as to who would pay for such retrofitting technology to be implemented and there were worries particularly with the retrofitting buses. For example:

*“Good idea but who will pay ??” (George Wylie, Individual)*

The second most popular issues were the business/economic impact and local/national government funding support. Those commenting on the business/economic impact raised concerns surrounding the cost effectiveness of such a retrofitting initiative and the financial implications for both taxpayers and businesses. Responses about local and national government funding support included those who suggested the need for grants, funding and subsidies and government incentives and support in order for retrofitting technology to be viable.

The third most popular issue raised was reduced business/economic costs, with respondents commenting on their support for a retrofitting initiative due to the minimisation of costs to businesses and operators, those who suggested other alternatives such as LPG which provide an alternative solution at a reduced cost and comments that retrofitting will be of better value and cost than other solutions.

## Policy and standards

Respondents suggested that there needed to be, suitable/certified testing/standards (20 responses), conform to Euro standards (5 responses) and cross sector policy (2 responses). Responses regarding suitable/certified testing and standards included comments that retrofitted vehicles need to meet suitable standards e.g. the minimum of Euro VI performance, comments that suitable testing and certification would need to be undertaken and regular checks for compliance. Of those not supportive of a retrofitting initiative, there were concerns regarding testing and the variability of emissions performance.

Responses about conforming to Euro standards included those who suggested that conforming to such standards needs to be mandatory and that retrofitting technology needs to be delivered to meet such standards appropriately. Two respondents highlighted the need for joined up thinking e.g. between public and private transport and 1 response on no exemptions indicated that all vehicles should meet the minimum Euro standards.

## Technology and Infrastructure

Responses around the theme of technology and infrastructure included ensuring the credentials of technology (6 responses), technology expenditure (7 responses), alternative fuels (6 responses) and retrofitting market capacity/demand (3 responses). Comments about technology expenditure included reference to the high price of retrofitting technology which goes hand in hand with the funding issues discussed earlier. Respondents noted they wanted to know whether the technology was reliable and effective enough and they raised concerns on the relationship between the demand and the timescales for such systems to be implemented and the need for investment in the retrofitting market.

Furthermore, comments on alternative fuels commented on the need to use cleaner fuels instead of retrofitting technology e.g. LPG, hybrid and electric.

### **Factors to consider and impacts**

Respondents raised a number of specific factors and impacts which need to be taken into account if such a retrofitting initiative should be implemented. These included the location of retrofitting centres (10 responses), less scrapped vehicles (3 responses), public/private sector differences (1 response), education/expertise (4 responses) and short-term solution (1 response).

Respondents suggested that retrofitting centres should be distributed across Scotland or based in an appropriate location which would benefit locals, or that there should be more local venues as opposed to a centralised retrofitting centre.

Responses relating to education and expertise included those who stated that such a retrofitting initiative would raise awareness of retrofitting technology and responses about reduced scrappage were those supporting retrofitting initiatives as it will extend the life of vehicles and reduce scrappage.

The remaining responses highlight the public and private sector differences that need to be taken into account as well as health factors and the notion that retrofitting may only be a short-term solution due to the notion that retrofitting may only be able to work until vehicle owners decide that renewing their vehicle would be a better option.

### **Vehicles and incentives**

This was one of the most cited themes emerging from the respondents, with reasons grouped under this category consisting of the need to focus on new or newer vehicles (5 responses), available for all vehicles (1 response), vehicle compatibility and compatibility issues (10 responses), vehicle degradation (4 responses), historic vehicles (6 responses), prolong vehicle life (2 responses), new vehicle purchase incentives (2 responses), scrappage of public service vehicles (2 responses), public service vehicle priority (1 response) and shorten viable vehicle service lives (1 response).

The most popular reason under this grouping was vehicle compatibility and compatibility issues and respondents raised concerns as to whether all vehicles would be compatible to receive retrofitting technology. Concerns were raised by those with an interest in historic and heritage vehicles. It was noted that retrofitting these vehicles would detract from their originality and character.

The third most popular reason related to the need to focus on new or newer vehicles due to concerns that they are the highest polluting forms of vehicles.

### **Implementation**

Respondents raised concerns around the implementation of retrofitting technology with 10 respondents raising implementation, 6 respondents considering this was insufficient in isolation, and 7 respondents considering clear communication of retrofit strategy was required. One further respondent focused on the need to focus on the transition to ULEVs. Respondents gave a variety of suggestions as to the timescales for the introduction of retrofitting technology and the way in which such infrastructure is introduced and communicated to the general public, businesses and public transport sector. Comments were also made on the need to focus on ULEV transition highlighting that retrofitting should not be a replacement for focusing on ULEVs.

### **Public transport**

One respondent raised comments on the Green Bus Fund and 1 respondent on greener public transport highlighting the need for the Green Bus Fund and greener public transport to be of priority and not be forgotten.

### **More work needed**

A further 8 responses indicated that further research and discussion is required due to not having the technical knowledge to be able to comment or indicating that retrofitting still needs further research

and understanding. Furthermore, 14 respondents were categorised as ‘not applicable’ in answer to this question.

In summary, a wide variety of views and suggestions were made in regard to the proposal for a retrofitting initiative and whilst it is clear that many agree with retrofitting, there are a number of factors to consider such as how retrofitting infrastructure can be accommodated to meet the needs of the transport sector, the public, the different vehicle types and policies, standards and the resultant economic impacts that need to be taken into account as part of the initiative.

### 5.2.13 Q10: How can the Scottish Government best target any funding to support LEZ implementation?

As detailed in Table 5.13, a total of 167 respondents answered this question, with just over half of all respondents being individuals (54%).

Table 5.13: Split by Respondent Type

Respondent Type	Total answers
Individual	90 (54%)
Organisation	77 (46%)
<b>TOTAL</b>	<b>167 (100%)</b>

The responses made to this question were varied and the key findings are summarised below:

#### Opposition

A number of respondents to this question were focused on their opposition to LEZs. Two respondents stated LEZs were a waste of money, others were opposed to publicly funded LEZs by taxation (3 responses). Some 4 respondents stated their opposition to LEZs, funding unnecessary (1 response) and opposed to funding support (1 response).

Of those who were opposed to the funding of LEZs, reasons included those who disagree that public money should be spent on LEZs, that the general public shouldn't be targeted through taxation and that others should pay for it e.g. the EU. Others suggested that other more simpler approaches should be taken instead of the need for funding. For example:

*“Simple. Don't pay a penny for any modelling or any studies or any consultation or any implementation. Just make some requirements to make sure that buses are updated or replaced over the next 10 years. The market for light goods vehicles and private vehicles will take care of itself through national regulation, fuel duty, and VED policy. LEZs are a bad idea and a waste of money.” (Andrew Cruickshank, Individual)*

#### Suggestions for targets for funding

A wide range of suggestions for targets for funding were raised by the respondents. The three most popular targets for funding were public transport funding (46 responses), retrofitting funding (35 responses) and enforcement funding (20 responses). It is key that high on the agenda of many is the need for investment in public transport such as buses so that they can benefit from updating their infrastructure and emissions can be reduced.

Likewise, investment in retrofitting is key for many as they view it as an achievable way of lowering emissions and investment in such technology and equipment is essential for cleaner vehicles. Additionally, some respondents believe that enforcement funding should be a target, such as investing

in technology to ensure compliance with LEZs is occurring. Examples from respondents include the following:

*“Extra funding for detection and fining and banning of all vehicles which pollute. Provision of facilities for increase in safe sustainable transport such as much better cycling infrastructure.” (Jimmy Keenan, Individual)*

*“Funding must be provided to support bus operators and distribution companies to meet the emission criteria, through either retrofitting or fleet upgrades. Funding assistance for any local authority implementing a LEZ and for robust enforcement measures will also be necessary to ensure successful delivery.” (SWestrans, Organisation)*

*“Serious and meaningful bus priority measures must be conditional in national LEZs. Long term commitment to funding to the bus and coach industry. Direct assistance to bus and coach operators to accelerate investment in new vehicles. A commitment to cut congestion in our towns and cities via ring fenced local authority funding for public transport.” (West Coast Motors, Organisation)*

Other popular sources of funding included LEZ infrastructure/general infrastructure funding (19 responses), active travel funding (15 responses), local authority funding (15 responses), environmental and air quality funding (14 responses), Green Bus Fund (9 responses) and funding as part of the LEZ implementation (13 responses). For example, respondents stated:

*“Any LEZ introduced would need to be fully funded by the Scottish Government, including the set up costs, additional infrastructure (direct and indirect), enforcement regime and on-going running costs. Additionally, expert personnel support, either through consultants or the provision of additional funding to employ staff, is required to support the development of a Business Case and other associated elements of the National Low Emission Framework process. It should be noted that although a LEZ is likely to be implemented within one local authority area, it will have influence on the population of a wider catchment, regionally and nationally, for private car drivers and commercial vehicles as well as bus operators.” (Anonymous, Individual)*

*“Bus operators will also require significant financial assistance for low emission vehicles and additional/increased funding support and incentives, along the lines of the Green Bus Fund, are likely to be required from Government to encourage the early and increased uptake of cleaner private and commercial vehicles.” (Tactran, Organisation)*

*“The Scottish Government must commit new funding to help local authorities with the set-up costs. It should continue with its commitments in Programme for Government to increase investment in walking and cycling. It should consider the impact of City Deal road building programmes that may encourage car use between towns and cities, without considering what will happen to the vehicles when they arrive.” (Paths for All, Organisation)*

### **Factors to consider and impacts**

Furthermore, within respondents’ answers, factors were raised such as social inequality (1 response) and a lack of public sector budgets (1 response). This follows on from themes developed from previous questions and the need to consider the wider impact upon different classes of society.

### **Alternative suggestions**

Other alternative suggestions made by respondents include remove/re-evaluate current travel subsidies (2 responses), provide funding for monitoring/data collection (10 responses), review funding distribution (4 responses), wider/regional transport funding strategy (3 responses) and minimal state intervention (1 response).

Of those commenting on monitoring and data collection, concerns were raised that there needs to be sufficient funding for data collection and monitoring, that further studies and monitoring need to

continue and that data needs to be utilised to support LEZ implementation. Comments regarding reviewing funding distribution highlighted the need to assess how funding is distributed and how it should contribute and comments about the wider/regional transport funding strategy related to how LEZs should not be viewed in isolation and should be assessed as part of a wider strategy. Finally, the suggestion on minimal state intervention alludes to the view that market forces should be a key driver.

In summary, it is clear that many agree that there is a need for funding to support LEZ implementation and the suggestions on what to target are many. However, public transport is of key priority to many as is the investment in infrastructure such as retrofitting and the correct equipment and technology to ensure enforcement.

### 5.2.14 Q11: What criteria should the Scottish Government use to measure and assess LEZ effectiveness?

As detailed in Table 5.14, a total of 172 respondents answered this question, with just over half of all respondents being individuals (55%).

Table 5.14: Split by Respondent Type

Respondent Type	Total answers
Individual	95 (55%)
Organisation	77 (45%)
<b>TOTAL</b>	<b>172 (100%)</b>

Respondents to this question suggested a range of criteria to be used:

#### Environmental criteria

Views that were grouped under environmental criteria included: the setting of pollution/air quality levels (85 responses), emissions limits per vehicle/passenger kilometre (17 responses), the suggestion to measure at pollution hotspots (4 responses), mobile/time weighted pollution sampling (4 responses), the suggestion to measure emissions of all modes (2 responses), measure commercial/haulage emissions (1 response), further air quality measurement sites (5 responses) and community air quality monitoring (1 response).

It is evident that criteria relating to pollution and air quality levels was the most popular suggestion among respondents. Many respondents did not provide a reason as to why these criteria should be used, but of those that did, reasons included the need to assess information as to what is happening with air quality in order to find out what sources are causing the most emissions, to understand how effective LEZs are and how different forms of criteria could be used in conjunction with others. For example:

*“Air quality can be checked and monitored, more monitoring stations should be installed/setup before LEZ goes live so that we see the improvement. Information should be available to view online, daily stats etc.” (Paul Griffin, Individual)*

*“An improvement in air quality is the key measurement that should apply when assessing LEZs effectiveness.” (West Coast Motors, Organisation)*

The second most popular suggestion in relation to environmental criteria was emissions per vehicle/passenger kilometre. Reasons given as to why this should be used to measure and assess LEZ effectiveness include suggestions that this is a simple and straightforward way of assessing the scheme. For example, one respondent stated:

*“Scottish Government should take advice from modelling industry experts on the best way of assessing, impartially and objectively, the effectiveness of LEZs. The efficiency of the vehicles concerned should also be taken into account i.e emissions per passenger kilometre and possibly per tonne kilometre for freight. We suggest also that the assessment of the effectiveness of LEZs should also include “control” areas well away from LEZs; and also in the areas immediately outside LEZs to check whether there is a localised reduction in air quality caused by vehicles deflected out the LEZ area and therefore whether the LEZ is merely deflecting the areas of air quality concern. The assessment of the results should also be able to stand up to independent verification.” (Glasgow Vintage Vehicle Trust, Organisation)*

The third most popular environmental category was further air quality measurement sites. For example, as per the suggestion by Paul Griffin above, further monitoring stations should be implemented and monitoring should occur in more locations.

### **Traffic and transport criteria**

Respondents made comments on the theme of traffic and transport criteria, which included, setting traffic volume/flow criteria (28 responses), additional traffic/driving statistics (11 responses), public transport patronage (21 responses) and kerbside monitoring (4 responses).

Traffic volume and flow was the second most popular response among respondents, with respondents highlighting that using such criteria would be appropriate to measure LEZ effectiveness and that it will indicate other benefits that LEZs may deliver. For example, one respondent stated:

*“It is important that from a transport emissions perspective that schemes for LEZs in specific locations focus upon what will deliver the best air quality outcome. This means prioritising improvements in vehicles where the best results will be achieved. So, buses, coaches, taxis and private hire vehicles, and private cars must be considered too as well as freight vehicles. What is key is to be driven by policies on LEZs for different categories of vehicles that will deliver the best outputs in terms of air quality whilst minimising the costs to society.” (Freight Transport Association, Organisation)*

Comments regarding public transport patronage suggested that looking at public transport and an assessment of its usage would also be a useful tool to measure LEZ effectiveness as LEZs may encourage modal shift and changes in behaviour. An example from a respondent suggested:

*“NOx emissions per passenger km is, if measurable, a good proxy for the effectiveness of a scheme. This may be measurable for local bus services but almost certainly not for private vehicles. Modal shift to public transport will be a good indicator. Another obvious measure is roadside concentrations of pollutants.” (FirstGroup Plc UK Bus Division, Organisation)*

Other comments about additional traffic and driving statistics to be used and kerbside monitoring raised suggestions that data such as road traffic collisions could be considered, statistics on transport modes and ANPR data. The use of kerbside monitoring would also allow data to be gathered from vehicles and resulting emissions.

### **Socioeconomic criteria**

A range of suggestions for socioeconomic criteria were made by respondents, including economic indicators (11 responses), population surveying (3 responses), the suggestion to measure air quality only in pedestrian areas (3 responses) and socioeconomic indicators (4 responses). Some of those who indicated that socioeconomic criteria would be an effective measure are concerned with the impact of LEZs on the economy, businesses and locals and using ideas such as population surveying would be a direct point of contact in order to measure the effectiveness of LEZs.

### **Health and wellbeing criteria**

Reasons relating to health and wellbeing included public health statistics (17 responses) and the suggestion to measure active travel levels (18 responses). Respondents suggested that by looking at

general health data to specific diseases, this could provide an understanding of the relationship between air pollution and health and would not only help measure the effectiveness of LEZs but would drive policy as well.

### **Issues with criteria**

A number of respondents also raised issues including the difficulty in measuring air quality/pollution levels (1 response) and the difficulty in measuring health statistics (3 responses). Respondents highlighted their lack of confidence in these forms of data being used to measure the effectiveness of LEZs and that it would be expensive, complicated and the data may be unsuitable.

### **Criteria relating to policy, standards and legislation**

Comments were made which related to policy, standards and legislation criteria, including, using EU standards (3 responses), uniform policy/methodology (1 response) and using legal criteria/obligations (1 response). Respondents raising these comments wanted a consistent approach and help to achieve targets.

### **Criteria relating to infrastructure and technology**

A number of respondents included comments on criteria relating to infrastructure and technology, such as utilising the latest technology (1 response), the suggestion to utilise existing measurement technology/sites (21 responses), retrofitting statistics (2 responses) and ULEV infrastructure utilisation (2 responses).

Those commenting around utilising existing measurement technology/sites, indicated that air pollution is already being measured in certain locations and these measurements could be used and built upon to measure the effectiveness of LEZs. For example:

*“Utilising the existing air quality monitoring network with review of monitoring locations in relation to any proposed LEZ area would be reasonable. In addition to stationary air quality monitoring stations and diffusion tubes, South Lanarkshire has some experience of deploying small air quality monitoring units which are portable. Although there has been initial teething problems with early adoption of such technology the data from the units is more detailed than diffusion tubes with real time data being accessible without the same challenges and costs that continuous monitors present. Note however that the data from these units are indicative at this stage only as equivalence testing is not available for this type of kit. Consideration of augmenting the present monitoring resources with portable equipment may be of value.” (South Lanarkshire Council, Organisation)*

In addition, the number of vehicles that have been retrofitted could also be another indicator of effectiveness as could ULEV infrastructure utilisation.

### **Other sources of data**

A number of other sources of data which could be used included the suggestion to utilise external scientific/data collection organisations (1 response), data derived from the modelling (5 responses) and telematics data (1 response).

### **Comments on LEZs and the way criteria is used**

Some respondents made a number of comments on LEZs and the way in which criteria should be used, such as fair enforcement (1 response), chronological data comparison (16 responses), approval of LEZs in general (1 response), publication/analysis of air quality/LEZ statistics (9 responses), the suggestion to measure at locations both internal and external to LEZs (8 responses), the suggestion to measure within LEZs (7 responses), opposition to LEZs (5 responses), objectives/monitoring dependent upon location (1 response), the suggestion to establish baseline data (10 responses), the suggestion to measure against LEZ objectives (3 responses) and the suggestion that criteria should adhere to those suggested in the consultation document (7 responses).

Respondents highlighted the need for data to be open and consistent in relation to publication and in terms of the suggestion to establish baseline data, reasons for this included that it would be a good way of tracing any changes in order to measure the effectiveness of LEZs and to track future monitoring against it. A number of respondents also indicated their approval or disapproval for LEZs and a number of other ways in which they felt criteria should be used.

### More work needed

Finally, 4 respondents highlighted that further research or discussion is required.

In summary, it is clear that there are numerous criteria that respondents believe should be used to assess and measure LEZ effectiveness, but out of all of them, environmental criteria is the most popular with measurements of air pollution and air quality being the most commonly suggested measures among respondents. There is evidently some overlap between criteria and many respondents suggested a number of different forms of criteria that could be used in conjunction with each other. This shows that many respondents are keen for the effectiveness of LEZs to be assessed and measured.

### 5.2.15 Q12: What information should the Scottish Government provide to vehicle owners before a LEZ is put in place, during a lead-in time and once LEZ enforcement starts?

As detailed in Table 5.15, a total of 171 respondents answered this question, with just over half of all respondents being individuals (55%).

Table 5.15: Split by Respondent Type

Respondent Type	Total answers
Individual	94 (55%)
Organisation	77 (45%)
<b>TOTAL</b>	<b>171 (100%)</b>

Respondents considered a range of information that the Scottish Government should provide to vehicle owners and how this should be presented.

### Method of how information channel should be used or presented

Respondents suggested ways of how different information channels should be used or presented. Suggestions including adoption of exemplar approaches e.g. TfL/other countries (4 responses), clear and helpful road signage (16 responses), communications campaign/strategy (24 responses), detailed, transparent information and clear communication (19 responses), hard copy information (10 responses), individual or face to face information (6 responses), information as early as possible (17 responses), information to get public on board (6 responses), information to vehicle owners (58 responses), maps and geographical information (18 responses), national information (9 responses), use what/why/where/how/which/when approach (4 responses), consultation and stakeholder engagement (4 responses) and soft launch to allow adjustment (7 responses).

It is clear that there are a wide range of suggestions, however the most prevalent were regarding information to vehicle owners, a suggestion of a communications campaign/strategy and detailed, transparent information and clear communication and maps and geographical information. Of those who commented on the need for information to vehicle owners, there was a wide range of what information should be given to them such as how they will be affected and how they can be compliant, timescales and levels of pollution.

A number of different types of vehicle owners were identified in responses, such as private and commercial vehicle owners. For example, some examples of responses were the following:

*“Vehicle owners need to have as much notice as possible and all information so they can judge the impact to them. During lead in should have people out selecting road users that will be impacted by a LEZ and explaining the consequence when it’s in place. We have smiley faces for speed can we have these for emissions!” (M. Costello, Individual)*

*“Private and commercial drivers need to know the impact the LEZ will have directly on them. They need to know the timescales for implementation as well as what choices they have. Once LEZ enforcement commences there needs to be clear communication in terms of exemptions, payment and also guidance to prevent recurrence.” (South Lanarkshire Council, Organisation)*

The second most popular suggestion under this theme was the suggestion for some form of communications campaign and strategy. Respondents highlighted that this would raise more awareness around LEZs which could communicate the aims and objectives of LEZs effectively. For example:

*“Early promo campaign to raise awareness and give notice i.e. Issue precise requirements so that they can comply with full knowledge of what is expected of them. A written letter for all and adequate public notices.” (Dana Blyth, Individual)*

*“A national communications package needs to be put in place now to raise awareness and allow for businesses and the public to make adequate preparations. Note that the London Ultra LEZ communications program is already in place. Direct communication to the vehicle owners confirming their vehicle’s applicability to an LEZ could be beneficial and enable them to plan ahead - as a minimum, a local or national website should be in place to enable simple checks to be made.” (Glasgow City Council, Organisation)*

Furthermore, respondents highlighted the need for detailed, transparent information and clear communication so that people will be aware of the introduction of LEZs and the implications. Additionally, a number suggested that maps and geographical information should be used so that those affected have knowledge of where the zones are located and the boundaries.

### **Digital communications and media information**

Some respondents suggested using the radio/tv or social media to convey information (26 responses) or a website or online tool (18 responses). Respondents indicating that this form of information would reach a wide range of people. For example:

*“Should be a public TV/Radio/Online campaign to inform drivers, at least 3 months before with a ramp up 4 weeks before and 4 weeks after.” (Paul Griffin, Individual)*

Of those who suggested the use of a website or online tool, this would be beneficial due to allowing drivers to check their vehicles and for adequate compliance e.g. ease of payments through a website.

One suggestion by a respondent is as follows:

*“Before an LEZ is introduced, a simple “check-your-vehicle” tool as in London is essential, so that owners can establish what options are available. This will also highlight taxation classes (such as historic) which should be exempt. The timescales for introduction need to be clearly set out, as should the likely availability of booking slots within the proposed centres. This will also provide a reality check for the Scottish Government that their proposals are feasible, and inform any need to extend the timescales at an early stage. On the ground, signage should be used to warn that a LEZ is coming, and give advice on a website to use to check the impact on owners. Nearer the time, TV and press advertising should be used. Consideration should also be given to ANPR signs which say “[Reg no} will/will not be compliant” as a vehicle passes, similar to those used in some supermarket car parks.” (Dr. Mike Mitchell, Individual)*

### **Economic information**

Some 17 respondents suggested the need for financial advice, information and funding. This related to those who raised concerns over the need for drivers to be informed of the costs involved, where the money raised will be go to and the provision of funding for vehicle owners. For example:

*“Lots of information making sure it’s widely known the ins and out, what are you doing, how much it costs etc.” (Christopher Droy, Individual)*

### **Environmental information**

Some 17 respondents highlighted the need for environmental information to be provided. This included suggestions for information on air quality and the amount of air pollution caused by vehicles, environmental impacts e.g. from vehicle use and awareness of the efforts to reduce such impacts.

### **Political and legislative information**

Some 10 respondents indicated that political and legislative information is needed, relating to details of the legislation in place, information to industry and local authorities from the Scottish Government through providing them with information and details of standards and exemptions relating to the governing processes and the EU.

### **Information about specifics and impacts of LEZs**

A number of suggestions were made about the types of specific information concerning LEZs and the resulting impacts. Suggestions included information on implementation and compliance, exemptions, fines, appeals and penalties (54 responses), information on local impact e.g. health, business, industry (22 responses), information on operation and fees (15 responses), information on reasons/targets/impacts or benefits (15 responses), information on retrofitting (6 responses), information on timescales (19 responses) and information on contacts for help and advice (4 responses).

Respondents were concerned regarding the specifics about which vehicles will be included or excluded, how to comply, why and how LEZs will be implemented and operate and many other suggestions. For example, one respondent stated:

*“Very clear information on the specifics of how the LEZ will operate such as pre-awareness raising events/leaflets, LEZ operating times, exact boundaries of LEZs (maps with postcode search facility), guidance on vehicle exemptions (web based search mechanism to inform compliance status of vehicle), clear advice on penalty/enforcement if a non-compliant vehicle enters an LEZ, information on any funding/retrofitting grants etc. that are available. Information should also be made available via the local authority website with links to national site. There is a need for consistent signage across all local authorities.” (Dundee City Council, Organisation)*

Respondents also suggested the need for information relating to timescales in order for people to be made aware and prepare for the implementation of LEZs and those relating to local impact such as upon health, business and industry included suggestions for information on how it will affect individuals and companies and the reasons for LEZs in relation to the impact of poor air quality on health for example. Others suggested the need to raise awareness of the positive impacts resulting from LEZs.

### **Support, Opposition or alternatives**

A number of respondents indicated their support or opposition in response to the question or suggested the need for information on other alternatives to be provided. Views under this grouping were issues or opposition (10 responses), no information needed (1 response), support for the proposal in Transport Scotland’s consultation paper (11 responses) and information on alternatives (26 responses).

Those with issues or opposition indicated their lack of confidence with the idea of LEZs and see it as a money-making scheme which shouldn’t go ahead. Others indicated their support for the proposals in

the Consultation Paper, whilst others commented on the need for information on alternatives such as what other forms of transport could be used, alternative fuel, alternative ways of accessing certain areas and others.

A further 2 respondents made no comment, 2 stated they had no view and 2 were not applicable to the question.

In summary, it is evident that there is a wide range of information respondents feel should be used to inform vehicle owners before a LEZ is put in place, with many commenting on the specific types of information and others on how this information should be conveyed.

### 5.2.16 Q13: What actions should local or central government consider in tandem with LEZs to address air pollution?

As detailed in Table 5.16, a total of 187 respondents answered this question, with over half of all respondents being individuals (56%).

Table 5.16: Split by Respondent Type

Respondent Type	Total answers
Individual	104 (56%)
Organisation	83 (44%)
<b>TOTAL</b>	<b>187 (100%)</b>

Of those considering this question, a range of actions were considered by respondents:

#### **Alternative or public transport and active travel measures**

Respondents suggested a variety of actions including active travel (48 responses), alternative transport solutions (17 responses), bus priority measures (22 responses), public transport measures (64 responses), encouraging sustainable travel (38 responses) and improved walking and cycling routes (26 responses). Public transport was the second most popular action cited by respondents. Their responses indicated that investment in public transport was needed. This would provide the public with access to more facilities and locations. Respondents also highlighted the need to reduce incentives for driving and to invest in public transport infrastructure in order to reduce emissions. Examples from respondents stated the following:

*“The improvement of cycle schemes, both cycle ways that are segregated and given priority and cycle storage facilities should be put in place. These should be obligatory steps. It should not hold up an LEZ proposal. There should also be provided a green bus scheme. This should extend to local community buses and not just scheduled and licensed bus operators.” (Michael Ellis, Individual)*

*“It is recognised that changing public perspectives on the use of public transport rather than private vehicles is a long-term challenge. Key to achieving this is the provision of low cost, efficient public transport, including in rural areas, and incentives to car-share. It is also important to remember that different parts of Scotland will have varying needs and constraints; the colder harsher weather experienced in northern areas will likely encourage people to use private cars, as will towns and cities with large rural populations surrounding them. Hence there is still a requirement for sufficient reasonably priced parking in cities with well-designed park and ride facilities.” (Cults, Bielside and Milltimber Community Council, Organisation)*

Similarly, responses about encouraging sustainable travel and active travel were often interlinked to comments about public transport, with respondents acknowledging that such incentives could reduce

car usage and forms of active travel could be promoted at public transport hubs. Respondents highlighted the need for investment in facilities for active travel such as walking and cycling facilities which would in turn be beneficial due to multiple reasons e.g. less emissions, positive impact on population etc. An example from a respondent is the following:

*“Introduce LEZs alongside measures enabling modal shift away from the private car to walking, cycling and public transport. Bus travel is declining in Scotland and reversing this will be key to reducing car use. Most trips by bus also involve walking so this is important in terms of active travel. There should be a concerted effort to enable more use of buses. Generally, make it easier for people to walk in their communities and make it harder to use a car in our urban areas. Urban Design Frameworks should favour the pedestrian rather than the car. Urban realm improvements should be aimed at reducing car use, not encouraging it. The Restricted Roads (20 mph Limit) (Scotland) Bill should be supported and enacted.” (Paths for All, Organisation)*

### **Transport and infrastructure measures**

Actions included traffic and vehicle measures (79 responses), parking measures (36 responses), freight measures (16 responses), accessibility (3 responses) and infrastructure (41 responses) and natural/clean energy and fuel measures (31 responses). Respondents gave a variety of suggestions such as the need for traffic control measures to improve traffic flow and measures to reduce the number of vehicles or to enable them to operate more efficiently. Other suggestions included the need for incentives and adequate infrastructure for vehicles. Some examples from respondents were:

*“Removal of physical speed control measures and improved traffic light sequences to maintain steady flow of traffic.” (Anonymous, Individual)*

*“Complementary measures should include infrastructure that also facilitates operation of large vehicles in city centres that allows them to operate at optimum efficiently – even outside the LEZs themselves. Such measures should aim to increase the average speeds of buses and reduce the time spent idling. Policy documents and guidance on the design of roads and streetscapes and should be updated to reflect this.” (Glasgow Vintage Vehicle Trust, Organisation)*

Responses regarding infrastructure included those commenting on the need for facilities and upgrading of buildings, public transport, road, pedestrian and cycling infrastructure. Other suggested the need for investment in technology to improve air pollution and suggestions as to how infrastructure should be changed or improved. For example:

*“More should be introduced to discourage private vehicles into the city and improve infrastructure for public transport. This could be in the form of incentives such as salary sacrifice schemes plus road network improvements and public transport information provision.” (West Coast Motors, Organisation)*

Other suggestions such as parking, freight and accessibility measures raised suggestions for changes to parking such as increased prices, and suggestions for less parking e.g. to remove incentives for parking in city centres. Regarding freight, some respondents see the role of freight as vital in contributing to addressing air pollution and in terms of accessibility suggestions included those relating to making city centres more accessible for pedestrians. The suggestion for natural or clean energy was highlighted by some respondents. This would promote more environmentally friendly forms of driving that would address air pollution and aim to restrict and reduce the amount of high polluting vehicles.

### **Environmental, health and wellbeing measures**

Suggestions included health measures (4 responses), safety measures (3 responses) and environmental measures (30 responses). Responses relating to environmental measures suggested the need to plant more trees and tackle emissions from motorways and industry. Comments on safety measures related to improving road layouts and more segregated cycle lanes. Health measures included the need to place LEZs in the wider context of addressing health threats.

### **Socioeconomic measures**

Suggestions of socioeconomic measures included economic measures (34 responses), equality measures (5 responses), flexible working (4 responses) and measures targeted at big business (1 response).

Examples of economic measures suggested by respondents included the need for the Government to consider and redirect sources of funding to address air pollution, financial support to achieve objectives, measures that encourage economic growth and subsidies, among others. Linked to this is the suggestion of the need for measures targeted at big businesses. Comments on equality measures included respondents who encouraged the use of measures that would provide equal opportunities for all, including vulnerable groups. Those who raised the idea of flexible working stated that this would reduce people's travel patterns and the volume of traffic.

### **Measures used in conjunction with other initiatives**

Actions included measures complementary to national initiatives (21 responses). These responses particularly addressed the part of the question which asks what actions local or central government should consider. Some believe that local authorities should consider measures but with the support of government, others stating they should complement one another and those indicating measures should be delivered alongside national initiatives by following national policies.

### **Support or opposition**

One respondent believed no measures should be considered due to not agreeing with LEZs, whilst 8 respondents agreed with the proposals outlined in the Transport Scotland Consultation paper.

### **Measures relating to implementation and policy**

Actions suggested included fines, charges or tax measures (17 responses), educational/behavioural measures (10 responses), joined up thinking and agreement (14 responses) and political, planning or legislative measures (24 responses). Comments related to these views raised suggestions of the ways in which LEZs are implemented and operated and the need for national and local government to work in partnership with one another. Other comments related to the specific standards and legislative procedures that should be used and comments on educational and behavioural measures suggested the need for educating the public about LEZs and encouraging measures which promote changes in people's behaviour.

A further 4 respondents stated that they had no view and a further 3 responses were not applicable to the question.

In summary, respondents believe a wide range of actions and measures should be considered in tandem with LEZs to address air pollution, of which measures targeted at traffic, vehicles and public transport are the most popular. This indicates that there are concerns with the ways in which people travel and the amount of car usage in relation to air pollution. Other popular suggestions include the need to consider active travel and infrastructure measures as well as economic and parking measures.

## **5.2.17 Q14: How can LEZs help to tackle climate change, by reducing CO2 emissions in tandem with air pollution emissions?**

As detailed in Table 5.17, a total of 156 respondents answered this question, with just over half of all respondents being individuals (52%).

Table 5.17: Split by Respondent Type

Respondent Type	Total answers
Individual	81 (52%)
Organisation	75 (48%)
<b>TOTAL</b>	<b>156 (100%)</b>

Respondents were asked for their views regarding how LEZs can help to tackle climate change, by reducing CO2 emissions in tandem with air pollution. Responses varied and have been summarised and categorised below:

### Support or opposition

Some respondents took the opportunity to state their views that LEZs cannot tackle climate change (14 responses), the view that LEZs are unlikely to tackle climate change (15 responses and opposition in general to LEZs (4 response). Some 7 respondents stated their support for LEZs.

Of those who indicated a lack of confidence that LEZs cannot or are unlikely to tackle climate change, respondents believed the issue of climate change is separate to air quality. They noted that LEZs are just one part of a much bigger issue and that other contributors to climate change are far bigger e.g. travel, power stations, shipping. Others indicated that implementing LEZs in Scotland alone would provide a minimal contribution to a global phenomenon and as such would be unlikely to tackle climate change. A number of respondents again indicated their opposition to LEZs.

However, a number of respondents specifically indicated their support and approval for LEZs, due to agreeing that it will help to tackle climate change.

Views as to how LEZs can tackle climate change focused on how they encouraged active travel (26 responses), encourage alternative transport use (17 responses) and encourage public transport (33 responses). Respondents saw LEZs helping climate change due to it being a way of reducing private vehicle usage and reducing overall numbers of vehicles which would in turn help to reduce CO2 emissions. For example, some respondents stated the following:

*“The introduction of LEZs will provide the opportunity for a further educational programme to persuade drivers to use public transport. Also, to educate drivers to switch off at all opportunities.” (Jack Hugh, Individual)*

*“LEZs can ensure a wider promotion of the use of wider transportation networks and resources and also encouraging and enabling people to switch to more sustainable travel modes e.g. public transport, active travel. They could help to reduce traffic levels in town and city roads by introducing measures to reduce the number of vehicle trips, remove the need to travel or increase the desire to use private vehicle transport all of which help to reduce emissions. Continue with long term funding support for low emission vehicles.” (Halfway Community Council, Organisation)*

Interlinked with public transport, reasons for suggesting encouragement of active travel and alternative transport were that this would also contribute to reducing emissions and would contribute to having fewer short trips in cars for drivers who do not travel a great distance often. Forms of alternative transport suggested by respondents included more sustainable forms of transport such as low emission and electric vehicles and other forms of public transport e.g. trains and buses.

### Measures targeted at vehicles and transport

Respondents saw LEZs as encouraging natural/clean energy and fuel (19 responses), by reducing traffic and congestion (24 responses), cleaner transport (13 responses), the suggestion of reducing private vehicles (4 responses) and speed limits (1 response). Respondents suggested that LEZs can help tackle

climate change through reducing traffic and congestion due to encouraging individuals to travel sustainably and reduce the volume of traffic thereby reducing emissions. Some respondents suggested this would be beneficial particularly in cities. Linked to this, traffic control measures such as addressing speed limits would be beneficial due to the view that 20 mph zones contribute to pollution.

Suggestions by respondents for cleaner transport gave reasons such as the promotion of more greener forms of transport will be vital in achieving Scotland’s climate change targets and will encourage zero or lower emissions. Encouraging the use of natural or clean energy and fuel will produce less CO<sub>2</sub> emissions. An example by a respondent summarises how measures targeted at vehicles and transport can help to tackle climate change:

*“Application of LEZs should lead to a general reduction of emissions, either by restricting the volume of traffic or encouraging the move to cleaner engines, thereby helping the overall climate change challenge.” (Peter Roberts, Individual)*

### **Infrastructure and technology**

Respondents suggested the need for improving infrastructure (6 responses) and retrofitting (3 responses). The reasons as to why these suggestions could help tackle climate change is due to investment in infrastructure encouraging active forms of travel, investment in infrastructure for public transport e.g. buses and investment in parking infrastructure needed so that carbon emissions can be reduced and adequate infrastructure as a tool to support this. Specific to retrofitting, respondents encouraged investment in order to address exhaust emissions and that retrofitted vehicles would be more eligible to enter low emission zones.

### **Economic and equality**

Comments related to the negative economic impact of LEZs (3 responses) and social inequality (1 response). These responses highlighted their concerns with LEZs, indicating that LEZs will impact low income groups. Furthermore, other reasons for the suggestion of a negative economic impact were that this would cause economic activity to be displaced and could impact upon industry.

### **Environment and health**

Respondents cited a number of reasons relating to environmental and health. Respondents believe that improved environmental conditions (32 responses) can help to tackle climate change through stricter emission standards, less air pollutants, environmental initiatives such as more greenery, reduction in CO<sub>2</sub> and greenhouse gas emissions and by LEZs targeting specific locations e.g. urban areas. Comments on health (7) highlighted the link between air pollution/emissions and health and indicated that LEZs will also be beneficial for tackling poor health. Other comments included the need for health to be considered as priority above climate change or that an integration of policy will help LEZs to tackle a number of issues, including health. For example:

*“It is clear that integrating climate change and air quality policies will lead to greater health, environmental and economic benefits. Euro standards apply stringent CO<sub>2</sub> limits as well as PM and NO<sub>2</sub> limits so LEZs that implement these standards should automatically reduce CO<sub>2</sub> emissions. LEZs also encourage vehicles that have low carbon emissions such as electric cars and bicycles and zero CO<sub>2</sub> vehicles such as bicycles with bicycles providing significant economic payback by improving health outcomes. However, note the need for 'e-mobility' rather than just 'EV' policy and actions, as in Q13 above. It is also important to note that the construction and maintenance costs of an e-bike/cargo-bike are far lower than for an EV, and this itself represents a major CO<sub>2</sub> and resources saving where applicable. Additionally, a significant proportion of particulate pollution from motor traffic comes from tyre and brake wear, and from road dust, factors which apply to EVs as much as to fossil vehicles. ANPR technology could also support congestion charging to reduce the number of vehicles in central areas and decrease CO<sub>2</sub> emissions.” (Spokes, Organisation)*

### Through the way LEZs are implemented and operated

Respondents also made a number of suggestions as to the way LEZs are implemented and operated in relation to how they can help tackle climate change. For example, the need for nationwide action rather than local (7 responses), the suggestion to enforce smokeless zones (1 response), LEZ enforcement penalties (1 response), government support (6 responses), comments relating to objectives and targets (5 responses), wider additional measures and strategy (17 responses) and road price charging and levies (7 responses).

The need for a national approach was due to the need for reducing emissions overall and not just in local areas. Commentary was made that climate change is a global issue and so action must be taken in response to this. Interlinked with this are comments on government support where respondents suggested that the government should provide support e.g. through information so that policies can aim at reducing pollution. Other forms of support included comments on the provision of cleaner forms of technology.

Those commenting on LEZ enforcement and road price charging/levies reasoned that charges should be reflective of emissions levels and that polluters should pay the cost of emissions and therefore there is a need for different forms of enforcement to tackle climate change. For example, one other specific suggestion was the need to enforce smokeless zones, due to the need to reduce CO2 emissions.

#### Data

Finally, 1 respondent highlighted the need for baseline monitoring in order to determine other sources of particulates that are harmful to human health. It is important to note that a further 5 responses stated that they had no view, 2 had no comment and 4 were not applicable to the question.

In summary, it is evident that respondents indicated that there are a range of ways in which LEZs can help to tackle climate change, with the encouragement of public transport use being the most popular suggestion, followed by improved environmental conditions and encouraging active travel and a reduction in traffic and congestion. The general pattern is that through encouraging people to reduce private vehicle usage, this will in turn increase public transport usage and active travel and contribute to lower emissions. However, it is also evident that some respondents were not confident that LEZs can help to tackle climate change and this needs to be taken into consideration.

### 5.2.18 Q15: What measures (including LEZs) would make a difference in addressing both road congestion and air pollution emissions at the same time?

As detailed in Table 5.18, a total of 170 respondents answered this question, with just over half of all respondents being individuals (56%).

Table 5.18: Split by Respondent Type

Respondent Type	Total answers
Individual	95 (56%)
Organisation	75 (44%)
<b>TOTAL</b>	<b>170 (100%)</b>

Respondents cited a range of measures in their comments which are summarised below.

### Traffic management and control measures

Suggestions could be categorised as; use of traffic calming (12 responses), changes in parking charging measures (17 responses), traffic management (45 responses), car sharing (4 responses), vehicle exclusions (14 responses), LEZ exemption (1 response), reduce private car usage (10 responses), and removing freight from the highway (5 responses).

Suggestions regarding traffic management included, the need to reduce traffic volume and improve flow, traffic control measures such as introducing speed limits, and adequate road infrastructure in order to reduce the numbers of vehicles and congestion. Some stated that this was particularly needed in cities. Reasons as to why traffic management measures would be most appropriate are due to respondents indicating that traffic is a large contributor to pollution, especially when stationary and in congestion. Furthermore, others view the current traffic situation as problematic and highlight the need for investment. Some of these responses go hand in hand with other suggestions such as the need to reduce private car usage in order to reduce congestion and pollution, an improved roadworks strategy to make traffic flow more effective and to remove freight from the highway.

Examples from respondents include:

*“Improving traffic flow through cities to reduce pollution is a given, however I would contest the stated benefits of reductions in speed limits - most city centre traffic moves at well below the statutory limit already due to congestion. What causes a lack of fuel efficiency is continuous start / stop traffic flow; basic physics states that maintaining a vehicle at steady speed uses vastly less energy (thus fuel, thus causes fewer emissions) than acceleration, especially from rest. Another factor overlooked is the particulate matter released from vehicle brake use, a combination of brake friction material (composite material) and brake disc (ferrous iron). Focusing on flow instead of speed of flow is the correct engineering solution.” (John Crouch, Individual)*

*“To deal with congestion one must have congestion charges in place like in London. To reduce emission there is a need to reduce the flow of traffic in certain areas of the city. Car sharing must be promoted and incentives given to people to participate in car sharing scheme.” (Hawkhead and Lochfield Community Council, Organisation)*

Furthermore, views were mixed with regards to the use of 20 mph speed limits.

*“Scotland has some of the most idiotic traffic management schemes - the 20MPH blanked stupidity in Edinburgh for instance, which can only WORSEN congestion and pollution - 24/7 bus lanes in Glasgow complete with 'entrapment' zones where people are FORCED down routes they CANNOT get out of without a fine!” (Anonymous, Individual)*

*“20 mph default speed limit in all towns and cities.” (Ed Hawkins, Individual)*

Those who commented on car sharing suggested the need for incentives for them which would reduce congestion and comments on traffic calming implications highlighted that traffic calming measures would reduce congested points on the road network and improve overall traffic flow.

### Public transport, alternative transport and active travel measures

Suggestions made by respondents relating to public transport, alternative transport and active travel were a disapproval of 24/7 bus lanes (1 response), public transport measures (81 responses), active travel measures (51 responses), motorcycle access (3 responses) and alternative travel guidance/information (2 responses).

Of all responses that were analysed, it is clear that public transport remains one of the key measures respondents' view as key to making a difference in addressing road congestion and air pollution emissions. Respondents highlighted the need for upgraded and inexpensive, affordable or free public transport and investment in public transport infrastructure. This is to encourage more people to use it in

order to reduce traffic from private vehicles, resulting in congestion and air pollution. Examples from respondents included the following:

*“A good, inexpensive, reliable, coordinated and attractive public transport system is essential. Deregulation of the buses has not, in my view, served our cities well, and has left much of the countryside with no bus service at all. Investment in trams could, I think, transform our cities for the better. We need to learn from best practice elsewhere, especially in Europe. The flexibility of the car can be a great asset, especially for longer-distance journeys where much luggage has to be carried, or where there is little or no public transport. However, park and ride facilities around the cities should be used wherever possible to discourage car use in town centres or areas of known congestion.” (Douglas Forbes, Individual)*

*“Measures to encourage uptake of active travel and/or public transport will reduce the number of vehicles on the road. This in turn will benefit both congestion and air pollution emissions. Investment in these more sustainable travel options should be in tandem with work on LEZs.” (South Lanarkshire Council, Organisation)*

Following the pattern emerging from previous questions, comments were made on the need for active travel to encourage people to use private vehicles less, and the need for the funding and investment in active travel infrastructure. They felt this would result in addressing problems of road congestion and air pollution.

Other responses made include a disapproval of 24/7 bus lanes due to the issues of traffic management and drivers getting trapped in such lanes. Another response was regarding ineffective public transport where a respondent raised concerns of the running of buses which aren't being used. Furthermore, comments on alternative travel guidance and information included those indicating that adequate information is need for those accessing certain areas.

### **Environmental measures**

Some 11 respondents suggested the need to decarbonise transport. Reasons for this included the importance of this contributing to reducing emissions, the need to move vehicles to producing less vehicles and running on other sources e.g. electric, the need for low carbon forms of public transport and incentives and the infrastructure for zero emission vehicles and the appropriate funding for this.

### **Infrastructure measures**

Some 36 respondents suggested the need for infrastructure improvements. Suggestions included the removal or upgrading of road infrastructure such as traffic lights and traffic control measures e.g. signage, improving infrastructure networks, improving infrastructure to support cleaner fuels, infrastructure for active travel such as walking and cycling paths and infrastructure for public transport. Reasons for this included the view that this would not only contribute to addressing road congestion and air pollution, but also improve the reliability of public transport.

### **Planning, policy and enforcement measures**

Reasons included strategic planning (10 responses), government intervention (6 responses), road price charging or levies (19 responses), regional, local or community involvement (6 responses), no idle laws (3 responses), baseline/data monitoring (3 responses), a nationwide strategy (1 response) and enforcement (2 responses).

Respondents indicated that more strategic planning of towns and cities would encourage people to change their travel behaviour, the idea that strategic planning would ensure that road network upgrades occur and that adequate planning will contribute to making a difference. Some respondents specifically addressed the need for government intervention or regional, local or community involvement in order for adequate standards to be implemented, for collaboration to occur and the suggestion that authorities are responsible for congestion management. One respondent stated that tackling road congestion and air pollution should be a nationwide strategy whilst others believed it would require the

responsibility of both central and local government, and others disagreed and stated it should be the responsibility of others e.g. Transport Scotland.

Comments on road price charging or levies indicated that measures such as charges and fines may encourage people to travel more sustainably and that a more radical intervention would make a difference. Other responses on enforcement and baseline data/monitoring indicated that policies need enforcing to achieve compliance and that enforceable restrictions could be used in conjunction with baseline monitoring.

### **Socioeconomic measures**

Themes included social inequality (2 responses), flexible working promotion (3 responses), market forces (1 response) and equality measures (1 responses). Flexible working would encourage less vehicles at peak hours. Responses on social inequality and equality measures highlighted the need for LEZs to be fair and equal and to consider the impact on low income earners and those at a disadvantage. Furthermore, the comment on market forces indicated that this should be used to make a difference as it would lead to changes in behaviour in regard to road usage.

### **Support or Opposition**

A number of respondents also indicated their approval or disapproval of LEZs. These included that LEZs are ineffective or disapproval of LEZs (4 responses), the suggestion that there is no solution to congestion (1 response) and LEZ approval (3 responses). Reasons for disapproval or approval are similar to those outlined in responses to previous questions including a lack of confidence in LEZs or approval due to them being an important contribution.

A further 2 responses stated that they had no view, 2 had no comment and a further 1 response was not applicable to the question.

In summary, respondents have suggested a range of measures that would make a difference in addressing both road congestion and air pollution, and following the pattern of responses to previous questions, it is evident that public transport is high on people's agenda. Similarly, the encouragement of active travel is also seen as a means of addressing road congestion and air pollution and traffic management measures are also popular to combat congestion.

## 5.2.19 Q16: Do you have any other comments that you would like to add on the Scottish Government's proposals for LEZs?

This question gave respondents the opportunity to provide additional comments on the LEZ proposals. As detailed in Table 5.19, a total of 149 respondents answered this question, with just over half of all respondents being individuals (52%).

*Table 5.19: Split by Respondent Type*

<b>Respondent Type</b>	<b>Total answers</b>
<b>Individual</b>	<b>78 (52%)</b>
<b>Organisation</b>	<b>71 (48%)</b>
<b>TOTAL</b>	<b>149(100%)</b>

The comments have been categorised as follows:

### Comments on socioeconomic factors

Respondents raised issues around a socioeconomic theme including, social inequality (10 responses), funding/investment (11 responses), behavioural change (4 responses) and economic impact (19 responses).

Economic impact was the most frequently raised issue by respondents with suggestions made including, concerns about the impact LEZs may have to different groups in society and both individuals and industry as well as comments relating to the cost and funding of LEZs. There were some responses which indicated a more positive attitude to LEZs and the need for careful consideration of economic impact whereas others indicated their worry at the costs involved. Some examples from respondents included the following:

*“Expect to have to pay for this. Bite the bullet and raise taxes (Council Tax included). It can not be done on the cheap. Include all pollution. Why has the Government not yet banned smoking in school grounds? Pollutants from smoking cause health problems to. Reconsider nuclear power. It is the least polluting of all. Give money for research into all kinds of power generation on a domestic scale. The solar panel on my roof reduces my heating bill by 25% annually. It was developed at Herriot Watt and heats water directly and feeds my central heating system. It does not generate electricity.” (Anonymous, Individual)*

*“As part of monitoring LEZs it would be useful if research could be undertaken on the economic impact of introducing a LEZ. For example, for a city centre LEZ, will it be seen as an impediment to accessing the city centre or will the placemaking benefits of improved air quality be seen as an attraction?” (Tactran, Organisation)*

Linked to this, responses about social inequality follow the general trend emerging from answers to previous questions, where concerns with social inequality are due to the impact on low income groups and suggestions that wealthier people will be able to afford the cost of LEZs, whereas lower income individuals will not and there is an issue of affordability if they have to replace their vehicles. Others suggested that LEZs should aim to reduce social disparities and inequalities related to other factors e.g. health.

Comments on funding and investment included those who made suggestions as to where money raised from LEZs should go to, where funding for LEZs should come from and who should be using them e.g. local authorities and the need for funding for certain groups in regard to LEZs e.g. public transport. Reasons for this are due to the potential burden that could be placed on transport operators if there wasn't any additional funding and the need for consistent funding so that LEZs can be implemented appropriately. Furthermore, comments on behavioural change included those who suggested that there is a need to changes how people travel and the relationship between individuals and traffic.

### Comments on public transport, alternative transport and active travel

Respondents suggested that there are opportunities for the encouragement of active travel and public transport and alternative means of transport through measures such as reducing the cost of public transport and reducing journey times and improving infrastructure. Respondents referencing this theme in their comments included active travel (5 responses), alternative modal solutions (4 responses), public transport (10 responses), motorcycle consideration (1 response) and reduce private car use (3 responses).

### Comments specific to implementation and operation of LEZs

A number of respondents made suggestions specific to LEZs and how they should be implemented and operated.

Suggestions included the need for rapid action (8 responses), the need to implement operational hours (1 response), scrappage scheme/compensation (3 responses), the suggestion that additional measures

are required (10 responses), LEZ performance monitoring/review (4 responses), implementation (14 responses), local authority partnership (3 responses), vehicle exclusion periods/zones (5 responses), taxation/levy (2 responses), enforcement (2 responses), penalising vehicle owners (1 response), the need to prevent urban overdevelopment (1 response), complexity (4 responses), amenity protection (1 response), governance structures (1 response) and local involvement (2 responses).

Comments on implementation were the second most popular category and respondents suggested there is a need to consider how LEZs are implemented and the resulting impacts, timescales and allowances and standards, how LEZs should be regulated and suggestions for what approach should be taken in order to achieve effective results. For example:

*“Think about the impact on the little people, not just the lobbyist, and the grand scheme designers.”  
(David Booth, Individual)*

*“Cost, to local authorities, local businesses and indeed local residents, is the primary barrier to measures that will improve air quality. However as natural fleet turnover removes older vehicles from use, costs of compliance with LEZs would fall rapidly in the years ahead. At the same time, however the point of regulations such as LEZs will reduce as the same fleet turnover will mean they are achieving less.”  
(Freight Transport Association, Organisation)*

Some respondents specifically stated the need to prevent urban overdevelopment whilst others suggested that additional measures are required, such as improved legislation and taking into account issues such as the need to improve road infrastructure. Those commenting on taxation and levies indicated suggestions for forms of taxes and charges that could be made. One respondent made a comment on amenity protection reasoning that there needs to be a focus on pedestrians and public transport in regard to the operation of LEZs.

Reasons for those commenting on how it should operate made different suggestions such as, the need for local involvement or governance structures and the need for rapid action. Reasons for those who wish for LEZs to be implemented sooner rather than later are due to the negative impact of air pollution and the correlation between air quality and poor health. Other concerns related to traffic and the need for improvements in infrastructure to encourage active travel. Furthermore, other suggestions made by respondents included the need for LEZ monitoring and review in order to focus on the causes of pollution, whilst other acknowledged problems with complexity due to not fully being able to understand the nature of what is being proposed for LEZs.

### **Comments on vehicles, traffic and infrastructure**

Reasons include improved traffic safety (1 response), traffic management (2 responses), infrastructure (4 responses), historic vehicle exemption (2 responses), alternative fuels (2 responses) and retrofitting (1 response).

Comments on infrastructure included the need for investment and improving cycling infrastructure and charging points for vehicles. The suggestions of alternative fuels indicated that cleaner forms of transport should be encouraged and those who commented on traffic safety and management indicated this is needed because of the necessity of improving traffic conditions such as traffic flow. Some commented on the need for historic vehicle exemption in order for them to be able to access certain locations e.g. city centres.

### **Support or opposition**

As per previous questions, a number of respondents answered the question by stating their support for LEZs (14 responses) or opposition to LEZs (11 responses). Support for LEZs was the third most popular theme cited by respondents who indicated their support for reasons including, the scheme is praiseworthy and should be adopted quickly, the positive impact of LEZs such as addressing problems of

health, traffic volume and safety, the need for LEZs due to them being essential and in order to promote more environmentally friendly places, among others. For example:

*“It is commendable to have this. The schemes should be developed to allow schemes to be adopted quickly and easily. All schools should be included for at least a pre-defined period (e.g. 8-9.30 and 3-4.30). It should extend for a ten-minute walking distance around schools. The health of our children is paramount. They are exposed to pollution day in day out. Even if the broad pollution levels are not that high, their faces are close to vehicle exhaust pipes - one car is bad for your health if your mouth is near its exhaust pipe. It is also important that children see behaviour change and are not led to fall into the behaviours of their parents. This should be included specifically.” (Michael Ellis, Individual)*

*“Supportive of the proposals in key hot spot areas across the country.” (Halfway Community Council, Individual)*

Those in opposition to LEZs followed the general trend emerging from previous questions, with respondents indicating their lack of confidence in the scheme with some stating they are ineffective, those not agreeing with the general idea, a lack of confidence in government and its policy and that money should be invested on other alternatives.

### More work needed

A further 7 respondents indicated that more research is required. This is due to respondents indicating the need for a further assessment of resulting impacts from LEZs, the need for an understanding of the practicalities and for full details to be understood. It is important to note that an additional 28 responses were classified as not applicable to the question where respondents did not have any other comments to make in response to the question.

In summary, it is clear that the range of additional comments made in response to this question are broad and diverse with an array of comments on the Scottish Government’s proposals for LEZs. The most frequent comment made was in relation to ‘economic impact’ and it is evident that there are concerns about the funding and the costs LEZs will involve and the resulting impact.

5.2.20 Q17: What impacts do you think LEZs may have on particular groups of people, with particular reference to the ‘protected characteristics’ listed in paragraph 5.2? Please be as specific as possible in your reasoning.

As detailed in Table 5.20, a total of 150 respondents answered this question, with just over half of all respondents being individuals (55%).

Table 5.20: Split by Respondent Type

Respondent Type	Total answers
Individual	82 (55%)
Organisation	68 (45%)
<b>TOTAL</b>	<b>150 (100%)</b>

### Suggestions of groups or individuals impacted

Firstly, a large number of respondents highlighted that there could be potential impacts to shift workers (2 responses), rural inhabitants (5 responses), low income individuals (23 responses), disabled individuals (21 responses), individuals within an LEZ (2 responses), elderly individuals (25 responses), young individuals (19 responses), ill individuals (4 responses), pregnant women (7 responses), women (1 response), care workers (1 response) and international visitors/residents (1 response).

Concerns with elderly individuals were most prevalent and this relates to the protected characteristic of age. For example, suggestions made included those stating that elderly individuals make up a large percentage of those who travel by public transport and so the cost of public transport would need to be considered, concerns of mobility and access for elderly individuals who may need their vehicles in order to access certain locations and the negative impact of air pollution upon the elderly. Examples from respondents included:

*“LEZ should improve health of all but could reduce mobility for older/disabled drivers who may not be able to afford to get into LEZ.” (Paul Griffin, Individual)*

*“Any LEZ which has imposes unaffordable costs onto bus operators will result in service cuts and fares increases. These will have their greatest impact on many of the groups identified as having “protected characteristics” – in particular the elderly, those with disabilities and those on low incomes. LEZ schemes must be designed to achieve their objectives in a way which does not harm or threaten the delivery of local bus services – in short, bus should be part of the solution, not the problem.” (FirstGroup Plc UK Bus Division, Organisation)*

Secondly, there were concerns with low income individuals due to issues of affordability and people on lower incomes not being able to afford to upgrade their vehicles or pay for the costs of LEZs. Other reasons highlighted that lower income groups are the worst affected by problems of air pollution. Other examples from respondents are the following:

*“It’s a tax on the poor. Obviously increase the financial burden placed upon people.” (Karl Alexander, Individual)*

*“There is a potential financial burden on the less affluent and those in transport poverty, associated with vehicle replacement or the potential public transport fare increases being required for improvements to the bus fleet. Disability access should be fully considered within the exemptions.” (Glasgow City Council, Organisation)*

The third most popular suggestion of who would be impacted were disabled individuals and this relates to the protected characteristic of disability. This is also highlighted in the comment above made by Glasgow City Council. Respondents suggested disabled individuals do not have a choice in how they travel and there are issues of mobility to be considered. Other respondents commented on the disproportionate amount of disabled people who are impacted by air pollution and problems related to health and the relationship between disability and access.

Other groups or individuals impacted as per the suggestions given included those commenting that shift and care workers will be impacted. Similarly, rural inhabitants may be affected due to not having adequate access to public transport. Young individuals were also said to be impacted due to similar issues raised such as travelling with young children, considerations about the health and safety of younger individuals and their susceptibility to problems resulting from air pollution. Furthermore, there were concerns with individuals with existing health issues and pregnant women. The concern raised with international visitors/residents is that there may be a communication barrier and as such the implementation of LEZs needs to take this into account.

### **Socioeconomic impacts**

Secondly, a number of respondents indicated that there could be socioeconomic impacts, including social inequality (11 responses), financial burden (8 responses), disability LEZ exemptions (18 responses), reduced government support for the vulnerable (1 response), economic impact (4 responses), business impact (2 responses) and business opportunity (1 response).

Comments on disability LEZ exemptions included those commenting on the impacts upon disabled individuals if they were not exempt suggesting that they might find difficulty in accessing alternative transport or that there would be a need to adapt transport to meet their needs. Other negative impacts

upon the disabled included those commenting on the impact from inadequate infrastructure such as uneven surfaces and not being able to travel in an easily accessible way. Other reasons for why disabled individuals should be exempt is due to the need to access city centres through using private vehicles or public transport.

Comments on social inequality highlighted issues raised such as the negative impact on low income or vulnerable groups and suggestions that provisions need to be made to consider all groups equally. Linked to this, some respondents suggested there could be financial burden placed on individuals and businesses. Respondents who raised comments on the economic and business impacts indicated that there may be a negative impact on industry, whilst others reinforced the importance of preserving the economic performance of certain areas. One respondent indicated that there may be some new business opportunities resulting from improvements in air quality and congestion.

Another socioeconomic impact was the suggestion of reduced government support for the vulnerable due to money being invested in LEZs and not directed to those who need it, impacting on those with protected characteristics.

### **Traffic and transport impacts**

Impacts related to traffic and transport included the suggestion that motorists are punished (2 responses) and public transport could be impacted (21 responses). Respondents raised concerns that motorists (who already pay the most) are ignored and the negative impact on private vehicle owners. Impacts relating to public transport included comments on price, access, restrictions on movement, affordability and reliability, fares and emissions and the need to encourage public transport as a means of travel. Reasons for concerns included those indicating that many people are reliant on public transport and so adequate provision needs to be made for them. Others were concerned with costs involved and cuts to services due to the financial impact on bus operators.

### **Health impacts**

20 respondents indicated that there would be health impacts from LEZs. Some indicated that LEZs could have positive impacts such as reducing health problems e.g. respiratory problems and improve air quality and protect public health for different groups e.g. children and the elderly. However, some respondents indicated that LEZs need to be implemented correctly in order for health benefits to be seen and that action needs to be taken to reduce health inequalities.

### **Extent of impacts and alternatives**

Furthermore, a number of respondents made alternative comments about impacts such as the idea that impacts are equally shared (32 responses), consideration of the local context (4 responses), LEZ exemption assessment (2 responses) and one response on the lack of alternatives (1 response).

Those commenting on the fact that impacts would be equally shared included the following:

*“Air pollution affects everyone equally, so the benefits will be for everyone.” (Anonymous, Individual)*

*“Given that the quality of air we breathe is essential for all groups in society, the terms of an LEZ should apply to all with no exemptions given on basis of “protected characteristics.” (East Lothian Council, Organisation)*

Reasons for this viewpoint were that air pollution affects all as indicated in the response above and so the resulting impacts will affect everyone, with many indicating these impacts could be positive. Other comments related to access with respondents indicating that LEZs should be accessible for all, with others stating that LEZs will make a difference and may be able to promote a more equal society.

Those commenting on the consideration of the local context commented on the need to understand impacts according to specific locations and zones in relationship to groups due to the diverse range of needs. Comments on LEZ exemption assessment suggested the need to consider exemptions for

protected characteristics as there may be potential for disadvantages and this needs to be considered in relation to how LEZs are implemented. Furthermore, the response commenting on a lack of alternatives highlighted the need to consider that disadvantaged groups may not have any other alternative and so could be impacted.

### Opposition

Finally, 2 respondents indicated their opposition to LEZs through this question.

It is important to note that a further 13 respondents provided no comment, 3 were not applicable to the question and 6 provided no view.

In summary, respondents indicated that multiple individuals or groups may be impacted, of which a number fall within those protected characteristics outlined in paragraph 5.2 of the consultation paper. Elderly individuals were considered to be most impacted and this correlates to the protected characteristic of age. Likewise, there was a high proportion of respondents who commented on the impacts on young individuals. Similarly, a high number of individuals commented on disabled individuals and the need for disability LEZ exemptions.

5.2.21 Q18: Do you think the LEZ proposals contained in this consultation are likely to increase or reduce the costs and burdens placed on any sector?  
Please be as specific as possible in your reasoning.

As detailed in Table 5.21, a total of 164 respondents answered this question, with some 58% of respondents being individuals.

Table 5.21: Split by Respondent Type

Respondent Type	Total answers
Individual	92 (56%)
Organisation	72 (44%)
<b>TOTAL</b>	<b>164 (100%)</b>

Analysis of this question has demonstrated that of those who provided a clear yes/no answer to the question (90 respondents) the majority (85 respondents) felt the proposals will increase the costs and burdens placed on any sector. Some 4 respondents considered the proposals to decrease the costs/burdens and one respondent considered the costs/burdens would be maintained.

Reasons given and analysis of other comments are:

#### Public transport/active travel

Reasons include increased public transport costs (32 responses), reduced public transport costs (4 responses), improved public transport provision (2 responses) and increased active travel and active travel investment (7 responses). Comments on increased public transport costs are the most popular view in response to this question with respondents indicating that there would be an increased burden on public transport/bus operators. It was suggested that costs would increase for those who travel on these services as well as maintenance costs for the operators. Some respondents indicated the need for adequate funding in order to meet the burdens placed on the public transport sector, with many mentioning bus operators will face increased costs. Examples from respondents stated the following:

*“I think it will increase costs, firstly our public transport sector will be hit very hard, they will likely pass costs on to the public, hurting everyone. Construction costs will increase as operators are mandated to upgrade fleets or not accept contracts within the city. Private transportation costs will be increased dramatically, with some businesses being forced out of the city, and others utilising the reduced competition.” (Zac Graham, Individual)*

*“Buses and coaches counterintuitively appear to be the primary target for LEZs. As such, bus and coach operators will be the first to face increased costs to meet the requirements of the LEZ proposals. Whilst there may be financial assistance provided, Euro VI vehicles are more expensive to operate and maintain. Similarly, vehicles which have exhaust abatement equipment fitted, incur a fuel consumption penalty that can reduce mpg by up to 5% (based on vehicles retrofitted in London, other vehicle types may incur a greater fuel consumption penalty), leading to increased costs for operators. With regards to coaches, as noted in Table 2, retrofitting technology is not currently available, so operators face vehicle replacement costs. As outlined earlier in this response, the actions that an operator can take if faced with LEZ vehicle standards and insufficient lead-in times (cutting services/increasing fares) lead to patronage loss and a spiral of decline. The burden and costs facing the bus and coach sectors threatens are undeniable. It is vital that local and national government recognise this and that it is reflected in LEZ guidance. Financial assistance and reasonable lead-in times are required to avoid damaging the public transport network. The timing of when restrictions are introduced for bus and coach operators is also of concern, if a phased approach was used to introduce restrictions across different vehicle types. For instance if there was a view that bus and coaches needed to be compliant by 2020, yet cars would not be included until 2023, such a time differential may distort the market place, and lead to undesirable outcomes in the short and medium term.” (StageCoach Group Plc, Organisation)*

Those who commented that there would be reduced public transport costs indicated that LEZs could be beneficial and provide better transport links, resulting in improved financial viability of buses and that new approaches could be developed to reduce public transport costs through adequate transport planning and ensuring support and change from certain sectors. Furthermore, comments on improved public transport provision indicated that restrictions on private vehicles could raise concerns and as such there is a need to consider this.

Comments on increased active travel and active travel investment focused on resulting impacts such as improvements to health through cycling and walking, LEZs as a means of facilitating active travel and the correlation between active travel and the impact on certain sectors e.g. positive impact on retail. Others indicated active travel would be economically beneficial due to improved health.

### **Comments relating to environment and health**

For this category, reasons include reduced healthcare costs (25 responses), reduced pollution costs (8 responses) and increased healthcare costs (1 response). Reduced healthcare costs was the third most popular reason and respondents indicated that the healthcare sector such as the NHS will benefit due to reduced costs associated with improved health and LEZs providing an overall benefit in terms of improving the public’s health. However, some respondents indicated that health may improve only in certain locations e.g. for those within the zones and as such the wider impacts need to be considered. Examples from respondents are as follows:

*“In the medium term, they will reduce the burden on the NHS by excessive road pollution.” (Anonymous, Individual)*

*“Improvements in air quality should lead to reductions in healthcare costs.” (BYD UK Ltd, Organisation)*

Comments on reduced pollution costs indicated that the public will not have to suffer from unpleasant environments and suffer the costs and that LEZs will allow certain locations to be more attractive destination. The respondent who commented on increased healthcare costs indicated that pollution will in fact be more of a problem rather than less.

### Comments relating to socioeconomic costs

These included increased business costs/impact (23 responses), wider economic impact (15 responses), increased public sector costs (12 responses), wider economic savings/growth (15 responses), social inequality (9 responses) and taxpayer impact (1 response).

Suggestions of increased business costs and impact included comments which were broader and related to general business as a whole, whereas others specifically commented that certain sectors would be burdened e.g. retail, small businesses, taxi sector etc. Those commenting on wider economic impact indicated that general costs will increase for individuals and families and that many will have to bear the burden of LEZs impacts. Moreover, those who stated there would be increased public sector costs indicated this is due to the cost of the set-up of LEZs e.g. infrastructure, impact for those who are seeking to be compliant and increased costs in relation to procurement and tendering. Furthermore, comments on social inequality again follow the pattern of responses from previous questions due to impacts such as the lack of affordability for lower income groups.

Respondents commenting on ‘wider economic savings/growth’ indicated LEZs may be beneficial economically through creating a greener, more productive economy and suggestions that it can be a scheme that encourages economic investment and improved local economies. The one comment made relating to taxpayer impact highlighted that costs involved of the set-up of LEZs should be the responsibility of taxpayers.

### Comments relating to transport and infrastructure

These comments included increased costs to the private motorist (14 responses), increased transport/haulage costs (25 responses), reduced vehicle maintenance costs (1 response), heritage vehicle impacts (3 responses) and increased construction costs/impact (3 responses).

Reasons given for increased private motorist costs were that LEZs would burden those who use private vehicles and consequently, they will be the ones most impacted. Comments on increased transport and haulage costs (the joint second most popular code) indicated that the transport sector would bear the burden of LEZs due to reasons such as an increase in costs, an increase in spending on the technology and infrastructure needed for vehicles and the maintenance and operation to name but a few. An example from a respondent is as follows:

*“There will be initial costs for the acquisition of compliant forms of transport, cars, vans, trucks, buses etc but there could be a reduction in maintenance and running costs for the simpler electric vehicles.” (Jack Hugh, Individual)*

The comment on reduced vehicle maintenance costs is indicated in the response above with the transition to more cleaner forms of vehicles. Other comments on heritage vehicle impacts included the impact on the heritage vehicle sector as it would impact on heritage vehicle events and the use of such cars to access certain locations. Comments on increased construction costs focused on the impact on the construction sector and problems with delays to infrastructure if certain vehicles were not able to transport good for example.

### Extent of impact and alternatives

Reasons relating to the extent of impact and alternatives were cross sector increases/impact (25 responses), increased government funding assistance (15 responses), minimal impact (8 responses), local context (2 responses), increased individual costs (3 responses) and progressive and positive outcome (1 response).

Many respondents indicated that more than one, or all sectors would be impacted and reasons for cross sector increases or impact included those suggesting that everyone will have to bear the burden of the cost of LEZs, suggestions that many sectors are not ready in terms of infrastructure and technology to support the transition, a lack of confidence in government and its policies and those suggesting that

whilst costs may increase, if LEZs are implemented adequately there may be savings and a reduction in risks in the future. An example from a respondent is as follows:

*“There is potential for an increase and/or decrease across all sectors. However, the development of a LEZ must have an accompanying built in robust process that should reduce some of this risk.”*  
(SWestrans, Organisation)

Comments on increased government funding assistance highlighted the need for government support in order to deliver LEZs appropriately in order for burdens not to be placed on certain groups. Furthermore, a number commented on increased individual costs due to the burden placed on individuals, whereas one respondent commented on the progressive and positive outcome that LEZs will encourage in the long term. Therefore, it is clear to see that there is a disparity of views regarding the extent of the impacts and some viewed LEZs as problematic whereas others acknowledged that they may be beneficial.

A further 8 respondents indicated that LEZs will have a minimal impact on different sectors and there is a need to consider both the short and long-term impacts LEZs will have. Reasons as to why some perceive there to be minimal impacts included those who indicated that polluters currently fail to pay for their pollution anyway and that some savings in some sectors may balance out with costs from others.

### More work needed

One respondent indicated that further research is required as it is currently difficult to state what impacts there will be without some form of further assessment.

It is important to note that a further 3 respondents provided no comment, 2 provided no view, 3 were not applicable to the question and 3 indicated that they were unable to answer the question.

In summary, it is clear that concerns in response to this question lie particularly with the increase in costs/burdens placed on public transport and its operators as well as cross sector increases and increased transport/haulage costs and increased business costs and impact. This follows the pattern from previous questions where public transport concerns and economic concerns lie at the forefront of many of the substantive responses views.

### 5.2.22 Q19: What impacts do you think LEZs may have on the privacy of individuals? Please be as specific as possible in your reasoning.

As detailed in Table 5.22, a total of 145 respondents answered this question, with over half of all respondents being individuals (59%). This indicates that less respondents answered this question in comparison to some of the previous questions.

Table 5.22: Split by Respondent Type

Respondent Type	Total answers
Individual	85 (59%)
Organisation	60 (41%)
<b>TOTAL</b>	<b>145 (100%)</b>

Some 27 respondents who answered this question stated that they had no comment to make. Of those who did make a comment, 53% of respondents (63) indicated that there was unlikely to be any impacts on privacy. For example, respondents stated:

*“No impact at all.” (John McMillan, Individual)*

*“We do not think LEZs will have an impact on the privacy of individuals.” (Community Transport Association, Organisation)*

Many respondents did not give reasons as to why they didn’t believe there would be any or little privacy impacts, but of those that did, respondents suggested that there would be no impact if people abide by the law, that privacy impacts are resultant from different factors such as phone data, suggestions that cameras and ANPR already exist so there would be no further impacts on privacy and that impacts on privacy would be unlikely if LEZs are implemented correctly. Furthermore, other reasons given included comments on the successes of LEZs in other locations and that there should be little impact on privacy if data which is collected is used correctly.

In contrast, 38 responses (32%) indicated that there may be potential privacy concerns. Examples from respondents included:

*“Obviously, it will lessen our privacy due to the ability to be tracked everywhere we go with the auto number plate recognition system.” (Ronald Plushkis, Individual)*

*“The potential use of Automatic Number Plate Cameras could impact upon the privacy of individuals within an LEZ but this can be overcome by adequate use of appropriate signage to ensure their use is covert.” (East Lothian Council, Organisation)*

Reasons for privacy concerns included a large proportion of the respondents highlighting concerns with automatic number plate recognition as indicated in the responses above. Other reasons included those raising issues with the monitoring of people’s routines and movements, the issue with data being collected and stored and the privacy and security of this data as well as issues with the Government intruding on people’s lives.

A further 2 responses indicated that LEZs would be a breach of people’s rights, due to restricting people’s freedom of movement and liberties.

The remaining themes developed are discussed below.

### **Societal benefit**

Some 8 respondents indicated there would be a societal benefit and reasons given were that LEZs will be beneficial for the good of the wider population, the need for them due to health concerns and that whilst some people may feel their privacy is being compromised, there is a need for recognition that some costs are part and parcel of being part of society.

### **Movement tracking**

Some 16 responses, or 10% of all codes developed were allocated the code ‘movement tracking’. Many of the responses raised concerns with their patterns of movement being monitored as well as the tracking of the movement of vehicles to different locations. Respondents indicated this would be a breach of privacy and are concerned with the resultant data from tracking.

### **Data protection and management**

Some 26 responses related to data protection and management. Respondents acknowledged that data collection resulting from ANPRs could impact on privacy but some indicated that through correct and transparent management impacts would be minimised. Others gave suggestions for the need to consider regular reviews of the data, whilst other respondents highlighted the need for compliance with data protection and privacy legislation.

### **Unavoidable measure**

Some 7 respondents indicated that the need for LEZs is unavoidable and that acceptance is needed, whilst some who although are concerned about privacy impacts, acknowledge it is inevitable and necessary in order to bring about benefits such as improved air quality.

### Assist vehicle registration enforcement, Measure for public vehicles only and Potential for unjust exemptions

One respondent suggested that it would provide other benefits such as tracking vehicles with no insurance. One suggestion made was that public transport vehicles should be the only ones included but did not give a reason as to why and a further respondent indicated the potential for unjust exemptions as some respondents who may be exempt may not want their circumstances to be shared.

In summary, more people agreed that there will be no privacy impacts, however it is clear that out of those who responded, there were 38 potential concerns with the privacy of individuals.

#### 5.2.23 Q20: Are there any likely impacts the proposals contained in this consultation may have upon the environment? Please be as specific as possible in your reasoning.

Part 1 of Question 20 was a closed question and as detailed in Table 5.23, 115 respondents agreed that there are likely to be impacts upon the environment, representing 89% of those who answered the question. Some 14 respondents (11%) did not agree. This indicates that the majority of respondents agree that the proposals contained in this consultation may have likely impacts upon the environment.

Of the 129 respondents who answered the question, 85 respondents (66%) were individuals and 44 respondents (34%) were organisations. Of those in agreement that there are likely to be impacts, 63% were individuals and 37% were organisations and of those not in agreement, 93% were individuals and 7% were organisations.

Table 5.23 Split by Respondent Type

	Yes	No	Total
<b>Individual</b>	<b>72 (63%)</b>	<b>13 (93%)</b>	<b>85 (66%)</b>
<b>Organisation</b>	<b>43 (37%)</b>	<b>1 (7%)</b>	<b>44 (34%)</b>
<b>TOTAL</b>	<b>115 (89%)</b>	<b>14 (11%)</b>	<b>129 (100%)</b>

Part 2 of the question allowed respondents to provide a reason for their view. A greater number of respondents answered part 2 (147 respondents) rather than part 1. Of these, the split between individuals and organisations is outlined in Table 5.24 below:

Table 5.24: Split by Respondent Type

Respondent Type	Total answers
<b>Individual</b>	<b>81 (55%)</b>
<b>Organisation</b>	<b>66 (45%)</b>
<b>TOTAL</b>	<b>147 (100%)</b>

Reasons given by respondents are summarised in the sections below.

#### Positive impact

The majority of respondents indicated that there would be positive impacts upon the environment. Reasons included air quality improvements (31 responses), reduced vehicle emissions/congestion (24 responses), wide environmental improvements (53 responses), increased public transport patronage (11 responses), cleaner buildings/public areas (5 responses), alternative environmental measures more

effective (3 responses), reduced fossil fuel usage (2 responses), reduced noise pollution (2 responses), increased active travel (10 responses), ecological improvements (6 responses) and quality of life improvements (8 responses).

Of these views, wider environmental improvements was the most popular impact suggested. Respondents indicated that the proposals contained in the consultation will be beneficial for the wider environment, will be good in locations where the LEZs are located, will be positive for different environments e.g. local environment, global environment, built environment etc and should have a positive impact if implemented correctly.

Some examples from respondents are:

*“If delivered successfully the overall impact on the environment would be expected to be overwhelmingly positive.” (Andrew Birchby, Individual)*

*“This will provide for a better environment and help tackle the global warming and climate change.” (Hawkhead and Lochfield Community Council, Organisation)*

The second most popular view under this grouping is air quality improvements. Reasons for why respondents indicated that air quality may be improved is due to factors such as the reduction in emissions, less fumes from vehicles and the introduction of newer vehicles. Examples from respondents include:

*“The removal of the noxious fumes from vehicles would bring great benefit to those of us who live and enjoy the facilities of our city. More people may be encouraged to come and enjoy those facilities in a pollution free atmosphere. It would also have a benefit in reducing the heart and respiratory problems created by pollution.” (Jack Hugh, Individual)*

*“There will be an improvement to the air quality and reduction of emission levels within the environment.” (Halfway Community Council, Organisation)*

The third most popular view relating to positive impacts was reduced vehicle emissions and congestion. Respondents highlighted that decreases in traffic would reduce the amount of emissions, as well as the encouragement of people to reduce their car usage or a switch to driving cleaner vehicles which would in turn reduce emissions. For example, respondents stated:

*“It would improve the city environments by reducing exhaust emissions and congestion. It would also in a smaller way reduce CO2 emissions by driving cleaner cars, although this has mainly already been achieved through improved engine design. It may encourage people to forgo cars altogether and to rely on public transport, which would reduce car usage congestion and pollution in general.” (George Horne, Individual)*

*“Carefully introducing LEZs should reduce emissions and make towns and cities cleaner and greener.” (West Coast Motors, Organisation)*

Other reasons under positive impacts included increased public transport patronage and active travel due to the modal shift from cars to the usage of public transport and forms of active travel, cleaner buildings and public areas due to the removal of polluting traffic and air pollutants and reduced noise pollution due to less traffic.

Reasons for ecological improvements were those indicating that cleaner air will result in positive benefits for ecosystems such as the reduction of acid rain and the benefits on plant and animal life and reasons for quality of life improvements were the benefits to health and creating more liveable areas.

### **Negative impact**

Some 61 responses indicated that there may be negative impacts upon the environment. Views included the suggestion of reduced vehicle life (8 responses), the production of excessive waste (7 responses),

displacement of vehicle emissions/congestion (36 responses), reduction in affordable public transport (2 responses), increased visual pollution (3 responses), worsened environmental conditions (2 responses), inhibit tourist attractions/spaces (1 response) and increased noise pollution (2 responses).

Of all these responses, the displacement of vehicle emissions and congestion was the most common and it was the second most popular code out of all those developed. Respondents indicated that traffic may re-route to different locations and thus this would displace both traffic and the resulting pollution from one place to another. Others suggested that additional infrastructure would be needed to deal with these diversions and that new problems could arise in other locations. Examples from respondents included:

*“Increase congestion by funnelling traffic elsewhere.” (Joseph Kerr, Individual)*

*“There may be an increase in pollution concentrations and road traffic noise in areas surrounding the LEZ as a result of vehicle displacement. LEZs may increase the demand for new Park & Ride facilities and the need for land release for these has potential to impact on environment.” (Dundee City Council, Organisation)*

Those who commented on reduced vehicle life viewed that the environmental impact of scrapping vehicles is significant and needs to be taken into consideration, as well as those commenting on the cost and construction of newer vehicles. Comments on the production of excessive waste also indicated the negative impact from waste created from the replacement or upgrading of vehicles. Furthermore, those who commented on increased visual pollution indicated this is due to road infrastructure and street furniture e.g. signage and cameras. Reasons for noise pollution were due to factors such as displaced traffic and parking.

Additionally, those commenting on worsened environmental conditions indicated that LEZs would increase CO<sub>2</sub> emissions and increased pollution and another response indicated that LEZs could stop people visiting certain locations.

### **No change or unforeseen impacts**

A further 10 respondents indicated that there would be no environmental change due to reasons such as a lack of confidence that anything will change as a result of LEZs, those stating that environmental changes are speculative and as such cannot comment at this stage and those who indicated that without other measures there would be no change. Some 6 respondents also noted “additional unforeseen impacts” and this included comments on the environmental costs of vehicle manufacturing, vehicle emission standards and fuel type and technology, the transition to cleaner vehicles and suggestions of other impacts that are not recognised yet which may arise.

### **Evidence and actions**

Views falling under this category were flawed LEZ evidence (3 responses), the need to mitigate climate change (8 responses), wider action required (10 responses) and the suggestion that ANPR can be discrete (1 response). Those who suggested that there is flawed LEZ evidence indicated that the evidence for impacts such as an improvement of air quality isn’t there, a lack of confidence with government policy and criteria for emissions. Comments on the need to mitigate climate change included those highlighting that LEZs could contribute to this e.g. through reducing CO<sub>2</sub> emissions and benefiting the climate agenda. Furthermore, responses which indicated that wider action is required suggested that partnerships are needed, the interlinking and complementation of LEZs in tandem with other measures and suggestions for other incentives such as electric vehicles.

One response also indicated that actions can be taken to minimise visual pollution e.g. through installing visually discrete ANPR cameras.

In summary, the general pattern is that the majority of respondents indicated that some impacts upon the environment are likely as a result of the introduction of LEZs, with the majority indicating that these may be positive.

Some anomalies in points raised by respondents included some of the suggestions of negative impacts such as the suggestion that LEZs may inhibit tourist attractions.

# Analysis of Responses – Campaign Responses

## 6.1 Overview

This chapter considers the consultation responses classified as Campaign and Campaign Plus. A Campaign response was defined as any response which contained repetitive text used by the Friends of the Earth Scotland Campaign. Campaign Plus responses were defined as those which included the Friends of the Earth Scotland text in their responses but chose to expand upon their answers to include some of their own views.

For each of the consultation questions posed, the Campaign text is provided along with the numbers who responded. In addition, any Campaign Plus comments are considered separately. All Campaign and Campaign Plus responses were classified as individual respondents.

## 6.2 Responses by question

### 6.2.1 Q1: Do you support the principle of LEZs to help improve Scottish air quality?

The Campaign text indicating support for the principle of LEZs was submitted by 732 respondents and read:

*“I fully support the principle of LEZs to improve Scotland’s air quality, particularly in cities, as long as the LEZs introduced are bold and ambitious enough to secure a long-lasting legacy of clean air in cities as quickly as possible. To be effective, the area of Low Emission Zones should cover the entirety of designated air quality management areas in city centres. They should impose enforceable emissions restrictions on all types of vehicles, starting with buses, vans, and lorries by the end of 2018 for the first zone, with cars and taxis to be introduced shortly after. For subsequent zones, emissions requirements should be introduced for buses, vans and lorries by 2020, and for cars and taxis shortly after. Fines should be set at level which is high enough to ensure that drivers are more likely to comply with the zone requirements than to pay the fine and enter the zone.*”

*Air pollution in Scotland is breaking European legal limits and Scottish standards in many parts of the country and this is causing early death and harming health in Scotland. Children, the elderly, people with pre-existing health conditions, and people living in poverty are disproportionately impacted by pollution and so this ongoing health crisis is worsening inequalities.”*

#### **Campaign Plus**

Ten Campaign Plus responses were received. Four of the comments provided related to the provision of alternatives to the car as without improving the alternatives people would have little incentive to travel in a different way and LEZs would not have the impact required. Two respondents highlighted the importance of walking and cycling infrastructure improvements and two highlighted the need for affordable and integrated public transport. A reference was made to Glasgow and the need for an Oyster card system to allow access to the bus, subway and train. One respondent was of the view that urgent action was required to reduce emissions from the bus and taxi fleet. Another respondent disagreed with that view in part saying:

*“Lothian Buses are to be commended on their efforts in this area.” (Anonymous)*

There was recognition from one respondent that while they supported the principles of LEZs they understood that the process would be costly and cause problems for the transport industry. They noted the importance of the Government putting workable LEZs in place in order to mitigate this.

### 6.2.2 Q2: Do you agree that the primary objective of LEZs should be to support the achievement of Scottish Air Quality Objectives? If not, why not?

The Campaign text was submitted by 731 respondents (with one further respondent stating “yes” in part 1 of the question but not submitting the Campaign text) and read:

*“Low Emission Zones should not only secure compliance with both European and Scottish air quality safety standards for all pollutants, but should go beyond these standards and achieve the cleanest air possible. This is because there is no safe level of exposure to certain pollutants including particulate matter.”*

#### **Campaign Plus**

Some 8 Campaign Plus responses were received but no additional comments were made over the standard Campaign text.

### 6.2.3 Q3a: Do you agree with the proposed minimum mandatory Euro emission criteria for Scottish LEZs?

Campaign respondents did not provide a response to this question.

#### **Campaign Plus**

Two Campaign Plus responses were received which agreed with the proposals that were set out in the consultation document.

### 6.2.4 Q3b: Do you agree with the proposal to use the NMF modelling in tandem with the NLEF appraisal to identify the vehicle types for inclusion within a LEZ?

Campaign respondents did not provide a response to this question.

#### **Campaign Plus**

Two Campaign Plus responses were received. The individuals differed in their opinions with one agreeing that these should be used as they were the existing frameworks designed for this purpose. The other respondent commented that the RDE test for Euro 6 diesels should be applied as current evidence shows there is a gap between lab and on the road results for harmful emissions.

### 6.2.5 Q3c: Should emission sources from construction machinery and/or large or small van refrigerated units be included in the LEZ scope, and if so should their inclusion be immediate or after a period of time?

Campaign respondents did not provide a response to this question.

#### **Campaign Plus**

Two Campaign Plus responses were received. One respondent considered construction machinery and refrigerated units should be included in the LEZ scope after a period of time. Their reasoning was that this would allow research into how much emissions from these sources contributed to air quality

problems. The other respondent noted that these units can cause substantial local exceedances and therefore should be considered.

#### 6.2.6 Q4: What are your views on adopting a national road access restriction scheme for LEZs across different classes of vehicles?

Campaign respondents did not provide a response to this question.

##### **Campaign Plus**

Two Campaign Plus responses were received. One respondent commented that while a national restriction scheme for particular classes of vehicles is a good idea in principle, they fear it would not be workable without changes in infrastructure, delivery methods and commercial vehicles. They noted an excellent example of reducing large vehicles in urban areas is in the distribution sector where large vehicles deliver parcels to sorting offices, then light vehicles undertake the local distribution. The second respondent stated there should be no allowances for buses and coaches which travel substantial distances outside of the LEZ. They believed what was important was what they produce within the zone and stated these are some of the most substantial sources of pollution. Otherwise, the penalties could be graded to reduce congestion.

#### 6.2.7 Q5: What are your views on the proposed LEZ hours of operation, in particular whether local authorities should be able to decide on LEZ hours of operation for their own LEZs?

The Campaign text was submitted by 730 respondents and read:

*“Low Emission Zones should operate 24 hours/day.”*

##### **Campaign Plus**

Eight Campaign Plus responses were received of which 6 responded with the standard Campaign text. The additional points raised highlighted a difference of opinion between respondents with one individual stating:

*“Inconsistency would be confusing and lead to resentment.” (Anonymous)*

The other respondent did not think a 24 hour/day rule would be necessary and factors such as the busiest roads and the busiest times of day should be considered.

#### 6.2.8 Q6: What are your views on Automatic Number Plate Recognition enforcement of LEZs?

The Campaign text was submitted by 729 respondents and read:

*“Low Emission Zones should be properly enforced, using automatic number plate recognition technology. The Government should enable LEZ offences to be enforced by council wardens.”*

##### **Campaign Plus**

Seven Campaign Plus responses were received with 6 of these reproducing the standard Campaign text. The additional respondent noted that automatic number plate recognition seemed feasible but that there may be opposition to additional CCTV. They noted that a better method of enforcement would be the fitting of GPS Tracking systems to some types of commercial vehicles, to ensure the tracking of their location at different times of day and thereby verify whether they were in an LEZ when it is in operation.

### 6.2.9 Q7a: What exemptions should be applied to allow LEZ to operate robustly?

The Campaign text was submitted by 731 respondents and read:

*“Emergency vehicles should be exempt from having to comply with LEZs. Vehicles that have a disabled or disabled passenger vehicle tax class, and residents with vehicles who live in LEZs should be granted a three-year sunset period to comply with standards.”*

#### **Campaign Plus**

Eight Campaign Plus responses were received with 5 reproducing the standard Campaign text. One respondent noted that while the current proposals appear reasonable, they should be able to be revised if they are being exploited. Another noted that it was likely there would need to be negotiation with buses and other transport services like patient transport vehicles.

### 6.2.10 Q7b: Should exemptions be consistent across all Scottish local authorities?

Campaign respondents did not provide a response to this question.

#### **Campaign Plus**

Two Campaign Plus responses were received which agreed that exemptions should be consistent across all Scottish local authorities.

### 6.2.11 Q8: What are your views on LEZ lead-in times and sunset periods for vehicle types shown in Table 2?

The Campaign text was submitted by 731 respondents and read:

*“Emergency vehicles should be exempt from having to comply with LEZs. Vehicles that have a disabled or disabled passenger vehicle tax class, and residents with vehicles who live in LEZs should be granted a three-year sunset period to comply with standards.”*

#### **Campaign Plus**

Eight Campaign Plus responses were received of which 6 reproduced the standard Campaign text. The additional points made did not suggest lead-in times and sunset periods but stated electric vehicles should be encouraged, and that councils should be supported with Government funding during the set-up of LEZs, in order to install the required infrastructure.

### 6.2.12 Q9: What are your views about retrofitting technology and an Engine Retrofitting Centre to upgrade commercial vehicles to cleaner engines, in order to meet the minimum mandatory Euro emission criteria for Scottish LEZs?

The Campaign text was submitted by 731 respondents and read:

*“Local Councils should be supported with Government funding to install the infrastructure required to set up LEZs. The Scottish Government should prioritise the Green Bus Fund for bus companies operating fleets within the LEZ areas, as well as increasing the size of the Fund and modifying it to enable operators to apply for retrofit grants.”*

#### **Campaign Plus**

Seven Campaign Plus responses were received of which 4 reproduced the standard Campaign text. One respondent agreed that if retrofitting were viable it should be done, while another disagreed feeling

retrofitting appears to be generally inadequate. They noted that little is known about the performance of this process in practice with the references given in the consultation document merely press releases.

The other respondent highlighted it was not just about retrofitting, but there should be increased spending on public transport infrastructure and active travel infrastructure to ensure those motivated by the LEZ to change their behaviour actually have the capacity to do so.

### 6.2.13 Q10: How can the Scottish Government best target any funding to support LEZ implementation?

The Campaign text was submitted by 730 respondents and read:

*“Local Councils should be supported with Government funding to install the infrastructure required to set up LEZs. The Scottish Government should prioritise the Green Bus Fund for bus companies operating fleets within the LEZ areas, as well as increasing the size of the Fund and modifying it to enable operators to apply for retrofit grants.”*

#### **Campaign Plus**

Seven Campaign Plus responses were received of which 4 reproduced the standard Campaign text. The two respondents providing additional comments both noted the importance of enabling modal shift towards active travel and public transport to support LEZ implementation and tackle road congestion simultaneously.

### 6.2.14 Q11: What criteria should the Scottish Government use to measure and assess LEZ effectiveness? Please be as specific as possible in your reasoning.

Campaign respondents did not provide a response to this question.

#### **Campaign Plus**

Two Campaign Plus responses were received. One respondent believed a uniform policy in Scotland was required to measure air quality, and the measurements should be published as this does not currently happen in some areas. The other respondent noted that more use should be made of mobile, time-weighted sampling as current methods depend on fixed sampling points and calculation of road side air pollution levels.

### 6.2.15 Q12: What information should the Scottish Government provide to vehicle owners before a LEZ is put in place, during a lead-in time and once LEZ enforcement starts? Please be as specific as possible in your reasoning.

Campaign respondents did not provide a response to this question.

#### **Campaign Plus**

Two Campaign Plus responses were received. One respondent noted that all information was necessary and should be provided by the Scottish Government in good time. This would include, location, hours of operation and penalties in place. The other respondent also noted that information on other modes of travel would be vital and should be provided.

### 6.2.16 Q13: What actions should local or central government consider in tandem with LEZs to address air pollution?

The Campaign text was submitted by 727 respondents and read:

*“To maximise their effectiveness, LEZs should be introduced alongside other measures to encourage a shift to cycling, walking and public transport.”*

#### **Campaign Plus**

Seven Campaign Plus responses were received of which 5 reproduced the standard Campaign text. The 2 respondents providing further comments noted the importance of facilitating behavioural change and active travel. One noted that behavioural change on scale is only ever effective when the desired behaviour is made easy for people to adopt.

### 6.2.17 Q14: How can LEZs help to tackle climate change, by reducing CO2 emissions in tandem with air pollution emissions? Please be as specific as possible in your reasoning.

Campaign respondents did not provide a standard response to this question.

#### **Campaign Plus**

Seven Campaign Plus responses were received in answer to this question. One respondent felt that LEZs had to help tackle climate change as part of a package of wider measures (which they did not specify). Another noted that efforts should be made to stop the removal of diesel particulate filters from diesel cars in the current fleet to improve emissions. On the theme of vehicles, a further respondent went on to say LEZs would help by encouraging a shift to electric vehicles. Views were provided on public transport with a respondent feeling it would be difficult to get people to give up their car or change mode to support the LEZ in tackling climate change unless, integrated, convenient & cheap public transport was in place.

Particular comments were made in relation to Glasgow where respondents felt old polluting and noisy double decker buses should be banned from residential streets and the city centre. A range of suggestions to improve transport such as introducing electric shuttle buses was provided.

Two respondents also noted interventions outside the transport sector which could help support LEZs in tackling climate change. Their views were that monitoring existing air quality from industrial processes, power stations, incinerators and harbours should also be undertaken. While planting air cleansing trees such as leylandii would also support LEZs, along with other measures such as planting water purifying plants near waterways to ensure clean water, and flat roofs could be used to plant air purifying plants in tower blocks.

### 6.2.18 Q15: What measures (including LEZs) would make a difference in addressing both road congestion and air pollution emissions at the same time? Please be as specific as possible in your reasoning.

Campaign respondents did not provide a response to this question.

#### **Campaign Plus**

Two Campaign Plus responses were received with the respondents broadly in agreement that improvements to other modes including public transport and cycling were required along with reducing motor vehicle use. One respondent suggested a parking tax be introduced in congested areas with the

other commenting that improvements to traffic management could make a difference to congestion and air pollution.

#### 6.2.19 Q16: Do you have any other comments that you would like to add on the Scottish Government’s proposals for LEZs?

Campaign respondents did not provide a response to this question.

##### **Campaign Plus**

Just 1 Campaign Plus response was received noting that Scotland was leading the way in this area with the respondent hopeful that England would follow the lead of the Scottish Government.

#### 6.2.20 Q17: What impacts do you think LEZs may have on particular groups of people, with particular reference to the ‘protected characteristics’ listed in paragraph 5.2?

Campaign respondents did not provide a response to this question.

##### **Campaign Plus**

Two Campaign Plus responses were received with the respondents’ views differing. One did not feel there would be any impact on protected groups as a result of LEZs. Another respondent provided more detail and observed that the biggest impact would likely be on poorer people, who aren't "protected". They noted that this could be mitigated with frequent, reliable and inexpensive public transport. They also considered people living close to busy roads as a group that could be positively impacted by LEZs. It was noted they generally have poorer health and reducing pollution will improve their health.

#### 6.2.21 Q18: Do you think the LEZ proposals contained in this consultation are likely to increase or reduce the costs and burdens placed on any sector?

Campaign respondents did not provide a response to this question.

##### **Campaign Plus**

One Campaign Plus response was received. The respondent noted that improved health as a result of LEZs would reduce health care costs. They stated that this would be particularly likely in children whose lung capacity and mental health are affected by pollution from traffic.

#### 6.2.22 Q19: What impacts do you think LEZs may have on the privacy of individuals?

Campaign respondents did not provide a response to this question.

##### **Campaign Plus**

One Campaign Plus response was received. The respondent noted that while number plate recognition could impact on the privacy of individuals, this would only be a concern to those seeking to conceal their activities.

#### 6.2.23 Q20: Are there any likely impacts the proposals contained in this consultation may have upon the environment?

Campaign respondents did not provide a response to this question.

### **Campaign Plus**

Two Campaign Plus responses were received with one respondent stating that in the long term there should be a positive impact on the environment. The other respondent highlighted that the proposals should encourage improved road layout and reduced congestion.

