

**REPORT TO: COMMUNITY SAFETY & PUBLIC PROTECTION COMMITTEE –
13 NOVEMBER 2017**

**REPORT ON: TRANSPORT SCOTLAND - BUILDING SCOTLAND'S LOW EMISSION
ZONES - A CONSULTATION**

**REPORT BY: EXECUTIVE DIRECTOR OF NEIGHBOURHOOD SERVICES AND
EXECUTIVE DIRECTOR OF CITY DEVELOPMENT**

REPORT NO: 353-2017

1 PURPOSE OF REPORT

1.1 To seek Committee's approval for the Council's proposed response to the Transport Scotland consultation entitled Building Scotland's Low Emission Zones.

2 RECOMMENDATION

2.1 It is recommended that Committee approves the attached response and remits the Executive Director of Neighbourhood Services to submit this to the Scottish Government accordingly.

3 FINANCIAL IMPLICATIONS

3.1 There are no financial implications arising from this report.

4 MAIN TEXT

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

- a nationally consistent approach to the appraisal, design and implementation of Low Emission Zones (LEZs) through the application of a National Low Emission Framework (NLEF) in conjunction with a National Modelling Framework (NMF); and
- significant progress towards the revocation of all Air Quality Management Areas' by 2020. Scottish Government consider that LEZs have a clear role to play in this commitment.

4.2 The Scottish Government's Programme for Government 2017 states that, "in partnership with local authorities, we will:

- introduce Low Emission Zones (LEZ) into Scotland's four biggest cities between 2018 and 2020, and into all other Air Quality Management Areas (AQMAs) 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, creating new jobs and with the goal of winning business from outside Scotland".

In addition, the draft Climate Change Plan has also stated that the 'Scottish Government will evaluate the scope for urban wide LEZs with a specific focus on CO₂ emissions, as well as air pollution.

4.3 The consultation on Building Scotland's Low Emission Zones seeks opinions on what issues are considered essential to deliver a national approach that ensures robust implementation of

LEZs. There has been significant scrutiny of LEZs and air quality in recent years. The consultation provides an opportunity for stakeholders to offer their views on Scottish Government proposals on key aspects of establishing LEZs in Scotland.

- 4.4 After the consultation is closed, all responses will be analysed and used to 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 focuses on the proposals for LEZs to improve air quality; however it is believed LEZs should also act as a means to improve road network operations and tackle congestion (in tandem with other transport policies), support modal shift to active travel and public transport, support climate change mitigation and support placemaking to improve town and city spaces. The consultation paper sets out the proposed arrangements and options to deliver consistent, well-designed and managed LEZs in 2018 and beyond:

Chapter 3 sets the scene for LEZs and outlines the scope of this consultation, before seeking views on the overall principle of LEZs as an effective air quality mitigation approach.

Chapter 4 outlines the proposed guiding principles for Scottish LEZs and seeks views on a selection of issues such as Euro emission criteria, LEZ hours of operation, enforcement, lead-in times and exemptions.

Chapter 5 seeks views on measures that local or central government should consider in conjunction with LEZs to address the hotspots of air pollution in our towns and cities. Views are also sought on the interrelationship between air quality, congestion and sustainable transport.

- 4.5 The Scottish Government invited responses to the consultation by the 28th November. Appendix 1 sets out the proposed responses to the consultation questions posed. Frequently Asked Questions about LEZs, produced by Transport Scotland is attached at Appendix 2.

5 POLICY IMPLICATIONS

This report has been subject to an assessment of any impacts on Equality & Diversity, Fairness & Poverty, Environment and Corporate Risk. A copy of the Impact Assessment is available on the Council's website at www.dundee.gov.uk/ia/reports.

6 CONSULTATIONS

- 6.1 The Council's Management Team were consulted in the preparation of this report and agree with the content.

7 BACKGROUND PAPERS

- 7.1 None.

Elaine Zwirlein
Executive Director of Neighbourhood Services

Mike Galloway
Executive Director of City Development

20th October 2017

Transport Scotland
Building Scotland's Low Emission Zones
A Consultation Questions

Number	Consultation Question
1	Do you support the principle of LEZs to help improve Scottish air quality? Please be as specific as possible in your reasoning.
	<p>Dundee City Council is supportive of the general principle of LEZs and is committed to continuing to work with the Scottish Government and its partner organisations to deliver “Cleaner Air for Scotland: The Road to a Healthier Future” (CAFS), aim of improving Scotland’s air quality to be the best in Europe. It is noted that Local Authorities will be a key stakeholder in the delivery of the necessary air quality improvements.</p> <p>We are committed to continuing with the collaborative approach that is being taken across the four main cities and it is acknowledged that more radical solutions are required than have been achieved so far through the implementation of the Local Air Quality Management process. We welcome the introduction of the National Modelling Framework(NMF) & National Low Emission Framework(NLEF) that is providing a consistent approach for the appraisal design and implementation of the wide range of NLEF improvement options including LEZs.</p> <p>As the NMF Modelling outputs will not be available for Dundee until early in 2018, the package of interventions recommended for Dundee will not be known until the NMF/NLEF processes are completed. Therefore it is premature to give a definitive commitment to introducing a LEZ at this stage, although we are supportive of the principle. Our comments are therefore more general in nature and relate to the challenging timescales, funding(see response to Q10), future proofing and external stakeholder involvement.</p> <p>Achieving the Programme for Government’s deadline for the first LEZ by 2018 will be extremely challenging, as will be the 2020 deadline for remaining three cities. Reasons for this include:</p> <ul style="list-style-type: none"> • Progress in the development of the main actions for the implementation of CAFS has been slow due to resourcing issues across the partner agencies involved, for instance the NLEF Guidance should have been in place by 2016. • The LEZs will be introduced by means of Traffic Regulation Orders or Traffic Regulation Conditions. The TRO approach has been used to pedestrianise large parts of Dundee city centre. In our experience a TRO can take up to a year to deliver. It is likely that TROs for an LEZ would not be universally welcomed and may require negotiation with various stakeholders. • TRCs are granted by the Traffic Commissioner and take time to deliver as they require the collection of substantial evidence and there is the potential for appeals which would extend the implementation and cost of the process; • Policy development will need to take account of the political and enforcement processes for implementing an LEZ. Firstly political approval will be needed to create the LEZ. Secondly, if TROs are to be used for enforcement, then implementation may be delayed until the new primary legislation to decriminalise offences is in place. <p>LEZs should not be progressed in isolation and it is therefore critical that the National Transport Strategy and National Planning Framework are aligned with CAFS. Economic growth needs to be delivered in a sustainable, strategic way and with sufficient infrastructure to support development. In addition, the level of integration which the National Low Emissions Framework should have in establishing Low Emission Zones in the context of other government objectives and strategies such as the Town Centre First principle and other issues covered in Scottish Planning Policy should be clearly stated.</p>

	<p>A holistic approach needs to be taken to address and achieve the wider outcomes, such as those for 'Placemaking', and there should be no unintended consequences or stressors.</p> <p>For example, Dundee is heavily reliant on public transport. Buses continue to form a vital element in the city's accessibility for work, education and commerce. In fact only Glasgow has a higher proportion of households without access to a car (44.8% for Dundee). Consequently, Dundee has maintained high levels of bus usage. Dundee city centre is also a major destination and interchange location for multiple bus services. Any NLEF improvement option (including an LEZ) would have to ensure it did not impact on the availability or reliability of these services. Other measures would also require to be introduced in conjunction with the NLEF improvement options (including LEZ), such as measures to reduce dwell times, no idling regimes, tackle congestion, providing buses signal priority at junctions, passenger boarding issues etc.</p> <p>It is also essential that any potential LEZ in Dundee is future proofed. The City is undergoing a major change, being part way through an ambitious plan to regenerate and reinvent itself as a cultural centre. Part of this includes reconnecting the Waterfront area to the city centre along with redevelopment of the rail station and the Dundee Victoria & Albert Museum (opening by 2018). We note that the consultation recognises that specific consultation on LEZ proposals in each individual city is necessary.</p> <p>There needs to be confidence that the LEZ will deliver required AQ improvement to gain the co-operation of the various stakeholders. We will have to be able to show the advantage of having an LEZ, so that businesses and other stakeholders understand the reasoning for the LEZ. This communications element will have to be undertaken at an early stage and is vital to success of an LEZ.</p>
2	<p>Do you agree that the primary objective of LEZs should be to support the achievement of Scottish Air Quality Objectives? If not, why not?</p>
	<p>The primary objective should be the achievement of sustainable development which produces the maximum achievable benefit for all relevant considerations including ensuring air quality standards are met.</p> <p>We agree with the adoption of the Scottish Air Quality Objectives (whose standards for fine particulates – PM10 and PM2.5 – are in line with / tighter than the World Health Organisation values) as these are stricter than the EU limit values and UK air quality objectives and also focus on locations of relevant exposure.</p> <p>However, having different target values across the EU and the UK can cause confusion and could lead to resistance from, or could influence decisions of, businesses that operate throughout the UK. This would require careful management and needs to be explained to the public, business and other external stakeholders.</p>
3a	<p>Do you agree with the proposed minimum mandatory Euro emission criteria for Scottish LEZs?</p>
	<p>Dundee City Council is in agreement with the proposed standards as they are consistent with those adopted across the rest of the UK and may reduce the risk of displacement of non-compliant vehicles. In the case of buses, consideration could also be given to the inclusion of an engine idling limit or the introduction of an 'engine off' condition.</p> <p>Clarification on the ability of the Clean Vehicle Retrofit Accreditation Scheme (CVRAS) technology to achieve Euro VI standard will need to be sought, as previous advice has been that retrofitting certain buses could only achieve Euro V+ standard.</p>

3b	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?
	<p>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.</p> <p>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 outwith the zone and walk to their final destination.</p>
3c	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?
	No they should be exempt in the initial phase, consideration could be given to their adoption in future phases of LEZ rollout. We are aware that the Greater London Authority allowed exemptions to their LEZ in certain circumstances for Non Road Mobile Machinery (NRMM).
4	What are your views on adopting a national road access restriction scheme for LEZs across different classes of vehicles?
	Dundee City Council agrees with proposal to create a national penalty scheme for LEZs, but the penalties have to be sufficient to act as a deterrent and should be consistent across all LEZs.
5	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?
	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.
6	What are your views on Automatic Number Plate Recognition enforcement of LEZs?
	<p>Dundee City Council is supportive of the use of Automatic Number Plate Recognition (ANPR) for enforcement because while initial setup costs are high but there are greater efficiencies in terms of resources during the implementation and operational phases. Councils would require to be fully funded to support daily operations and ongoing future maintenance of ANPR. ANPR also provides additional benefits, including continuous detailed traffic information.</p> <p>Dundee has no bus priority lanes managed by ANPR and therefore no experience in the setting up the infrastructure or back office delivery required for enforcement with ANPR.</p> <p>A central resource provided by Scottish Government for local authorities to utilise on LEZs for issues such as enforcement, procurement and consultancy support (for developing the business case) would be welcomed. A shared service approach (such as back office services, fleet, waste) to work more collaboratively is on the agenda of Dundee, who work closely, smarter and more efficiently and more effectively with colleagues in Perth & Kinross and Angus Councils on other projects. This approach helps with budget pressures.</p>
7a	What exemptions should be applied to allow LEZ to operate robustly? Please be as specific as possible in your reasoning.

	<p>We agree to the inclusion/consideration of those that are outlined within the consultation. Detailed appraisal will be required to justify as a LEZ may have far reaching consequences. Exemptions should only be allowed where there is good reason although care should be taken so as not to undermine the overall LEZ objectives.</p>
7b	<p>Should exemptions be consistent across all Scottish local authorities?</p>
	<p>Agree that the exemptions should be consistent across all local authorities that are introducing LEZs to negate any confusion over exemptions. However there may be certain circumstances where a local exemption is considered. It is expected that the local authority would have to provide justification for any proposed local exemptions within the Traffic Regulation Order (TRO)/Traffic Regulation Condition (TRC).</p>
8	<p>What are your views on LEZ lead-in times and sunset periods for vehicle types shown in Table 2?</p>
	<p>The logistical requirements for the procurement/replacement/retrofitting of bus fleets, including size age and type of the fleets are a critical factor in terms of setting the timeline for lead-in times and sunset period.</p> <p>It is noted that as of October 2017, Xplore Dundee, the largest bus operator in Dundee has no EURO VI vehicles in its fleet of over 100 buses.</p> <p>Other commercial fleets and private vehicles will also need significant time to upgrade or replace their vehicles.</p>
9	<p>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?</p>
	<p>There is limited funding available from the UK and Scottish Government to assist bus companies purchase cleaner vehicles and undertake retrofit programmes. Making sure that the revenue support provided by grants such as Bus Services Operators Grant (BSOG) should also take account of air pollution emissions, not just climate change emissions; this approach would be a welcome sea-change in funding. This might then help support investment in the right technologies to move towards Euro VI engines.</p> <p>A percentage grant scheme will leave some bus operators with significant sums to upgrade their fleets. It is assumed that views are being sought from bus operators, on the cost of compliance in the relatively short lead in times proposed.</p> <p>As previously mentioned in our response to question 3a, clarification is required on the ability of the CVRAS technology to achieve Euro VI standard. Previous advice received suggested that retrofitting certain buses would only achieve Euro V+ standard.</p>
10	<p>How can the Scottish Government best target any funding to support LEZ implementation?</p>
	<p>To date a significant barrier to the successful delivery of air quality improvements has been the level of Scottish Government funding that has been available for the implementation of Air Quality Action Plan measures under the Local Air Quality Management (LAQM) process. The funding has remained at £3M per annum despite the significant increase in the number of Air Quality Management Area (AQMA) declared since the inception of LAQM. The funding is well oversubscribed every year resulting in the slow progress.</p> <p>Local Authorities are under increasing pressure to deliver services and have neither the staff nor financial resources to implement new work streams such as a Low Emission Zones. Therefore any Low Emission Zones introduced within a local authority area</p>

	<p>would need to be fully funded by the Scottish Government, including the set up costs, infrastructure, 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.</p> <p>It is expected that each local authority will have to undertake robust cost benefit analyses as part of the preparation of the business case for any NLEF improvement option (including LEZs). This information would then be presented to the Scottish Government seeking the appropriate level of funding. We are supportive of a Funding Allocation Board being setup to allocate the funding. The NLEF improvement options will not be implemented without the provision of significant funds. The UK Department for Transport calculations for Clean Air Zones were £101M for five cities in England. We are aware that the Scottish Government has commissioned Jacobs to provide costings for the implementation of LEZs in Scotland.</p> <p>As per response to question 9 bus operators require financial support for replacement vehicles and retrofitting costs and other incentives to allow for reduced fares to encourage patronage.</p> <p>Funding incentives will be required to encourage uptake of cleaner vehicle types, such as vans and private cars.</p>
11	<p>What criteria should the Scottish Government use to measure and assess LEZ effectiveness?</p>
	<p>Dundee City Council agrees with the Scottish Government proposals. Consideration of other factors such as congestion could be measured.</p>
12	<p>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?</p>
	<p>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.</p> <p>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.</p>
13	<p>What actions should local or central government consider in tandem with LEZs to address air pollution?</p>
	<ul style="list-style-type: none"> • The UK Government should consider reversing the tax incentives for purchasing diesel vehicles and provide a more robust vehicle testing system; • Parking policy is important in controlling commuter travel into city, e.g. residential parking zones, Development Management parking standards, Park and Rides and workplace parking levy (legislative changes are needed); • Active Travel Action Planning - encourages modal shift ; • Traffic management such as bus priority measures – ensuring efficient flow of vehicles ; • Vehicle licensing regimes e.g. taxi licensing or bus route registration, and • Support for Freight Consolidation centres using Low Emission Vehicles (LEVs). <p>Non-transport sources of pollution need to be considered if meaningful improvement to air quality is to happen where it is needed. For example the tighter Scottish Government</p>

	<p>targets for particles (PM10/2.5), (compared with the UK targets and EU Limit Values) are not recognised in the enforcement regimes of other statutory frameworks, e.g.</p> <ul style="list-style-type: none"> • Emissions from Pollution Prevention and Control (PPC) permitting processes which are regulated by SEPA, and; • UK Renewable Heat Incentive (RHI) emission factor standards (for biomass). • With the increase in popularity of Wood Burning Stoves and the decentralisation of energy plant into the urban environment for example district heating schemes and Short Term Operating Reserve generation (STOR) requires a revision of existing regulatory controls. In particular the Clean Air Act 1993 and Permitted Development Rights for new developments.
14	<p>How can LEZs help to tackle climate change, by reducing CO2 emissions in tandem with air pollution emissions?</p>
	<p>It is recognised that the establishment of LEZs may contribute to other national and local carbon reduction policies. LEZs may incentivise bus operators and fleet owners to improve and reshape their fleets and progressively switch to lower emission alternatives if the likelihood is that LEZs will become reality in most urbanised areas with air quality issues. Further exploration will be required to understand the potential benefits to LEZs on mitigating the risks of climate change at a local level, dependent on the principles of the chosen LEZ scheme. Opportunities also exist for greater uptake of public transport and active travel within LEZs if congestion can be reduced via National Modelling Framework.</p>
15	<p>What measures (including LEZs) would make a difference in addressing both road congestion and air pollution emissions at the same time?</p>
	<p>Reducing congestion in key areas of high pollution through better traffic management, smarter vehicle routing and improved roadworks management including bus priority measures.</p> <p>Encouraging use of the road network outside peak periods. Studies have shown that vehicles moving slowly due to congestion are a major cause of pollution. Negative impacts on factors such as road traffic noise at night would need to be considered.</p>
16	<p>Do you have any other comments that you would like to add on the Scottish Government's proposals for LEZs</p>
	<p>The Scottish Government and its partners should ensure that the NMF / NLEF Appraisal Process post 2018 is no more onerous in terms of complexity or staffing resource to that undertaken by the early adopter, which has recently been announced as the City of Glasgow.</p>
17	<p>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.</p>
	<p>A LEZ that restricts bus movement could impact on people who rely on the bus as their main mode of transport. Women, older people and young people are the highest user groups of services likely to be affected.</p>
18	<p>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.</p>
	<p>LEZ proposals will increase financial costs for transport operators and Local authorities as the roads authority for up keep of ANPR system and administration costs.</p>

19	What impacts do you think LEZs may have on the privacy of individuals? Please be as specific as possible in your reasoning.
	We are unable to comment on the impact on the privacy of individuals as there is insufficient information at this stage to form a view.
20	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.
	<p>There may be an increase in pollution concentrations and road traffic noise in areas surrounding the LEZ as a result of vehicle displacement.</p> <p>LEZs may increase the demand for new Park & Ride facilities and the need for land release for these has potential to impact on environment.</p>

Appendix 2: Frequently Asked Questions about LEZs

Building Scotland's Low Emission Zones consultation Frequently Asked Questions

Cleaner Air for Scotland and Low Emission Zones

What is the Programme for Government commitment to LEZs?

With partnership with local authorities, we have committed to introducing Low Emission Zones (LEZ) into Scotland's four biggest cities between 2018 and 2020, and into all other Air Quality Management Areas (AQMAs) by 2023 where the National Low Emission Framework appraisals advocate such mitigation.

Purpose of this consultation

What is the purpose of this consultation?

The consultation paper aims to set out the proposed arrangements and options to deliver consistent, well-designed and managed LEZs.

Air quality in Scotland

How poor is the air quality in Scotland?

We are meeting both domestic and European air quality targets across much of Scotland, and we have progressively reduced air pollution in Scotland over recent years, but poor air quality – predominantly caused by road transport – remains an issue at a number of hotspots in our towns and cities. We have set more stringent air quality targets than the rest of the UK. Scotland is the first country in Europe to legislate for particulate matter 2.5 – a pollutant of special concern for human health.

Is progress being made to improve Scottish air quality?

Over the last 2-3 years, monitoring data shows that there has been a general downward trend in pollutant levels over most of the 39 Air Quality Management Areas (AQMAs) in 14 local authority areas. This suggests that action plan measures - containing a comprehensive range of measures to improve local air quality - in conjunction with central government policies, are having a positive effect. The Scottish Government will continue to work closely with local authorities to maintain this trend and bring pollutants below objective levels in as many places as possible, allowing AQMA revocations to be implemented.

What are the Scottish Government's views on the submissions to the ECCLR Committee Air Quality in Scotland Inquiry?

The Air Quality in Scotland Inquiry has just closed its call for evidence, with the ECCLR Committee due to meet to discuss the findings later this year.

Air pollution and health

How does air quality impact on health?

Transport-related air pollution caused by fine particulate matter (PM_{2.5} and PM₁₀) and gases such as nitrogen oxides (NO_x) impact on human health. Air pollution can have a particular impact on the very young and old, and those with existing respiratory and cardiovascular conditions, where air pollution can exacerbate existing health conditions (especially heart disease and respiratory illnesses) of vulnerable individuals.

Who's health is affected most by air pollution?

Air pollution is a health inequalities and social justice issue, given that vulnerable groups are disproportionately affected. There is a positive relationship between air quality and social deprivation, with the most socially deprived communities more likely receive a disproportionate share of poor air quality.

How many people in Scotland are affected by air pollution?

In 2010, the UK Government Department of Health's expert advisory committee, the Committee on the Medical Effects of Air Pollution (COMEAP) produced estimates of the burden of added mortality

associated with ambient fine particulate pollution at UK level. COMEAP estimate that poor air quality shortens average life expectancy in Scotland by 3-4 months (compared to 6-7 in England and Wales), although vulnerable groups are disproportionately affected.

What is a LEZ and do they improve air quality?

What is a Low Emission Zone (LEZ)?

LEZs are a form of Vehicle Access Regulation Scheme which set an environmental limit on certain road spaces, to improve air quality by allowing access to only the cleanest vehicles, particularly at locations where there is public exposure. LEZs help to accelerate the move to lower emission vehicles and encourage earlier renewal of the fleet.

Do LEZ's improve air quality?

LEZs can be a viable option to improve air quality. Recent academic studies such as the Airuse project found that LEZ outcomes are highly dependent on the scale, operational scope and traffic data robustness, along with the variable air quality issues that particular cities or countries are trying to address.

German researchers have found that German LEZs reduced average PM levels by about 4%. When the Berlin LEZ was introduced over two stages, it resulted in a 7-10% reduction in NO_x, with traffic adjusted black carbon concentrations decreasing by 14-16%. Overall, a 4% reduction in NO_x concentrations was achieved across 17 German cities with LEZs. Across other European Cities, PM10 was reduced by 4% in Milan, 1-2% in Hanover, 2-4% in the Rhur area of Germany, with reductions in PM10 also detected at 22 out of 29 monitoring sites in Baden in 2008, albeit with meteorological factor contributions. However LEZs in 11 Dutch cities and London did not impact on NO₂ concentrations

First LEZ in Scotland ?

Where will the first early adopter LEZ by 2018 be located?

Glasgow City Council and City of Edinburgh Council have formally stated to Scottish Ministers that they intend to deliver a low emission zone in their city. The Programme for Government has committed to introduce Low Emission Zones into Scotland's four biggest cities by 2020. The existing PfG commitment to put in place the first LEZ by 2018 is still valid.

When will the first LEZ be put in place?

We will work with first adopter local authority to put in place the first LEZ by the end of 2018, with a focus on the development of design, technology and monitoring elements during 2018.

LEZs in Scottish Air Quality Management Areas by 2023

Will all Scottish Air Quality Management areas get a LEZ by 2023?

Not necessarily. We have committed to introduce LEZs into all other Scottish Air Quality Management Areas by 2023 where the National Low Emission Framework appraisals advocate such mitigation. This means that the NLEF appraisal will be undertaken, and LEZs will only be recommended for implementation where the appraisal shows that LEZs are a sensible tangible solution to improve air quality. If the NLEF appraisals suggest other forms of transport based mitigation outwith NLEF, then these actions will be supported by a new Air Quality Fund.

What is the Air Quality Fund?

The National Low Emission Framework appraisals may identify one or more non-LEZ actions that could reduce air pollution from traffic. The new Air Quality Fund will support local authorities with Air Quality Management Areas to deliver these transport-specific actions. This funding will be in addition to the existing funding already provided to local authorities via the Local Air Quality Management process.

Primary LEZ objective

Why are we creating LEZ?

The key design objective of a LEZ is to accelerate the move to low emission vehicles, and encourage modal shift, thereby improving air quality in the areas as soon as possible. The Scottish Government has proposed that the primary objective of LEZs in Scotland will be to support the achievement of Scottish Air Quality Objectives that focus on nitrogen dioxide and particulate matter.

LEZ Euro emission standard criteria and vehicle scope

What is a Euro emission standard ?

The Euro emission standards are an indication of the Nitrogen Dioxide emissions from a vehicle exhaust. They use Arabic (Euro 5, Euro 6 for cars) and Roman (Euro V, Euro VI for commercial vehicles) numbering to classify the emission standard.

Why use Euro emission standard to categorise vehicles for a LEZ?

Most European LEZs adopt the Euro-emission engine classification known as the Euro standards to set out minimum mandatory standards that vehicle types must comply with, if they are indeed included in a LEZ scope e.g. entry into the LEZ is based on the type approval emission rating of a vehicle. Vehicles manufactured in 2017 must meet the Euro VI/6 standard.

What will the Euro standards be for vehicles to enter a LEZ?

The Scottish Government proposals for the minimum mandatory Euro emission standards for Scottish LEZs across all vehicle types are as follows:

Vehicle Type	Euro Emission Standard
Bus	Euro VI (+ retrofitted engines up to Euro VI)
Coach	Euro VI (+ retrofitted engines up to Euro VI once the technology becomes available)
Minibus	Euro 6 (diesel) Euro 4 (petrol)
Taxi and Private Hire	Euro 6 (diesel) Euro 4 (petrol)
HGV	Euro VI
Large van	Euro 6 (diesel) Euro 4 (petrol)
Small van and light commercial	Euro 6 (diesel) Euro 4 (petrol)
Cars	Euro 6 (diesel) Euro 4 (petrol)
Motorcycles and mopeds	Euro 3

How do I find out the Euro category of my car?

The Euro category of a vehicle in the UK can be checked.

The Scottish Government are exploring the potential for a vehicle database to check a vehicle against the proposed Scottish LEZ Euro standards. It would be similar to the TfL approach, as noted at:

<https://tfl.gov.uk/modes/driving/ultra-low-emission-zone/check-your-vehicle>

Would most cars not be compliant with the Scottish LEZ Euro standards, because Euro 6 diesel car engines only came in to being in 2014?

This is not correct. The dates for Euro standards for cars are available on the RAC website at <https://www.rac.co.uk/drive/advice/know-how/euro-emissions-standards/>. Euro 6 for **diesel car** engines came into being in 2014. The consultation notes that the proposed minimum standards for petrol cars is Euro 4, which can into being in 2005, so to state that '...most cars would not be compliant' is not accurate. The ClimateXChange report presented at this year's STAR conference, at the following link: <http://www.starconference.org.uk/star/2017/Morton.pdf>, provided the following data on this point, highlighting that more than 50% of private cars on the road today would be compliant, and this is not taking into account (a) a local authority actually deciding to include private cars in a LEZ and (b) a possible lead-in time which will be confirmed following feedback from the consultation.

City	Diesel Cars	Petrol Cars	Combined Percent
Aberdeen City	28,481	13,842	47.4%

Dundee City	14,681	10,175	49.4%
Edinburgh City	47,852	36,083	51.9%
Glasgow City	51,177	32,055	49.4%

Would all diesel and petrol family cars prior to January 2005 be affected by the proposed Scottish LEZ Euro standards?

Yes

Will the first LEZ cover all vehicles including private cars?

The Scottish Government are not proposing to define specific vehicle types to be included in a LEZ. Rather, a local authority would make a decision on which vehicle types (including private cars) to be included in a LEZ.

What is the approximate proportion of vehicles on Scotland's roads that meet the emission standards in table 2 on p20 of the consultation?

ClimateXChange have provided the Scottish Government with a report on 'Car European Emission Standards across Scotland's Main Cities' which provides an indication of the number of private cars not compliant to Euro 6 diesel and Euro 4 petrol European Emission Standards by Scottish city. The ClimateXChange report was also presented at this year's STAR conference, at the following link: <http://www.starconference.org.uk/star/2017/Morton.pdf>

The bus fleet mix is being collated by the Confederation of Passenger Transport, who have suggested such data:

Euro Standard	% of fleet across 14 major operators as of July 2017
Euro II	3.50%
Euro III	27.70%
Euro III SCRT Upgrade	0.60%
Euro IV	12.90%
Euro V	34.70%
Euro V EEV	1.60%
Euro V Hybrid	2.20%
Euro VI	13.30%
Euro VI Hybrid	2.50%
Other (Specify)	0.90%

Are the Scottish Government trying to establish which vehicles are the highest polluting vehicles, doing the most mileage in the most polluted areas?

Yes, we agree that this is a sensible approach. We have collected, and continue to collect, traffic data from major Scottish cities such as Glasgow, Edinburgh, Aberdeen and Dundee. The data from Glasgow, Edinburgh and Aberdeen is currently being reviewed, with the data in Edinburgh to be collected. This data will be used as the basis for city-specific air quality model development.

LEZ scheme founding principle: Charging versus Penalty

Will the LEZ be based on road charging or penalties?

It is not Scottish Government policy to adopt road charging and we are not proposing road charging for LEZs. The Scottish Government's preference would be a road access restriction scheme for LEZs. This would mean that where vehicles do not meet LEZ Euro emission standards (and do not meet LEZ exemptions), they would not be allowed to enter a LEZ, and would be subject to a penalty if they entered the LEZ.

How will the Scottish Government choose which vehicles will be allowed in the LEZ?

The Scottish Government are not proposing to define specific vehicle types to be included in a LEZ. Rather, the decision on all vehicle types to be included in a LEZ should only be decided once (i) an air

quality model has been completed, to inform the development of (ii) compelling reasons for certain vehicle types to be included in a LEZ via the National Low Emission Framework (NLEF).

LEZ hours of operation

What will be the operational hours of a LEZ?

The key consideration is whether local authorities should have discretion to vary LEZ operating times to suit local conditions, or whether Scotland-wide LEZ operating times would be consistent. The Scottish Government preference would be for LEZs to operate continuously, 24 hours a day, seven days a week, all year round.

Why are the Scottish Government proposing operational hours over 24 hours rather than 8 hours during the day?

Operating a LEZ 24 hours a day will provide the best opportunity for the 24 hour mean Scottish air quality objective values for nitrogen dioxide and particulate matter to be met.

Enforcement and Vehicle Detection

How will the Scottish Government decide which areas are restricted?

The LEZ area chosen depends on a number of factors including the magnitude of the contribution of traffic – and particular vehicle types – to the urban background, the city's road network and administrative boundaries.

Is the Scottish Government going to introduce road charging for LEZs?

No. Our focus is on creating a national penalty scheme for LEZs, which could be set at a standard rate for all vehicles, or a variable rate depending on vehicle class. Penalties could be set within bands with upper and lower limits, and could vary across different classes of vehicles.

How will non-compliant vehicles that enter a LEZ be detected?

Automatic Number Plate Recognition (ANPR) cameras linked to a national vehicle licencing database could be used to monitor vehicles entering a LEZ. This would offer a higher detection rate than manual detection which would require physical resources to operate.

Exemptions

Will some vehicles be exempt?

Certain vehicle types and classes could be exempt from the LEZ emission criteria across all Scottish LEZs in a consistent manner, once a lead-in period or sunset period has passed. The exemptions will be confirmed once the consultation has closed, and the feedback from consultees has been reviewed.

Lead-in time and sunset period

How will the Scottish Government determine the lead-in time and sunset period?

The lead-in time would commence once a specific LEZ design was published. Lead-in periods would be set in a manner which did not disincentivise a fleet operation from adopting ultra-low carbon (or zero) emission vehicles.

Sunset periods offer a period of time for vehicles operating from a commercial base or residential property within a LEZ boundary to ensure that their vehicle complies with the suggested LEZ Euro emission standards.

Alternative engine technology and retrofitting

How will the Scottish Retrofit Centre work?

We will work with the commercial and bus sectors, the Energy Saving Trust and the Low Carbon Vehicle Partnership to introduce an Engine Retrofitting Centre. The Centre will support the delivery of LEZs, by supporting the creation of new jobs and winning business from outwith Scotland. We are not proposing a standalone physical Centre, as the actual engineering works can be undertaken at existing bus depot garages. The focus of the Engine Retrofitting Centre will be around securing sufficient resource from the retrofitting industry to support Scotland in the transition of buses to Euro VI as required.

Will grants be available for the retrofitting of taxis?

The proposal just now is that grants will focus on buses. However, the consultation is seeking to obtain opinions to inform our policy, so if the feedback highlights that retrofitting for taxi's is a priority, then the grant proposal may widen in scope.

Funding

How much funding will be Scottish Government provide to support local authorities and businesses prepare for LEZs?

The Scottish Government will be considering the required level of new funding for LEZs during the 2018/19 Spending Review budget process.

How much will LEZs cost and how will they be funded?

Transport Scotland commissioned an estimate of costs for a small, medium and large LEZ, based on traffic data in Glasgow collected by Transport Scotland in tandem with bus fleet data provided by Strathclyde Partnership for Transport (SPT). A LEZ of 0.5km² in size may cost approximately £3.4m, and a LEZ of 3.0km² may cost up to £14.9m in year 1 to design and build. The estimated costs ultimately vary depending on the LEZ size and the scope of vehicles included in the LEZ by the local authority.

What funding does the Scottish Government already provide on air quality?

The Scottish Government already provides local authorities with grant funding up to £3 million per year to cover air quality monitoring, managements, annual reporting and small scale mitigation, but this funding is not associated with LEZ delivery.

Transport initiatives have delivered 1200 electric vehicle charging bays & over £14.5 million funding via the Green Bus Fund to introduce more than 300 low emission buses to the Scottish fleet.

Measuring LEZ effectiveness

How will the effectiveness of LEZs be measured?

The Scottish Government proposal is to utilise the existing network of air quality sensors and diffusion tubes, in tandem with the National Modelling Framework datapoints, to evaluate the effectiveness of LEZ actions.

Communications

How will the Scottish Government ensure that the public is kept aware of the introduction of LEZs in their area?

The Scottish Government proposal is to use the Scottish Air Quality website as the central hub for information related to LEZs. Existing services such as Traffic Scotland, Traveline Scotland and local authorities will be utilised in tandem with Social Media, traditional press, radio advertising, school education campaigns and periodic conference, seminar and workshops events.

What other organisations have been involved in the preparation of this consultation?

The Scottish Government has actively engaged with the following:

- Convention of Scottish Local Authorities (COSLA)
- Local authorities throughout Scotland
- Regional Transport Partnerships (RTPs)
- Society of Chief Officers for Transportation in Scotland
- Traffic Commissioner for Scotland
- Federation of Small Businesses
- Freight Transport Association
- Road Haulage Association
- Confederation for Passenger Transport
- Business organisations
- Planning groups

- Non-governmental organisations

Multiple benefits associated with improvements to air quality

What other complementary measures will work in partnership with LEZs?

LEZs are an important action to reduce air pollution, but they must work in partnership with the existing transport-focused mitigation already set out in Local Air Quality Management (LAQM) actions plans. It is vital that LEZs are included within planning decision making.

Air pollution and climate change

Will LEZs help to mitigate climate change emissions?

There are clear interlinkages between air quality and climate change policy. Whilst we work in partnership with local authorities to establish LEZs in Scotlands four biggest cities, we will also work with local authorities, regional transport partnerships and other partners and stakeholders to evaluate the scope for urban-wide low emission zones with a specific focus on climate change (CO₂) emissions.

Air pollution and congestion

Why is tackling congestion important in relation to air quality?

Recent research has found that halving of average city traffic speeds can lead to a 50% increase in NO_x emissions from larger vehicles. The provision of new traffic regulation conditions by the Traffic Commissioner for Scotland for LEZs will be informed by the demonstration of congestion management actions within the LEZ design. The Scottish Government proposal is to incorporate congestion management into all stages of LEZ design and operation.

Responding to the consultation

How do people respond to the consultation?

Responses can be made online via the Scottish Government's consultation hub, Citizen Space, or can be emailed to lezconsultation@transport.gov.scot. Responses can also be posted Transport Scotland.
:

When will the response to the consultation be published?

The consultation will close on the 28 November. We will aim to publish our response and analysis to the consultation within 20 working days of the consultation closing.