



Scottish Government Consultation on Building Scotland's Low Emission Zones - SPT response

Committee Strategy and Programmes

Date of meeting 24 November 2017

Date of report 24 October 2017

Report by Assistant Chief Executive (Operations)

1. Object of report

To recommend approval of the proposed SPT response to the Scottish Government consultation¹ on Building Scotland's Low Emission Zones. SPT's draft response is attached at Appendix 1 and the closing date for the consultation is 28 November 2017.

2. Background

There has been significant national and local coverage recently regarding Low Emission Zones (LEZs), with Glasgow being proposed as the first in Scotland. The Scottish Government believes that improving air quality should be at the heart of transport and placemaking agendas to maximise the benefits associated with cleaner air, and are undertaking this wide-ranging consultation to garner views on how best to progress the matter.

3. Outline of proposals

The draft response is attached at Appendix 1. The key points of SPT's draft response are noted below:

- SPT supports the principle of introducing LEZs, but while improving air quality is expected to be the output from this, the collective focus should remain on the outcome of improving public health, which requires a wider package of measures, as envisaged by Clean Air for Scotland and the National Low Emissions Framework.
- A LEZ is a vital part of this wider package of measures, and must too be approached in an integrated and co-ordinated way, with complementary measures addressing increased traffic congestion and hotspots (which slow traffic, including buses, thereby increasing emissions), public transport priority measures, parking, freight deliveries and timings, taxis and others. Crucially, it is essential that LEZs are not seen as the only effective mechanism for dealing with poor air quality arising from transport emissions; for example, at a more fundamental level (and the subject of considerable current research) is the need to look at our 'need to travel' and how we as a society can address that.
- SPT support a LEZ being delivered on a phased basis, to allow those whose infrastructure or vehicles require improvement time to prepare and invest. Similarly, as this is a national policy addressing a public health issue, the Scottish

¹ The consultation paper can be accessed at: <https://www.transport.gov.scot/consultations/>

Government should provide funding to build confidence and stimulate private sector investment.

- Those tasked with delivering a LEZ must be mindful of impacts on current markets. For example, bus patronage in west of Scotland has reduced by 56million over last 10 years, and the current investment landscape in bus is poor. Accelerated capital investment in fleet renewal, and/or retro-fitting of emissions reduction technology and additional maintenance costs could be prohibitive to continued operation at current levels, or at all, leading to reduced services, higher fares and further patronage decline.
- In delivering a LEZ, account must be taken of the various technological options that could facilitate this – for bus, for example, from retrofitting to hydrogen vehicles. Therefore a long term, multi-faceted approach is required to accommodate this and any future change.
- The unintended consequences of an over-ambitious strategy for delivering a LEZ could be severe in terms of the effect on the economy, on the viability of services, on areas outside the LEZ (e.g. polluting buses being moved from the LEZ to another town or area) so again this needs to be kept in mind when pursuing delivery.
- SPT, as the Regional Transport Partnership and public transport authority for the west of Scotland, in partnership with Glasgow City Council and other councils in our area, is ideally placed to ensure that the most appropriate and proportionate measures are taken in designing and delivering the LEZ.

4. Conclusions

This consultation provides another opportunity for SPT to influence the future of transport in Scotland. Officers will continue to liaise with Glasgow City Council, Scottish Government and other partners in regard to LEZs and will update the Committee as progress is made.

5. Committee action

The Committee is recommended to approve the proposed SPT response attached at Appendix 1.

6. Consequences

Policy consequences	<i>In line with the RTS.</i>
Legal consequences	<i>None at present.</i>
Financial consequences	<i>None at present.</i>
Personnel consequences	<i>None at present.</i>
Equalities consequences	<i>The outcomes of each of the consultations could have an impact on a range of equalities groups.</i>
Risk consequences	<i>None at present.</i>

Name Eric Stewart
Title Assistant Chief Executive
(Operations)

Name Gordon MacIennan
Title Chief Executive

For further information, please contact *Bruce Kiloh, Head of Policy and Planning* on 0141 333 3740.

APPENDIX 1

Building Low Emission Zones

Draft SPT response

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

Yes, in principle LEZs are a welcome policy tool and fit well with the Regional Transport Strategy. Given there are estimates of 40,000 premature deaths in the UK per annum as a result of poor air quality, it is essential that we tackle the issue as a priority.

If LEZs are intended to accelerate fleet replacement to low emission propulsion technologies, this in isolation is unlikely to be successful or deliver the desired benefits. Poor air quality is only one of a number of interrelated challenges facing our towns and cities. To deliver the intended outcomes LEZs must address a whole range of issues such as unfettered growth in private car usage, lack of appropriate parking policies, increasing congestion, lack of priority for buses, poor public transport infrastructure provision, growing carbon emissions from transport and noise pollution. These all hamper development, fly in the face of the placemaking principle, and ultimately impact negatively on efforts to promote sustainable and inclusive economic growth.

Therefore any proposals for LEZs should be included in a robust STAG assessment incorporating these wider issues in order to develop a co-ordinated and comprehensive package of measures, inclusive of vehicle emissions restrictions, which seek to address the relative health, environment and economic objectives, in addition to air quality. Indeed, given the wider societal benefits likely to be delivered from such initiatives consideration should be given to how LEZs are funded from the respective Scottish Government Health and Economic Development budgets, not simply Transport alone.

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

Yes and No. The primary issue faced here is the negative health impacts of poor air quality. Therefore the primary objective of LEZs should be to improve the health outcomes for the people of Scotland.

Secondary objectives of LEZs should take into consideration the wider impacts on the economy, society, and the environment as a whole, and not just air quality in isolation.

In summary: Less premature deaths = More people = Less spending on health = More economic activity & prosperity for Scotland.

3a Do you agree with the proposed minimum mandatory Euro emission criteria for Scottish LEZs?

Broadly yes. In respect of emissions of Particulate Matter and NOx from diesel engines, E6 is a proven solution.

However, the proposed criterion is silent on CO2 performance which is a fundamental weakness. For buses, consideration should be given to the standards set by the UK Office for Low Emission Vehicles (OLEV) Low Emission Bus Scheme

<https://www.gov.uk/government/publications/low-emission-bus-scheme> and corresponding capital funding packages, plus on-going revenue support (i.e. BSOG).

If PM and NOx compliance is achieved by exhaust retrofitting, there may well be an impact on fuel consumption and cost which will be passed onto operators and ultimately passengers. Further solutions are available to address CO2 (and fuel consumption), such as those available from Avid (<http://avidtp.com/>) and Graysons (<http://www.graysonts.com/>) and should be an integral part of any 'retrofitting' effort.

Also, where applicable, 'Zero Emission' criteria should be a minimum standard option for Scottish Low Emission Zones, particularly if in semi-pedestrianized areas (e.g. Argyle Street), and as a number of technologies now allow this including Electric Buses, and Geofenced MicroHybrids (e.g. Wrightbus).

Standards should also be set for minimum journey times & speeds for vehicles travelling through the LEZ, otherwise (despite the minimal standards proposed) the emissions benefits will be negated (E6 vehicles need a good running speed for the DPF/ SCR & AdBlue to work properly).

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?

The NMF and NLEF should most certainly be part of the assessment, but only part of many other ways of how best to deliver improved air quality. The NMF only looks at engine type; it does not consider other measures which could be used to tackle air quality.

They should be used to inform the evidence base for any proposed LEZ. Any LEZ proposals brought forward should form part of a wider STAG appraisal of the issues, opportunities, problems and constraints faced at each locale. NMF emission models must not be used in isolation as they will not address the range of potential solutions to achieving the desired outcomes and do not highlight the problems that will result if an ambitious rollout of the LEZ cannot be achieved on the ground, resulting in changed transport and travel patterns brought about, for example, by altered / reduced bus services.

Modelling and appraisal also needs to look beyond 'per vehicle' emissions to 'per person carried' emissions, particularly with regard to high passenger capacity bus services, and to give equity between modes.

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?

Yes.

For the avoidance of doubt, all internal combustion vehicles (from taxis and private cars to HGVs) operating within the LEZ should be included. Where matters of public health have been stated as the aim, it is inexcusable that responsible authorities were aware of problems but did not act.

Emission sources from construction machinery and/or large or small van refrigerated units should also be included in the LEZ scope. However, this will require further consideration of the potential costs and benefits and to how such standards / restrictions would be enforced,

monitored and evaluated. Such further assessment should determine whether such elements are included from day 1 of an LEZ or some time thereafter.

It should be highlighted that a similar argument also applies to diesel trains entering pollution hot spots (e.g. Glasgow Central, Glasgow Queen Street) and that emissions from such trains should be tackled accordingly. SPT would request that Transport Scotland give further consideration to this issue and potential remedies for diesel trains entering Low Emission Zones.

4 What are your views on adopting a national road access restriction scheme for LEZs across different classes of vehicles?

SPT would query the need for a 'national' level road access restriction scheme as LEZs will be 'local' schemes with 'local' management & operating costs. LEZ Standards must be national, but schemes defined locally.

It should also be noted that management, enforcement and operation of any LEZ won't be cost neutral, and on-going revenue (from passengers) will undoubtedly be required to fund the LEZ 'operator'. Given this, alternative funding sources will have to be found, potentially such as a workplace parking levy, to fund the LEZ operation.

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?

This should be decided on a case-by-case basis, but with the default being, 24 hours a day, 365 days a year.

6 What are your views on Automatic Number Plate Recognition enforcement of LEZs?

ANPR is essential and well-proven technology. However, it is not the panacea and would on its own be inadequate for enforcement. It would require complementary (mandatory) telematics monitoring of the vehicle application. As per our response to Q 4, any LEZ enforcement scheme requires adequate funding.

7a What exemptions should be applied to allow LEZ to operate robustly? Please be as specific as possible in your reasoning.

Exemptions should be kept to a minimum but should be handled sensitively through the phased introduction of the LEZ. Any exemption should be dealt with through a permit system which is common practice in other LEZs elsewhere in the UK and Europe. Examples of those vehicles which could be considered for exemption may be occasional use of vintage / heritage vehicles, vehicles for special events, construction vehicles, recovery vehicles, or (in certain circumstances) long distance coaches.

7b Should exemptions be consistent across all Scottish local authorities?

National standards should apply, but there should be ability for specific local exemptions for particular circumstances.

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

A longer lead-in time would be preferable, allowing fleet managers to manage any acquisitions accordingly e.g. four years plus. It would also allow a more suitable period to scope, procure and deliver any retrofitting activity, and to source funding.

9 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?

Views on retrofitting technology:

- Key technologies – Diesel Particulate Filter (DPF), Selective Catalytic Reduction (SCR), Urea Injector (AD Blue) – all well developed and proven
- Variations – Custom retrofit configuration required for all bus models and variants
- Proven UK Suppliers – EminoX, HJS and Green Urban
- High demand for retrofitting across UK - will impact on lead-in time for systems
- Business case for retrofitting depends on expected remaining life of vehicle – long life left = good idea, short life left = Less so.
- Requires a full assessment of each and every vehicle in question in terms of the condition of the engine, exhaust and ancillary components. May require remedial works to the engine (e.g. new pistons) in advance of the exhaust retrofit, to ensure the final 'product' is E6 compliant and robust.
- Warranties and safety are key consideration (e.g. impact of retrofit on likelihood of vehicle fires)
- Approach to linking retrofit equipment to on-vehicle diagnostics needs consideration by bus operators.
- Retrofitting will have an impact on fuel consumption (particularly on older vehicles)
- Retrofitting is done in vain, unless adequate running speeds are achieved, as the DPF/SCR/ADBlue systems do not work as designed at low speeds / low engine temp.
- Retrofitting alone does nothing for Carbon Emissions. 'Retrofitting' should therefore also encompass carbon / fuel savings technologies, such as efans and improved thermal management systems – as provided by firms such as Avid (<http://avidtp.com/>) and Graysons (<http://www.graysonts.com/>).
- Retrofitting alone does nothing for the attractiveness of the Bus to passengers.
- Retrofitting adds additional costs in respect of the capital equipment, maintenance staff training required and serviceable items (filters etc) which must be met.
- Any retrofitting package must be supported by a centrally managed telematics system to monitor the performance of retrofitted vehicles against the policy requirements.

Views on Engine Retrofitting Centre;

- A physical (garage) National Engine Retrofitting Centre is not required, offers no clear benefits and would likely become obsolete through time.
- In particular Local Bus Operators should be free to contract with an approved/certified retrofitter of their choice, both in terms of the system chosen, fit out and on-going maintenance. Such activity will sit alongside other operator activities necessary to meet daily service availability including ongoing maintenance, MOT programme, cleaning, daily vehicle preparation and inspections to name a few.

- A National Engine Retrofitting Advisory Service may be required to regulate and coordinate the process.

10 How can the Scottish Government best target any funding to support LEZ Consultation on Building Scotland's Low Emission Zones implementation?

Funding must come through the public transport authority to ensure targeted in the right direction and be used for:

- Retrofitting
- Scrappage
- Support for fuelling Infrastructure for Low Emission Vehicles - Particularly LNG and CNG for HGVs, Council Refuse Fleets and potentially buses.
- BSOG – TS review of BSOG should be accelerated in light of LEZ development. Requires a longer term incentive for operators to invest in new buses, which are low emission and low carbon.

Fundamentally though, LEZs should not be allowed to become a new (and very costly) additional layer of bureaucracy. Existing governance and processes should be utilised as much as possible to maximise effectiveness and efficiency. For example, analytical technologies should be used for oversight of an LEZ, with the scheme being managed via the existing bus registration process and through, for example, the proposed Bus Alliance / Service Improvement Partnership.

11 What criteria should the Scottish Government use to measure and assess LEZ effectiveness?

As has been raised in previous discussions, in order to objectively and more equitably measure the true impact of each mode on air quality, the Scottish Government should measure emissions on a 'per passenger' or 'per person carried' basis.

Further, it could be said that an LEZ will be working when there are "less buses" but "more passengers". Below are some further suggestions:

- Relevant provisions of STAG
- Telematics – results of which go to the transport authority for monitoring and assessment.
- Measurements should include the reduction in number of people whose health is affected by poor air quality.
- Provisions of the Scottish Government's new Socio-Economic Duty.
- Surveys of changed travel behaviour, changes in vehicle types used, changed trip patterns, and others.

12 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?

A similar approach to how Transport for London is introducing its Ultra Low Emission Zone should be used, as this is an example of good practice and could form the basis of the Scottish approach.

13 What actions should local or central government consider in tandem with LEZs to address air pollution?

- Infrastructure and initiatives to support Active Travel.
- Promotion of Active travel
- Congestion reduction measures
- Congestion charging / road user charging etc
- Traffic management enhancements
- No car zones
- Bus Priority Measures (Bus Gates, Bus Lanes, Traffic Signal Priority)
- Parking Policy in favour of edge of town / city parking
- Stricter Parking Enforcement
- Workplace Parking Levy
- Minimum Parking Charges / higher charges in or close to LEZs
- Prioritise Public Transport orientated development
- Freight Consolidation Centres?
- Manage Roadwork's Better?

14 How can LEZs help to tackle climate change, by reducing CO2 emissions in tandem with air pollution emissions?

- By more strongly encouraging and enabling people to switch to more sustainable travel modes e.g. public transport, active travel.
- Make CO2 reduction an inclusive part of LEZs.
- Carbon 'retrofitting' – eFans etc
- Long term funding support for low emission vehicles (e.g. Enhanced BSOG)
- Support for fuelling Infrastructure for Low Emission Vehicles - Particularly LNG and CNG for HGVs, Council Refuse Fleets and potentially buses.

15 What measures (including LEZs) would make a difference in addressing both road congestion and air pollution emissions at the same time?

Examples which should be given consideration include:

- Congestion reduction measures e.g. improved traffic management, bus priority (Bus Gates, Bus Lanes, Traffic Signal Priority)
- Improvements to parking policy to further discourage taking car into city centre and consideration of wider measures such as Workplace Parking Levy
- Improved parking enforcement
- Improved management of roadworks

16 Do you have any other comments that you would like to add on the Scottish Government's proposals for LEZs

An LEZ in the west of Scotland cannot be delivered unless underpinned by very significant central government funding support. The bus industry, particularly in the west of Scotland is experiencing significant passenger recession, yet despite that, will be required to make very significant additional investment commitments to comply with LEZ. However it is inconceivable that they will be able to meet LEZ standards without significant Government support.

Unfortunately during this consultation period, the focus of LEZ development appears to have targeted bus alone. Without complementary measures on public transport priority,

infrastructure, parking restraint, congestion management, and development that aligns with the bus network, it is likely bus operators will ask (and perhaps legally challenge) why the responsibility to deliver a public policy is being placed on them alone.

- Development, governance, enforcement, monitoring and evaluation of LEZs should be managed by the appropriate authority.
- An annual Scottish Conference on LEZs should be established to outline the progress in the development of LEZs, emerging Health Impacts and the latest technological advances.
- Annual/ biennial report on performance and wider consequences of LEZs prepared including in neighbouring council areas as appropriate.

17 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.

There is evidence that those people living in the 'most deprived' areas are worst affected by harmful emissions, and this should be a key factor in how an LEZ is developed, delivered and monitored.

Similarly, the LEZ should be closely monitored to identify and unintended consequences such as an operator cutting bus services in 'most deprived' areas in order to pay for compliance with an LEZ.

18 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.

Yes, it will increase the costs and burdens faced by transport operators. Moreover, with a third of all bus services in the Strathclyde area requiring some subsidy in whole or in part, it is likely the LEZ proposals will lead to an increase in these costs for the PTA (in the west of Scotland, SPT) and also Local Authorities in terms of managing the enforcement and operation of LEZs, and their own fleets.

However, conversely, the long term savings to the health budget may offset the funding needed to establish the LEZ.

19 What impacts do you think LEZs may have on the privacy of individuals? Please be as specific as possible in your reasoning?

There is the potential for an LEZ to impact on an individual 's privacy through the use of such technology as Automatic Number Plate Recognition (ANPR), although as this is becoming more commonplace there will be established processes and protocols in place to provide reassurance in this regard.

20 Are there any likely impacts the proposals contained in this consultation may have upon the environment? Please be as specific as possible in

- Proposals will impact on air quality only as they currently stand.
- The proposed criteria for LEZs is lacking on addressing CO2 emissions which is a fundamental weakness. For buses, consideration should be given to the standards set by the UK Office for Low Emission Vehicles (OLEV) Low Emission Bus Scheme

<https://www.gov.uk/government/publications/low-emission-bus-scheme> and corresponding capital funding packages + on-going revenue support (i.e. BSOG).

- If PM and NOx compliance is achieved by exhaust retrofitting, there may well be an impact on fuel consumption and cost which will be passed onto operators and ultimately passengers. Further solutions are available to address CO2 (and fuel consumption), such as those available from Avid (<http://avidtp.com/>) and Graysons (<http://www.graysonts.com/>) and should be an integral part of any 'retrofitting' effort.
- Potential displacement of fleets could result in higher emissions in other areas. Changes in land-use / trip making / modal shift (to car) as a result of restrictions in city and reduced bus services will result in higher car use and displacement of more polluting vehicles to other areas.