

## **Scottish Parliament Environment, Climate Change and Land Reform Committee**

### **Inquiry into Air Quality in Scotland**

#### **Cycling Scotland written submission**

Cycling Scotland welcomes the opportunity to contribute to the Committee's inquiry on Air Quality in Scotland. Our key points are:

- Although technology is part of the solution, we recommend greater emphasis on modal shift towards cycling (and active travel) as a highly effective and efficient way to improve air quality, including the additional advantages of electric bikes.
- Recognition of the linkages and contributions of cycling to air quality improvements across a range of policy areas including transport, planning/placemaking, health, and climate change.
- Improved modal integration.
- The proposed introduction of Low Emission Zones (LEZs) are welcome and should go ahead as soon as possible with thorough evaluation of any pilot schemes.

Cycling Scotland is the nation's cycling organisation. Working with others, we help create and deliver opportunities and an environment so anyone anywhere in Scotland can cycle easily and safely. Our vision is for a sustainable, inclusive and healthy Scotland where anyone anywhere can enjoy all of the benefits of cycling.

#### **Introduction**

Although the Scottish Government has met their overall target to reduce carbon emissions by 42% by 2020 six years early, emissions from transport, and their contribution to poor air quality, are still an acknowledged concern. Transport accounts for 28% of total carbon emissions, with only a marginal decline from the 1990 baseline. Roads (cars, vans and motorcycles) are the single biggest contributor at 73%, an increase from the 1990 baseline, and demand for road use by vehicles has increased by 22%<sup>1</sup>.

Scotland continues to face a significant challenge in terms of vehicle emissions and there is a clear need to address these both as a significant contributor to climate change and as a public health issue. A recent survey shows that there are now 38 pollution zones in Scotland, where air quality standards are regularly broken and levels of pollution from emissions are considered unsafe and illegal. Five of these zones were announced in 2016. Vehicle-derived air pollution is also associated with a range of health conditions including cancer, heart attacks, breathing difficulties, and strokes. The research reported that this air pollution is estimated to cause 2,500 early deaths each year and is second only to smoking in terms of its mortality impacts<sup>2</sup>. This impact is also felt more strongly in deprived communities, with research finding higher concentrations of particulate matter (arising from vehicle emissions) in the 20% most deprived neighbourhoods<sup>3</sup>.

The Cleaner Air for Scotland Strategy acknowledges and recognises the linkages and contributions to air quality issues from across a range of policy areas including transport, planning/placemaking, health, and climate change. Scotland does have a comprehensive range of policies in place across a range of policy areas/sectors which contribute to addressing air quality issues. We welcome

<sup>1</sup> Scottish Government (2017) Draft Climate Change Plan: The draft third report on policies and proposals 2017-2032 <http://www.gov.scot/Resource/0051/00513102.pdf>

<sup>2</sup> <http://www.foe-scotland.org.uk/most-polluted-streets>

<sup>3</sup> Cycling UK (2016) Air Quality Campaign Briefing December 2016 [http://www.cyclinguk.org/sites/default/files/file\\_public/air-quality1ebrf.pdf](http://www.cyclinguk.org/sites/default/files/file_public/air-quality1ebrf.pdf), page 10

reference in the Clear Air Strategy to active travel, and encouraging modal shift towards this, and the continued commitment to meet the vision of 10% of everyday journeys to be cycle journeys by 2020, as outlined in the Cycling Action Plan for Scotland. There is a need to focus on the contribution that behaviour change to cycling (and active travel), and achieving the Government's 10% cycling mode share vision, can make to reducing emissions, and improving air quality (ref: Q1).

We consider that greater emphasis must be placed on behaviour change and it should be acknowledged that this will not happen overnight. It is imperative that work commences immediately to influence behaviour and that a trajectory of targets is set out to demonstrate progress (ref: Q2).

There is also a high level of public support for measures to tackle climate change issues in Scotland. A recently undertaken poll shows that more than two thirds (68%) of people surveyed believed that the government should invest in projects and initiatives to reduce emissions, up from 59% in 2016<sup>4</sup>.

### **Encouraging modal shift towards active travel**

The focus of the transport sections in the recently published Draft Climate Change Plan, and Cleaner Air for Scotland Strategy appear to be on de-carbonising cars and other light vehicles, and reducing emissions, through technology and fuel efficiency improvements which cannot be guaranteed or to deliver the pace of change required, which impacts significantly on the rate of emissions reduction. Recent research commissioned by Transport Scotland on greenhouse gas emissions reduction potential for Scotland shows that, although "light vehicles" (cars, vans and motorcycles) deliver the highest emissions reduction potential both in absolute terms and as a proportion of current emissions, increases in demand for such vehicles are likely to offset the emissions reduction impact of energy efficiency and technology improvements in these vehicles<sup>5</sup>. Currently, more than 99% of vehicles on the road in Scotland are either petrol or diesel. The rate of uptake of electric and hybrid vehicles did increase between 2014 and 2015, but these vehicles still account for less than 1% of vehicle share<sup>6</sup>. Increasing active travel and reducing car use helps add to a cut in vehicle emissions than a shift to other forms of individual motorised vehicles, such as electric cars, can achieve alone<sup>7</sup>.

Cycling has a key role to play both in contributing to reduced vehicle emissions and in reducing demand growth for "light vehicles" Encouraging more Scots to use a bike instead of a car for short trips can significantly reduce the contribution road transport makes to poor air quality. 65.4% of car journeys are less than 5 km<sup>8 9</sup>, offering the greatest possibility to switch to cycling. Short motor vehicle journeys also make a disproportionate contribution to overall air pollution levels<sup>10</sup> (ref: Q3).

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<sup>4</sup> <http://www.scotsman.com/news/environment/poll-finds-more-scots-want-stronger-action-on-climate-change-1-4517962>

<sup>5</sup> Element Energy on behalf of Transport Scotland (2017) Greenhouse Gas Emissions Reduction Potential in the Scottish Transport Sector from Recent Advances in Transport Fuels and Fuel Technologies <http://www.transport.gov.scot/system/files/documents/reports/j202258.pdf>, pages 35 & 36

<sup>6</sup> Transport Scotland (2017) Scottish Transport Statistics 2016 edition [http://www.transport.gov.scot/sites/default/files/documents/rrd\\_reports/uploaded\\_reports/SCT01171871341/SCT01171871341.pdf](http://www.transport.gov.scot/sites/default/files/documents/rrd_reports/uploaded_reports/SCT01171871341/SCT01171871341.pdf)

<sup>7</sup> Murie, J (2017) Active travel in Glasgow: what we've learned so far. A Glasgow Centre for Population Health (GCPH) report [http://www.gcph.co.uk/assets/0000/6007/Active\\_travel\\_synthesis\\_final.pdf](http://www.gcph.co.uk/assets/0000/6007/Active_travel_synthesis_final.pdf), page 11

<sup>8</sup> Transport Scotland (2016) Travel and Transport in Scotland 2015, page 61 [http://www.transport.gov.scot/sites/default/files/documents/rrd\\_reports/uploaded\\_reports/j450918/j450918.pdf](http://www.transport.gov.scot/sites/default/files/documents/rrd_reports/uploaded_reports/j450918/j450918.pdf)

<sup>9</sup> Car journey includes both driver car and passenger car journeys

<sup>10</sup> Murie, J (2017) Active travel in Glasgow: what we've learned so far. A Glasgow Centre for Population Health (GCPH) report [http://www.gcph.co.uk/assets/0000/6007/Active\\_travel\\_synthesis\\_final.pdf](http://www.gcph.co.uk/assets/0000/6007/Active_travel_synthesis_final.pdf), page 10

The Scottish Parliament's Rural Economy and Connectivity Committee, following their evidence gathering sessions on the Draft Climate Change Plan, reported that active travel has an important role to play in reducing carbon emissions and improving air quality, especially where it replaces car use<sup>11</sup>. We would like to see this emphasised in the government and parliament's response to improving air quality and echo the call of the Rural Economy and Connectivity Committee for the Scottish Government to outline how it intends to meet its active travel modal share commitments, and in particular with regards to 10% of everyday journeys to be cycle journeys by 2020.

With regards to electric vehicles and the creation of a nationwide comprehensive charging network, electric or e-bikes provide an opportunity to broaden the appeal of cycling and to increase participation among groups that do not usually participate in cycling. E-bikes are of interest as they provide a credible alternative for local or short journeys, where a car may currently be the only option, and can thus make a significant positive contribution to improving air quality. They can also help to increase levels of physical activity, and make cycling an inclusive activity for everyone, in particular increasing mobility and independence among the elderly for example. Further, they allow for longer distances to be cycled, and enable users to more easily overcome obstacles like hills and headwinds<sup>12</sup>. A survey carried out by BikePlus, which examined user experience at 11 e-bike share schemes across the UK, found a wide range of positive user outcomes including facilitating new types of cycling and reducing car use. For example, the survey found that around half of all e-bike trips were previously made by private car, as a driver or passenger, or in a taxi<sup>13</sup>. Given the apparent commitment to electric vehicles in the Scottish Government's Draft Climate Change Plan and Cleaner Air for Scotland Strategy, where infrastructure exists for electric vehicles, this needs to be able to be readily accessible by electric bikes to fully realise this opportunity. The current network of more than 800 rapid charging units across Scotland detailed in the Cleaner Air Strategy should be upgraded and expanded to include provision for electric bikes (ref: Q2&3).

### **Modal integration**

The Cleaner Air for Scotland Strategy outlines a focus on the need to improve integration between active travel and public transport. We support this as a key contribution to improving air quality. Passenger journeys on the railway in Scotland have increased by 34% over the last decade<sup>14</sup>. Further, in 2014, emissions from rail accounted for 1.3% of all transport emissions, 44% above the 1990 baseline figure<sup>15</sup>, and is largely a result of increasing demand for rail services. This presents a key opportunity for increased emphasis on the need for better integration between cycling and public transport, and to promote the role cycling can play in making all parts of a journey – from start point to destination – as sustainable as possible. Joining up cycling journeys with truly integrated rail services means that longer distance journeys can be made in a much more sustainable way, and opens up the opportunity to create better conditions for cycling at and around stations to allow for

<sup>11</sup> Scottish Parliament (2017) Rural Economy and Connectivity Committee report on the Draft Climate Change Plan – the draft Third Report on Proposals and Policies 2017-2032 <https://sp-bpr-en-prod-cdnp.azureedge.net/published/REC/2017/3/10/Report-on-the-Draft-Climate-Change-Plan--the-draft-Third-Report-on-Policies-and-Proposals-2017-2032/5th%20Report,%202017.pdf>

<sup>12</sup> European Cyclists' Federation (2016) Electromobility for All: Financial incentives for e-cycling [https://ecf.com/sites/ecf.com/files/FINAL%20for%20web%20170216%20ECF%20Report\\_E%20FOR%20ALL-%20FINANCIAL%20INCENTIVES%20FOR%20E-CYCLING.pdf](https://ecf.com/sites/ecf.com/files/FINAL%20for%20web%20170216%20ECF%20Report_E%20FOR%20ALL-%20FINANCIAL%20INCENTIVES%20FOR%20E-CYCLING.pdf), page 5

<sup>13</sup> BikePlus (2016) Shared Electric Bike Programme Briefing <http://www.carplus.org.uk/wp-content/uploads/2016/03/Shared-Electric-Bike-Programme-Report-Year-1-2016.pdf>

<sup>14</sup> Transport Scotland (2017) Scottish Transport Statistics 2016 Edition [http://www.transport.gov.scot/sites/default/files/documents/rrd\\_reports/uploaded\\_reports/SCT01171871341/SCT01171871341.pdf](http://www.transport.gov.scot/sites/default/files/documents/rrd_reports/uploaded_reports/SCT01171871341/SCT01171871341.pdf), page 108

<sup>15</sup> Scottish Government (2017) Draft Climate Change Plan: the draft third report on policies and proposals 2017-2032 <http://www.gov.scot/Resource/0051/00513102.pdf>

this integration. The benefit is not only felt in terms of cycle-rail tourism, but also to support longer commuting and utility journeys that could be made by a bicycle-train combination. Key to ensuring conditions to support this are the establishment of key cycling routes, cycle parking/storage, provision of bikes, such as cycle-hire schemes at stations, public transport timetabling, ticketing and booking processes, and clear information on how people can integrate bike and train for their journey (ref: Q4).

### **Planning and placemaking to support active travel**

Planning is an important policy area which makes a significant contribution to air quality issues in Scotland. It is important that places and spaces are designed to maximise air quality. To achieve this, there should be a presumption in favour of cycling, walking and sustainable transport in planning infrastructure, particularly focused on facilitating short journeys to help support sufficient modal shift. Sites which prioritise active transport will be at a considerable advantage over places that continue with the pursuit of expansion of road infrastructure and increasing speed of motorised traffic. Where appropriate, the planning system should support and promote car free developments, to realise many of the associated social, environmental, and economic benefits.

Green infrastructure has a crucial role to play in supporting quality of life and sustaining the environment, and there are clear links between planning, place, environmental quality, health, and transport, and air quality. Accounting for cycling in planning enables the benefits of these linkages to be realised. Cycling is associated with a decreased risk of numerous 'lifestyle' diseases including heart disease/attack, stroke, cancer, obesity, and diabetes, and is also known to have a significant positive impact on mental health and wellbeing<sup>16</sup>.

We welcome the inclusion of the Place Standard Tool in the Clearer Air Strategy (ref: Qs2-4).

### **Low Emission Zones (LEZs) (ref: Q5 & Q7)**

The UK operates a system of Clean Air Zones (CAZs) which is an area where targeted action is taken to improve air quality and resources are prioritised and coordinated in a way that delivers improved health benefits and supports economic growth<sup>17</sup>. With regards to Low Emission Zones (LEZs) in Scotland, we are generally supportive of these and believe they could make an important contribution to improving air quality. The timescale set out by the Scottish Government is to have the first LEZ in place by 2018. Given that we are now more than halfway through 2017, we will support action happening as soon as possible. We note that the UK Air Quality Plan mentions that a consultation on the establishment and operation of the first LEZ in Scotland will be launched by the end of August 2017<sup>18</sup>. We welcome the opportunity to comment on the introduction of Scotland's first LEZ.

A pilot in one area is appropriate to test LEZs, although it is important that the pilot is comprehensively evaluated to establish best practice and to learn lessons. Further, the circumstances and challenges faced are likely to differ from area-to-area, so it is important that any

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<sup>16</sup> Avila-Palencia, I, A. de Nazelle, T. Cole-Hunter, D. Donaire-Gonzalez, M. Jerrett, D. A Rodriguez, and M. J Nieuwenhuijsen (2017) The relationship between bicycle commuting and perceived stress: a cross-sectional study, British Medical Journal Open 7:e013542, doi:10.1136/bmjopen-2016-013542

<sup>17</sup> Department for Environment, Food and Rural Affairs, and Department for Transport (2017) Clean Air Zone Framework [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/612592/clean-air-zone-framework.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/612592/clean-air-zone-framework.pdf)

<sup>18</sup> Department for Environment, Food and Rural Affairs, and Department for Transport (2017) UK plan for tackling nitrogen dioxide concentrations. Detailed Plan. July 2017 [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/633270/air-quality-plan-detail.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/633270/air-quality-plan-detail.pdf)

roll-out of the scheme provides flexibility for LEZs to apply and respond to circumstances and conditions of their area.

**Local Authority capacity (ref: Q6)**

We are aware of the challenge of resources, particularly at local authority level, on the ability to invest in planning and infrastructure projects with regards to cycling and active travel which would improve air quality.

**Cycling Scotland  
August 2017**