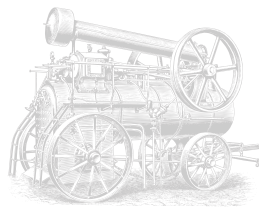




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# AIR NECESSITIES:

## Place-based approaches to a pollution crisis

Tom Follett - February 2017



R E S P U B L I C A   R E C O M M E N D S



## About the Author

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## About ResPublica

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# 1. About this Report

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This paper looks at how cities and local authorities, with support from the Government, can act intelligently to tackle air pollution as soon as possible.

Over the past half-century, the Government has acted several times to address popular concerns about clean air. Changes in the economy have meant the types of pollution that people are exposed to have also changed over time. Today, the main threat to our health comes from the engines of cars, vans, lorries and buses, and the Government's proposed solution is a network of 'Clean Air Zones'.

While national government has a vital role to play in setting a framework and ensuring consistency between cities, it is councils who can draw together different strands of policy and deliver integrated plans to improve people's health, change their means of transport and transform the urban environment.

London is, of course, the worst-affected. But many have posed solutions for the capital, and the wealth of the city makes the transition to a low-economy a little easier. It is outside London, where people are more dependent on their cars and where the solutions will be slightly different, that this report focusses.

The onus is on cities to create plans that can meet the health and economic challenge within a short time-frame, and identify what they need from national government to do so. Many cities will have an advantage from already leading the way on reducing their contribution to climate change – leveraging both their own resources and support from civil society.

Tackling air pollution can go hand-in-hand with tackling climate change. But air pollution is also a separate and, in many ways, more pressing issue. The two pollutants from vehicle engines – Nitrogen oxides and particulate matter – are thought to cause 23,500 and 29,000 deaths per year respectively.

The cities already have some of the tools they need to get started, making them cleaner, healthier, and better places to live, and this report proposes to give them more. The recommendations in this report support both cities with proposed Clean Air Zones and those without. We've also called for support from the centre, where it can enable local approaches to tackle the crisis.

Air pollution is an issue that endangers public health and national prosperity. It's time for governments local and national to act.



## 2. An Urgent Issue

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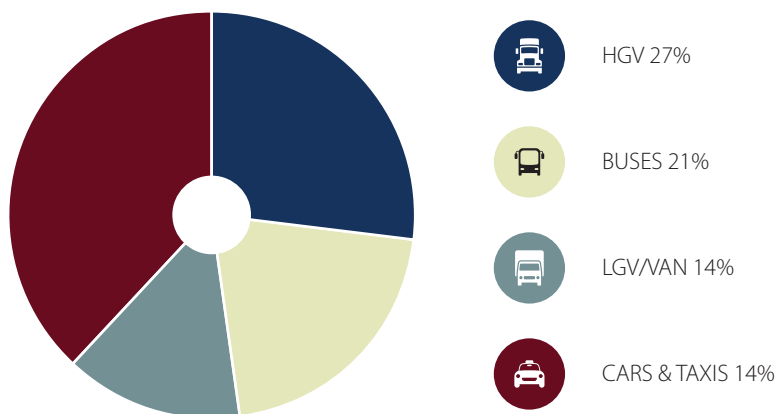
Air pollution is contamination of the indoor or outdoor environment by any chemical, physical or biological agent that modifies the natural characteristics of the atmosphere.<sup>1</sup> Its environmental and health effects have recently been a matter of increasing public attention in the UK.

While there are many types of outdoor and indoor air pollution, outdoor air pollution is a particular problem in the UK's cities. 16 of the UK's cities are exceeding limits for pollutants set in European legislation.<sup>2</sup>

There are two main outdoor pollutants that legislation seeks to control: Nitrogen Oxides (NOx) and particulate matter (PM2.5). The equivalent of approximately 40,000 deaths per year are attributable to the combined effects of these two pollutants. Both are produced in large quantities by diesel engines, with 80% of NOx on high-pollution roads outside London coming from road traffic.<sup>3</sup>

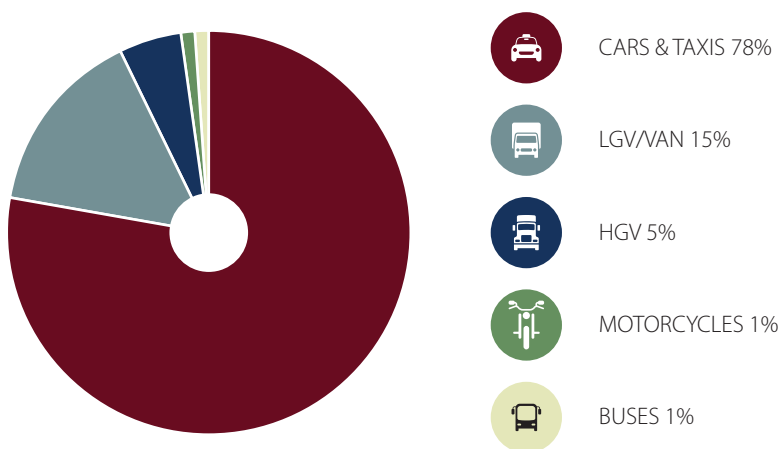
While NOx emissions are decreasing overall, 16 urban areas are in breach of EU limits. In many urban areas the UK is not projected to meet EU target limits by 2020, and

## Roadside NO<sub>x</sub> Outside London on roads exceeding limits (2013)



Source: Department for Environment, Food and Rural Affairs

## Percentage of All UK Traffic (2015)



Source: Department for Transport

developing medical evidence suggests there is 'no safe limit' for NOx exposure, meaning every additional quantity causes harm.<sup>45</sup> NOx is estimated to cause the equivalent of 23,500 deaths per year.<sup>6</sup>

However, PM2.5 emissions are increasing, and were up by 0.9% between 2014 and 2015.<sup>7</sup> PM2.5 is thought by the expert Committee on the Medical Effects of Air Pollutants to be responsible for the equivalent of 29,000 deaths per year.<sup>8</sup> The cost to UK productivity of all air pollution-related early deaths is conservatively estimated at £2.7bn per year.<sup>9</sup>

On the UK's most polluted roads, 80% of NOx emissions are from road transport, with the remainder from a mixture of industrial, residential, agricultural and international sources.<sup>10</sup> Looking at the NOx emissions generated locally on the most polluted roads, 63% are from HGVs, buses, and vans put together, with the remainder from cars and taxis.<sup>11</sup>





### 3. Policy Context

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Air pollution has resurfaced on the political agenda a number of times over the past 50 years, with Parliament passing Clean Air Acts in 1956, 1968 and 1993, each time responding to changes in the main sources of pollution.



















The Government is currently drafting a new plan to tackle air quality, both as a result of significant public interest in the subject and to meet its obligations under the EU Ambient Air Quality Directive.

The central component of the Government's plans are to be Clean Air Zones (CAZs), as set out in the October 2016 Draft Clean Air Zone framework, which the Government will mandate the cities with the worst air quality

to implement.<sup>12</sup> Clean Air Zones will charge the most polluting vehicles to enter, and will typically be drawn around city centres. 'Polluting' will be defined as those with pre-Euro 6 engines for diesel or Euro 4 for petrol.<sup>13</sup> Under current plans, the types of vehicle that will be charged to enter will vary from city to city, depending on the severity of their breach of EU limits. Cities will be mandated to adopt a minimum class of zone, but any city can adopt a more stringent class if they wish. At a minimum, Birmingham, Leeds, Southampton, Nottingham and Derby will have CAZs, but following the release of the Government's revised plan, more cities may follow.

The classes of zone are as follows:<sup>14</sup>

Clean Air Zone Class	Vehicles Included
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<b>A</b>	 Buses	 Coaches	 Taxis			
<b>B</b>	 Buses	 Coaches	 Taxis	 HGVs		
<b>C</b>	 Buses	 Coaches	 Taxis	 HGVs	 LGVs	
<b>D</b>	 Buses	 Coaches	 Taxis	 HGVs	 LGVs	 Cars

Source: Department for Environment, Food and Rural Affairs

The Government's aim is that Clean Air Zones will be more than a congestion charge, and provide "focus for integrating action to improve air quality... differentiating it from a traditional low emission zone which only seeks to exclude polluting vehicles".<sup>15</sup>

As a policy framework, Clean Air Zones provide the restriction on polluters, but leave it up to cities to provide the measures for alternative modes of transport, and leave it to vehicle manufacturers to meet demand for low emission vehicles.

Clean Air Zones provide a 'ceiling' for NOx emissions, but not a very ambitious one, reflecting the fact that the main driver for the policy is avoidance of breaching EU air quality limit legislation. The latest medical evidence suggests there is a positive link between concentrations of NOx and harm, but it is not clear that there is any lower limit to the amount of NOx that causes harm.<sup>16</sup> Given this, many cities may want to take a more ambitious approach to minimize exposure of citizens to NOx, as well as to particulate matter.

An unknown quantity in air policy, and one not dealt with in this report, is Brexit. The recommendations in this report stand whatever the final agreement with the EU – but in the future UK and EU rules may drift apart if a post-Brexit EU implements more stringent rules and the UK does not follow.

At the same time, the Climate Change Act commits the Government to reducing Greenhouse Gas emissions (GHGs) by 80% from 1990 levels by 2050 (50% by 2025). The five-yearly Carbon Budgets help achieve this. However, the policy measures introduced

to meet Carbon Budgets in the transport sector – which are, by nature, long-term – will not have a sufficient impact within the timeframe required to tackle the public health impacts of air pollution.<sup>17</sup>

Therefore, the onus is on cities to create plans that can meet the health and economic challenge within a short time-frame, and identify how national government can support them in doing so.



## 4. Case Studies

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### 4.1 Southampton: A Clean Air Strategy and behaviour change

*Deaths attributable to particulate air pollution in 2010: 110.<sup>18</sup>*

With a significant number of HGVs accessing Southampton Port from the national motorway network, the city faces a difficult challenge in reducing airborne pollution.

Southampton City Council has developed an overarching Clean Air Strategy. The city is committing to developing several measures, including:<sup>19</sup>

- A Clean Air Recognition Scheme to identify those organisations making a difference, provide technical support and advice and a measure to gauge their efforts.
- A dedicated Clean Air brand informing vehicle users of the measures they can take to reduce their emissions by travel planning and vehicle choice.
- A communications campaign to raise awareness about clean travel and vehicle choices amongst businesses and the public.
- Updating its Quality Bus Partnership (QBP) to renew and establish emission standards amongst the bus fleet.

- Investigating opportunities to increase the number of ultra-low emission taxis operating within the city and providing infrastructure to promote and incentivise the uptake of such vehicles, such as: Offering a reduction in licensing fee, waiving the cost for vehicle inspections, offering special badging/branding, and measures to discourage idling at stands.

With funding from the Local Sustainable Travel Fund, the city has run a project called MyJourney, which aims to change behaviour towards walking and cycling through low-cost messaging and small physical interventions. The programme contributed towards a 6% reduction in overall vehicle traffic levels on the city's core commuter corridors between 2011 and 2015.<sup>20</sup>

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## 4.2 Nottingham: Restricting parking and public transport improvements

*Deaths attributable to particulate air pollution in 2010: 150.*<sup>21</sup>

Nottingham City Council voted to develop a Workplace Parking Levy (WPL) in 2007, and implemented it in 2011, becoming the first city in the UK to do so. Powers to introduce a levy have been available since the Transport Act 2000. The Levy charges a yearly rate of £387 (inflation-linked) per liable parking space provided, on employers with more than 11 such spaces.<sup>22</sup>

In its first three years in operation, the Levy raised £35.3m. This revenue has helped pay for:

- Two further lines of the Nottingham Express Transit tram system.
- Upgrading of passenger facilities at Nottingham Station.
- Purchase of electric buses for the council-supported LinkBus network, which has enabled reduction of revenue support, saving money.
- Business support to assist employers to better manage commuter travel through travel planning and parking management.

Nottingham has seen a reduction in miles travelled by cars by 8% since 2000.<sup>23</sup>

The Levy is effective because it provides both a carrot and a stick – removing the incentives for employers to offer subsidised parking while creating a sustainable source of revenue that enables it to plan for the long-term.

Politically, implementation of the Levy faced difficulty persuading the business community.<sup>24</sup> Its acceptance was the result of a comprehensive communications campaign, and specifically, hypothecating the income from the WPL to a specific set of measures, most visibly the tram network.<sup>25</sup>

### *4.3 Birmingham: LPG taxi demonstration project*

*Deaths attributable to particulate air pollution in 2010: 520.<sup>26</sup>*

The Department for Transport funded a £500,000 project to convert part of Birmingham's fleet of 'Black Cab' taxis to LPG (Liquefied Petroleum Gas), in partnership with Birmingham City Council. The project involved training mechanics and equipping a suitable garage, establishing a supply chain and developing the technology and procedures for repowering diesel Black Cabs.

The project also required the work to be undertaken by Birmingham-based businesses, demonstrating the importance of local stakeholders in market-making. The average cost of conversion per taxi was approximately £8000, which was covered by the grant funding. 63 taxis are being repowered, and emissions are being reduced for each taxi by 80% for NO<sub>x</sub> and 99% for particulate matter, well below the Euro 6 standard that Clean Air Zones will require vehicles to comply with.<sup>27</sup>

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## 5. Three Priorities for Action

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### 5.1 *Make Clean Air Zones work well*

It is vital that Clean Air Zones (CAZs) work effectively and that they are aligned with wider goals of supporting sustainable city centres for the long-term.

#### 5.1.1 **Expand the number of Clean Air Zones**

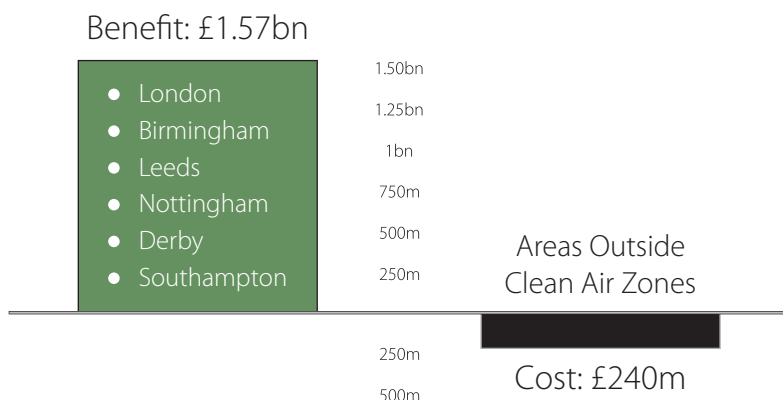
Air pollution is not just something that happens in five cities, and a solution is needed for other places too. However, there is also a danger that polluting vehicles which are charged to enter Clean Air Zones are relocated to other cities without Clean Air Zones, bringing down the overall standard of the vehicle fleet in other cities. This could happen in a number of ways:

- Vehicles owned by national operators are relocated to depots in other cities when gaps arise, instead of purchasing new ones (Buses, LGVs, HGVs).
- Non-CAZ compliant vehicles enter the market when CAZ charging begins in the cities they were originally located in, this leads to a drop in the price of older vehicles and an increased incentive for operators in non-CAZ cities to purchase them instead of newer vehicles (Buses, LGVs, HGVs, Taxis).

*(See figure next page.)*

DEFRA's cost-benefit analysis estimates that inside the five Clean Air Zones consulted on

## Clean Air Winners and Losers



Source: Department for Environment, Food and Rural Affairs

in October 2016, 17,100 tonnes of NO<sub>x</sub> will be saved, a benefit of £1.57bn. Outside the five planned Clean Air Zones, in the period 2020-2029 an additional 10,600 tonnes of NO<sub>x</sub> will be emitted at a cost of £240m in economic and health impacts.<sup>28</sup> So while the impact outside the Clean Air Zones will be smaller by comparison, it will be spread widely.

Reflecting the persistency of the issue across many urban areas, and the need to keep displaced vehicles from moving in to other areas, the number of Clean Air Zones should be expanded. Class D (car-charging) Clean Air Zones should be implemented in all cities breaching the current EU standards by 2021 to prevent downward competition between cities and displacement of polluting vehicles.

### 5.1.2 Avoid creating incentives for car travel

If mandatory CAZs impose restrictions on buses, but not cars, the relative cost of making a bus journey relative to a car journey will increase. If this cost is passed on to bus passengers, it will result in an inequitable treatment, as they will be made to pay for their NO<sub>x</sub> emissions even though, per head, car users may emit more (dependant on the makeup of the car fleet).

This additional cost to buses could, at the margins, cause some bus routes to be unprofitable, and in turn could cause a withdrawal of some bus services and an increase in car trips. This would be counterproductive when national transport strategy is to encourage shift away from cars to public transport.



This is not so much of an issue in areas where buses are franchised, such as London, as routes are sold as packages that bundle profitable and unprofitable routes. However, in areas where the bus market is deregulated, routes must be profitable on their own to be commercially viable. Only London has a regulated bus market, although other local authorities will soon have enhanced powers to manage their bus services as a result of the Bus Services Bill currently going through Parliament.

Therefore, **where buses are included in Clean Air Zone charges, cars should also be included.** This will necessitate a rethink of the classes of Clean Air Zone available.

The Government's Low Emission Bus Scheme fund has supported electric and alternative-fuel buses in a number of trial schemes around the UK, helping to create a market for low-emission buses. To better align this goal with the significant costs that smaller bus operators will face to purchase new vehicles, **future rounds of Low Emission Bus Scheme funding should be targeted at routes which are objectively of marginal profitability and which pass through Clean Air Zones.** This will help avoid subsidising bus operators that would have invested in new vehicles anyway once a CAZ was introduced.

In order to move all buses beyond Euro 6 to low-emission (gas or electric), Clean Air Zone councils should publish plans identifying how they will work with bus operators to **move all buses to gas or electric as soon as possible.**

### 5.1.3 Certainty and fairness for commercial operators

To allay uncertainty about how to buy the correct vehicles, it is vital that a clear, phased approach is taken to implementing Clean Air Zones. This can provide businesses with the opportunity to plan ahead and spread any costs over several years. This is particularly important for SMEs, who may not have the corporate capacity to horizon-scan for policy developments that could affect them.

Therefore, **cities should set out a clear, predictable timeframe** for implementing Clean Air Zone charging, with clear waypoints spread over 5 years.

## 5.2 Support a rapid transition to low-emission vehicles

At the same time as the introduction of the Clean Air Zones – the stick – measures should be taken to directly support a shift away from polluting vehicles – the carrot.

### 5.2.1 Fund scrappage schemes and Pollution Reduction Vouchers through Clean Air Zone charging and vehicle registration fees

Revenue generated from Clean Air Zone user charging can only be used for measures to improve air quality, and the maximum level that cities will be able to charge has not been agreed. A relatively high tariff would enable the recycling of revenue into ambitious air quality improvement schemes. For illustration, London's Congestion Charge only spends 35% of its revenue on costs, with net income of £168m per year directed to

infrastructure spending.<sup>29</sup> Revenue collected would decrease over time as more vehicles became compliant.

Scrappage schemes have been suggested as a means to get older vehicles off the road. However, a blanket scrappage scheme is likely to be poor value for money for emissions reduced, and would also put new fossil-fuel cars with an average life of 14 years on the road.<sup>30</sup>

We propose, rather than a national scrappage scheme, **locally-targeted Pollution Reduction Vouchers funded from Clean Air Zone user charging and new vehicle registration.**

A very similar scheme to this operates in Southern California. Pollution Reduction Vouchers would be available to households earning less than 60% of the median UK household income, living in a city-region with a Clean Air Zone and owning a noncompliant vehicle purchased before a cut-off point. They could be exchanged for:

- Retrofitting of a noncompliant petrol car with LPG (Liquefied Petroleum Gas) fuel. For other cars (if technically possible), Euro-6 standard exhaust control.
- Scrapping a noncompliant vehicle and value towards a low-emission vehicle.
- Scrapping a noncompliant vehicle and value towards a car-club membership, public transport yearly ticket, or bike.

Pollution Reduction Vouchers, of £1000 each, would be funded by revenue from Clean Air Zone user charging, and from a £10 addition to Vehicle Registration Fees. This could raise up to £30m.<sup>31</sup> (See *figure opposite*.)

### California Air Resource Board – EFMP Plus-Up<sup>32 33</sup>

In Greater Los Angeles and the San Joaquin Valley, a pilot project is supporting households who wish to trade in their old, polluting vehicles. In return for scrapping their vehicle, households are entitled to money towards a cleaner vehicle or a public transport pass. The amount received depends on two elements: what type of replacement car it is (the cleaner the car, the more money is provided), and income level.

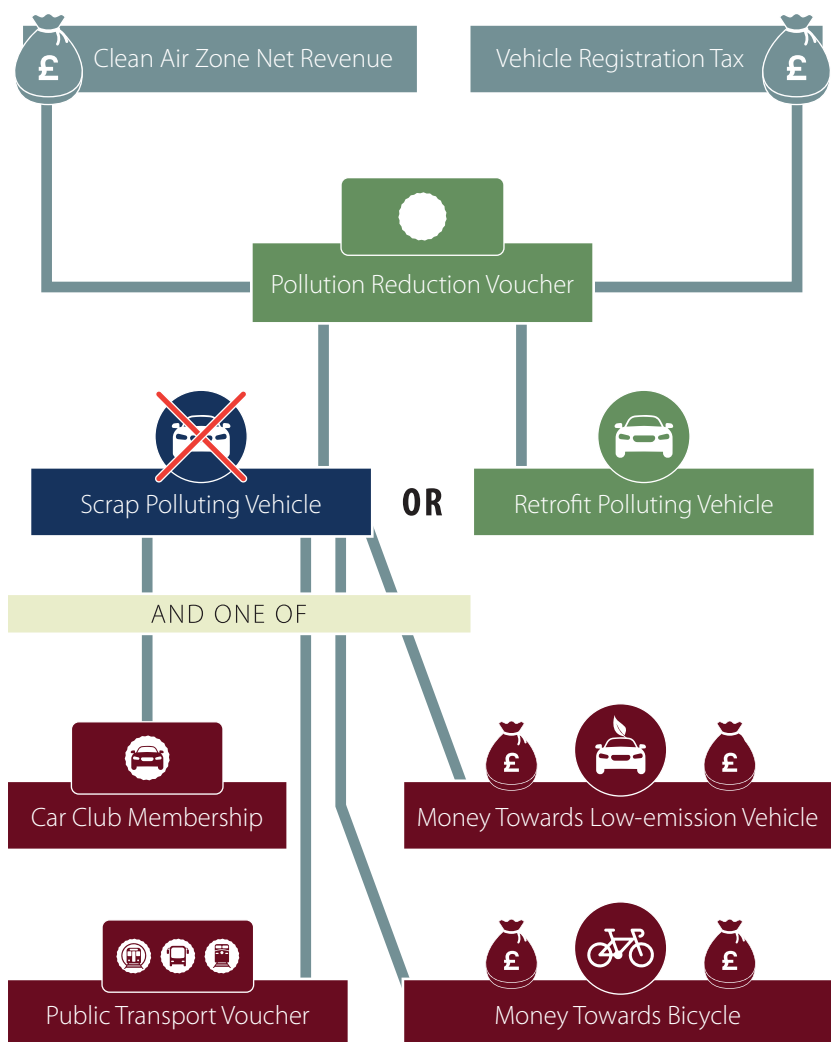
Lower-income residents are entitled to higher levels of support, and more support is provided depending on how good the replacement car's standards are. A low-income family can receive up to \$12,000 for an electric car.

The program is funded by a \$1 tax on new vehicle registrations.

### 5.2.2 Support a market for retrofitting of vehicles

A significant amount of asset value will be lost if bus operators are forced to scrap existing fleets, which could impact on the sustainability of bus routes operated with older, second- or third-hand buses. Bus operators are currently faced with no commercially-viable solution to adapt (retrofit) buses to be low-emission that can be rapidly and easily applied to existing fleets. The cost

## Pollution Reduction Vouchers



Source: ResPublica

of purchasing new buses will impact on both regulated and unregulated bus markets, with the cost ultimately paid by either the commercial operator or councils that are supporting subsidised services.

To remedy this, a **national trial of bus retrofit technologies** is needed, to bring to market a reliable, scalable solution for either bus conversion to gas power or for bus exhaust control up to Euro 6 standard.

At the same time, for commercial vehicle operators to invest in upgrading their vehicles, clear assurance is needed that their investment is in a quality product. The Government is currently working with the Low Carbon Vehicle Partnership on a scheme to accredit aftermarket conversion/emissions control, and this should be accompanied by **a recognisable low-emission adaptation 'kitemark'** – “Clean Air Zone Compliant” or similar.

### 5.2.3 Integration with Industrial Strategy and the sector deal for low-emission vehicles

In the Government's Industrial Strategy, a new Sector Deal for low-emission vehicles was announced. At the same time, the new Industrial Strategy Challenge Fund is engaging with Research Councils on appropriate 'challenges'. This presents a clear opportunity to bring together advanced technology development capability with the Clean Air Zone framework.

Existing Low-Emission vehicle research clusters should be assessed for their suitability for a CAZ, and for developing further demand for low-emission technologies by using local measures.

### 5.2.4 Provide a package for Taxis

Taxis and Private Hire Vehicles make up a significant proportion of trips in city centres. Regulation differs between cities. However, there is an opportunity for councils to **offer a package of measures that supports taxi drivers** to invest in a low-emission vehicle as part of a sustainable business plan. This is possible because the high mileage driven on taxis makes the economic savings from conversion to low-emission viable after just a short amount of time.

#### Relative costs of taxi conversion<sup>34 35 36</sup>

The current cost to convert a taxi to LPG, taking into account the pound's recent fall, is approximately £10,000. This can typically be recouped over 3 years (30,000 miles pa).

New zero-emission capable (range-extended) petrol taxis will come on to the market in 2017. In these vehicles, a battery pack can be recharged for zero-emission journeys, which can be topped-up by a small petrol engine in-between charges. Pricing has not been released but sources have indicated that these will cost around £55,000.

The technology available will impact on the pace of transition of the taxi fleet. If the cost of an electric conversion remains high (approximately four times that of LPG conversion), take-up of this option will remain slow as the time to repay investment will be longer.

In some areas the supply chain needs to be augmented to support conversion, as was the case in Birmingham, where a new garage had to be equipped to convert black cabs. In addition, built-up city centres can create problems finding the land for installing new refuelling facilities.

To support taxi operators to move to low-emission vehicles, cities should:

- Offer taxi drivers zero-interest loans to convert their vehicles to LPG/biogas.
- Offer better licensing terms for LPG retrofitted taxis – such as a 5-year extension to the age limit of the taxi, which in many areas is currently 15 years.
- Reduce licence fees for drivers of low-emission taxis.
- Offer free taxi inspections for low-emission taxis.

### 5.2.5 Provide infrastructure for low-emission vehicles

Councils have a key role to play in integrating support for low-emission vehicles into the planning process. Without suitable facilities and infrastructure, a sustainable market for alternative-fuel and electric vehicles cannot be created.

**As part of their Local Transport Plan process, councils should review the coverage of low-emission fuelling/charging infrastructure on their roads and look to ‘fill in the gaps’ at suitable sites. These locations could be offered to a commercial partner, or operated at cost by**

councils. They might take advantage of existing lorry parks, HGV depot, and bus facilities, to support operation of low-emission vehicles outside and inside Clean Air Zones. Councils own large amounts of land in cities, and so are well-placed to be able to deliver suitable sites for low-emission fuelling facilities.

A complementary, but less hands-on approach would be to encourage commercial refuelling sites to come forward by **offering business rate relief on low-emission refuelling sites as well as time-limited low-interest loans for low-emission refuelling sites.**

Councils themselves are also often large fleet operators in their areas, with, for example, waste collection, street maintenance, and parking teams. As large purchasers, councils have substantial leverage when procuring services. They already use this to, for example, require payment of Living Wage to staff.

This leverage could be used to move large fleets over to low-emission, whether in Clean Air Zones or not. **When procuring contracted-out services, councils should require that contractors use low-emission (gas or electric) vehicles.**

### 5.2.6 Removal of polluting tax incentives

Currently, Vehicle Excise Duty (VED) for the first year of a car's life is based on CO<sub>2</sub> emissions only. While price signals should be linked to Greenhouse Gas emissions too, this should not be at the cost of incentivising purchase of locally-polluting vehicles.

For the 2<sup>nd</sup> year onwards VED rate, which is currently flat each year for all cars worth under £40,000, **a tiered VED that makes polluting cars pay year-on-year** should be reintroduced to reflect their ongoing contribution to air quality costs. The banding should incorporate CO<sub>2</sub>, NO<sub>x</sub> and PM<sub>2.5</sub> emissions, ensuring that polluting cars keep paying for every year they are on the road. This would only apply to newly-purchased cars.

### *5.3 Allow strong local ambition*

#### **5.3.1 Take on greater responsibility for public transport networks**

Lack of appropriate infrastructure to support a shift to public transport is often cited as a reason why congestion-charging schemes are inappropriate in UK cities. This is not just a perception – UK rapid transit networks outside London are underdeveloped compared to European ones. To support economic growth once CAZ charges are in place, it is vital that cities have a functional transport network that responds to the needs of the city.

To that end, in parallel with the introduction of Clean Air Zones, **cities should appraise how they will create a coherent brand, standards and network of routes**, considering options for buses including Advanced Quality Partnerships and direct franchising. Visual identity and the function of the public transport network as a whole should be addressed in the physical realm and in marketing material, and presented as part of the same five-year plan to introduce CAZ charging.

#### **5.3.2 Count the gains as well as the losses from reducing car parking**

Restricting availability of parking is vital to reduce congestion, either before or after drastic public transport improvements. However, parking charges are an important part of many cities budgets. Restricting the availability of parking can look like a net loss to the council. Therefore, it is important for councils to develop a view of the big picture from using the space occupied by parking more productively. Therefore, **councils should assess how valuable parking space would be if used for other purposes** to help take tough decisions.

Reducing parking spaces can create new revenue streams for cities, in the forms of property development and joint ventures. The value of public realm improvements from reduced traffic flow may also manifest in higher land values, and therefore Business Rates (which are shortly to be fully devolved to councils). Therefore, cities need to look at how they can incorporate short-term loss of revenue from parking into longer-term place strategies.

#### **5.3.3 Cut through to citizens**

Congestion charging was previously defeated when put to a referendum in Manchester in 2008. It is likely that defeating local political opposition will be vital to implement ambitious air quality improvement schemes. However, public awareness of the public health implications of air pollution are generally low, despite their widespread impact. As a result, there is the potential for Clean Air Zone measures to be seen as ‘additional taxes’ rather than a solution to a public health crisis.

To remedy this, a multi-track approach is needed:

- It is vital that cities start early in highlighting the public health impact of air pollution via the local media.
- Cities should make use of existing assets at their disposal – public displays and council-owned buildings – to get the message across. For example, London is shortly to implement a scheme where the level of air alert is communicated via electronic assets at Underground stations.
- Local stakeholders and third party groups should run their own local campaigns to raise awareness of the health impact of air pollution.
- Cities should highlight that charges are part of a phased plan, with charges being implemented at the same time as radical public transport improvements.
- Metro-mayor candidates should outline a five-year air pollution plan in their manifestos for the May 2017 elections.



## 6. List of Recommendations

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### 6.1. *Make Clean Air Zones work well*

#### **For Government:**

- Mandate Class D (car-charging) Clean Air Zones in all cities breaching the current EU standards by 2021 to prevent downward competition between cities and displacement of polluting vehicles.
- Retarget the Low Emission Bus Scheme funding to specific marginal bus routes that are likely to be withdrawn if buses are charged to enter Clean Air Zones.

#### **For Cities:**

- Where buses are included in Clean Air Zone charging, cars should also be included (otherwise this will create an undesirable cost advantage for cars).
- Provide clear plan for 5-year phased implementation of Clean Air Zones – allowing time for all businesses to adjust and buy new vehicles.
- Clean Air Zone councils should publish plans identifying how they will work with bus operators to move all vehicles to gas or electric as soon as possible.



## *6.2 Support a rapid transition to low-emission vehicles*

### **For Government and Cities:**

- A £10 surcharge on new vehicle registrations and the revenue from Clean Air Zones should be used to fund Pollution Reduction Vouchers of £1000 each. These would be available for those living in cities with Clean Air Zones, with polluting vehicles purchased before 2017, in households earning less than 60% of median UK household income, to help offset the cost of the charge.
- Pollution Reduction Vouchers could be spent on vehicle retrofit schemes, a low-emission vehicle, a bike, or a multi-year public transport ticket.

### **For Government:**

- Fully fund a scalable technology development program to retrofit noncompliant buses so operators have viable technology to convert old buses. This will help avoid destroying smaller operators, which will damage the bus market.
- Publish as soon as possible a clear national 'kitemark' for retrofit technology accredited through the Low Carbon Vehicle Partnership accreditation scheme, whether through emissions reduction, LPG, electricity, methane, or other alternative fuels.
- Integrate Clean Air Zones with the Industrial Strategy Low Emission Vehicle (LEV) Sector Deal. Centres of excellence and manufacture for LEVs should be located in

regions with Clean Air Zones.

- Vehicle Excise Duty for newly registered cars should be tiered, with the most polluting (based on combined CO<sub>2</sub>, NO<sub>x</sub> and PM<sub>2.5</sub>) paying higher rates every year rather than the current flat rate after year 1.

### **For Cities:**

- Offer a taxi package of:
  - › Zero-interest loans to convert their vehicles to low-emission vehicles, whether LPG or electric (if available)
  - › Extended licensing term of life for low-emission retrofitted taxis.
  - › Reduce licence fees for drivers of low-emission taxis.
  - › Free taxi inspections for low-emission taxis.
- As part of their Local Transport Plan process, councils should review the coverage of low-emission fuelling/charging infrastructure on their roads and look to 'fill in the gaps' at suitable sites in and outside of CAZs, making use of land they own.
- To encourage commercial low-emission refuelling sites, councils should offer business rate relief as well as time-limited low-interest loans.
- Councils should lead the way by adapting their own fleets to low-emission vehicles, and requiring that contractors do the same.

### *6.3 Allow strong local ambition*

#### **For Cities:**

- In parallel with the introduction of Clean Air Zones, cities should appraise how they will create a coherent transport brand, standards and network of routes, considering options for buses including Advanced Quality Partnerships and direct franchising.
- Councils should produce assessments of the potential value of parking land if used for other purposes, to help them take tough decisions around parking reduction.
- City councils should start an honest conversation about the impact and cost of air pollution in local media, and communicate daily pollution alerts using existing visual displays and other electronic media.
- Cities should run public engagement campaigns outlining how public transport will be improved in the run-up to implementation of Clean Air Zones, presenting all aspects as part of an integrated plan.
- Metro-mayor candidates should outline a five-year air pollution plan in their manifestos for the May 2017 elections.
- Local stakeholders and groups should run public campaigns to raise awareness of the effects of air pollution on health.

# ENDNOTES



R E S P U B L I C A   R E C O M M E N D S

# Endnotes

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## Prosperity

The UK has some of the highest levels of wealth concentration in the developed world. It has an economy where most mature markets are dominated by a small number of players and the barriers to entry are far too high. It is not an exaggeration to suggest that in many areas, from energy to banking to groceries, the UK has a monopolistic rentier rather than a market economy – a system in which certain individuals or small groups gain market dominance and excessive returns through anti-competitive practices. This conspires against innovation and is detrimental to the small and emergent businesses that generate growth and spread prosperity. Added to this, our education system, by specialising too early and often in the wrong areas, fails to produce students with fully rounded skill-sets. We are simply not equipping our future workforce with the means to safeguard our, and their, economic future. This is one reason why the real value of wages in proportion to growth in GDP continues to stagnate or fall. Our long-term productivity dilemma is a function of market capture and the effective de-skilling of the population.

We believe that shared prosperity cannot be achieved by simply tweaking the market. Britain needs significant demand and supply-side transformation, with new visionary institutions re-ordering our economy. We need long-term solutions that give power over wealth and assets, not simply handouts, to ordinary people. Central to this process of economic empowerment is an ethical, practical and adaptable education that gives people the skills to build their own businesses, or develop their own talents, rather than a conveyor belt to a service industry of low wage and less return.

New financial institutions to promote small business lending are required, and this involves smaller, more specialised and decentralised banks that can deliver advice as well as capital. We wish to explore ways in which all financial transactions can be linked to a wider social purpose and profit, which itself needs a transformation of the legal framework within which economic transactions take place. We believe that the future lies in the shaping of a genuinely social market which would be in consequence a genuinely free and open market. Internalising externalities and creating a level economic playing field in terms of tax paid and monopolies recognised and challenged, remains beyond the scope of contemporary governments to deliver. Such a vision requires new concepts. The viable transformative solutions lie beyond the purview of the current visions of both left and right in the UK



PROSPERITY PROSPERITY PROSPERITY PROSPERITY

Air pollution, particularly that generated from road traffic, kills the equivalent of 40,000 people each year and costs the NHS and the economy billions of pounds. Increased use of diesel vehicles has led to unacceptable levels of pollution, and the effects are worst in our city centres.

In this report, we identify how cities and local authorities in all parts of the country, with support from the Government, can act intelligently to tackle air pollution over the next five years. While national government has a vital role to play in setting a framework and ensuring consistency between cities, it is councils who can draw together different strands of policy. But air pollution is also a crisis that we cannot let go to waste, offering the opportunity to improve people's health, upgrade our transport networks and transform the urban environment.



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