



Mayor of London's air quality consultation: British Lung Foundation submission

June 2017

The British Lung Foundation is pleased to submit a response to the third phase of the Mayor's air quality consultation.

Our response will cover:

- The health effects of air pollution in London
- Our strong support for a wider and smarter Ultra-Low Emission Zone by 2019
- The importance of a sunset exemption period for blue badge holders
- The need for clear and ambitious health targets on air pollution
- How we should be protecting vulnerable lungs from air pollution

London's public health crisis

London has some of the highest and most harmful levels of air pollution in the UK. Around 12.5% of the total area of London remains above the legal limit for nitrogen dioxide (NO₂). Whilst legal limits for particulate matter (PM₁₀) are being met, 88% of the total area of London breaches the safe limit defined by the World Health Organisation (WHO).¹ These levels often put London on par with other global cities such as Shanghai and Beijing.² Air pollution can impact on all our respiratory health and has been linked to 9,400 early deaths a year in London.³ Interventions to improve London's air have so far failed to rise to the challenge of this health crisis.

We are pleased that the Mayor of London has made improving air quality a key priority and urge Transport for London (TfL) to put in place ambitious and effective policies that meet the scale of this problem. The emissions surcharge that is being brought in October 2017 is a welcome step in the right direction but must be accompanied by an extensive and ambitious Ultra Low Emission Zone (ULEZ) in order to bring London's air into legal and safe limits. This ULEZ should be brought in as soon as possible in order to protect all our health.

¹ Howard R, Beevers S, Danjank D (2016) Up In the Air: How to solve London's air quality crisis - Part 1, <http://www.policyexchange.org.uk/publications/category/item/up-in-the-air-how-to-solve-london-s-air-quality-crisis-part-1>

² AMEC (2014) Comparison of Air Quality in London with a Number of World and European Cities, https://www.london.gov.uk/sites/default/files/comparison_of_air_quality_in_world_cities_study_final.pdf

³ Kings College London (2015) Understanding the Health Impacts of Air Pollution in London

Our lungs need clean air

Over 1.1 million people live with a lung condition in London.⁴ People with chronic obstructive pulmonary disease (COPD) and asthma face worsening symptoms, exacerbations and increased hospitalisation from acute and everyday pollution exposure.⁵ On average, a severe COPD exacerbation costs the NHS £3,726.⁶ People with an existing lung condition are at a higher risk of early death from air pollution. Acute pollution episodes can worsen their condition and determine how they are able to spend their day. In London, over 1,000 people attend one of our 28 Breathe Easy support groups. Patients attending these groups often tell us that pollution makes it harder for them to breathe and restricts where they are able to go in London. The most polluted roads in London have become “no-go” areas for many of them.

Children’s lungs are disproportionately vulnerable to air pollution as their lungs are still growing, making them less resilient. Children exposed to severe air pollution are up to four times more likely to have poor lung development compared to those growing up in less polluted areas.⁷ They are also more susceptible to respiratory infections.⁸ Everyday exposure to pollution has been shown to contribute to increased inflammation of the airways in healthy children and children with asthma.⁹ Additionally, children’s height means they tend to be exposed to more roadside pollution and more particulate dust which rests at ground level.^{10 11} Children with smaller lungs are more likely to face further health problems in later life.¹² Pollution can negatively impact on children’s development before they are even born, studies have linked pollution with low birth weight and pre-term birth, both of which can impact on children’s long-term lung development.^{13 14}

For all Londoners, long-term exposure to air pollution can increase people’s risk of lung cancer, coronary events and cardiovascular disease.¹⁵ Emerging evidence also links air pollution to a decline in cognitive function in older adults,¹⁶ and to type 2 diabetes.¹⁷

Our *Battle for Breath* report showed that relative prevalence rates for COPD increased by a third across London between 2004 to 2012, similarly, rates have gone up for lung cancer and bronchiectasis. In comparison to other regions in the UK with a similar prevalence, London has notably more hospital admissions for COPD. In 2015, over 50,500 deaths in London were from respiratory disease.¹⁸ While air pollution is not the sole factor behind these statistics, it is likely to have played a large part. To improve health outcomes for respiratory, urgent action needs to be taken on air pollution.

⁴ The British Lung Foundation (2016), *The Battle for Breath: the impact of lung disease in the UK*, May 2016 <https://www.blf.org.uk/what-we-do/our-research/the-battle-for-breath-2016>

⁵ Halonen et al, (2008) *Urban air pollution, and asthma and COPD hospital emergency room visits*, Thorax Jul; 63(7):635-41. doi: 10.1136/thx.2007.091371. Epub 2008 Feb 11. p365

⁶ McLean et al (2016) *Projecting the COPD population and costs*

⁷ Anderson, J. et al (2012) *Clearing the Air: A Review of the Effects of Particulate Matter Air Pollution on Human Health*. J Med Toxicol, Volume 8, pp. 166-175. p.170

⁸ Macintyre, E.A., Gehring, U., Molter, A., Fuertes, E., Klümper, C., Krämer, U., et al. (2014). *Air pollution and respiratory infections during early childhood: An analysis of 10 European birth cohorts within the escape*

⁹ Sara D. Adar et al, *Adopting Clean Fuels and Technologies on School Buses: Pollution and Health Impacts in Children* Am J Respir Crit Care Med, Apr 2015

¹⁰ Kenagy, H.S. Lin, C. Wu, H. Heal, M.R. (2016) *Greater nitrogen dioxide concentrations at child versus adult breathing heights close to urban main road kerbside* Air Qual Atmos Health. 2016;9:589-595. Epub 2015 Sep 15.

¹¹ Columbia University School of Nursing, ‘Incidents Affecting Children’, accessed 13 July 2016

¹² Stocks, Janet, and Samantha Sonappa, ‘Early Life Influences on the Development of Chronic Obstructive Pulmonary Disease’, *Therapeutic Advances in Respiratory Disease*, vol. 7, no. 3, 2013, pp, 161-173.

¹³ Pedersen M et al, (2013) *Ambient air pollution and low birthweight: a European cohort study (ESCAPE)*, *The Lancet Respiratory Medicine*, Volume 1, No. 9, p695-704 p.695

¹⁴ Shah PS, Balkhair T (2011). *Air pollution and birth outcomes: a systematic review*. *Environment International*, 37(2):498-516.

¹⁵ Peters A et al. (2014) *Long term exposure to ambient air pollution and incidence of acute coronary events: prospective cohort study and meta-analysis in 11 European cohorts from the ESCAPE Project*. *BMJ* ;348:f7412 p.2

¹⁶ Ailshire J et al (2014) *Fine Particulate Matter Air Pollution and Cognitive Function Among U.S. Older Adults*. *J Gerontol B Psychol Sci Soc Sci* p. 325

¹⁷ Peters A (2012) *Epidemiology: air pollution and mortality from diabetes mellitus* *Nature Reviews Endocrinology*, 8(12):706-707. p.706

¹⁸ Office of National Statistics (2016) *Deaths registered in England and Wales: 2015*, <https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/deaths/bulletins/deathsregistrationssummarytables/2015>

According to a recent survey of the general public, nearly half of respondents said poor air quality had a direct impact on their health. The most frequently reported symptoms were asthma, breathing difficulties and coughing. The most affected groups were people aged 25-34, those who live in inner London, those who cycle, and people with children. In this survey, 39% of people said air quality impacted on decisions they made regarding their health.¹⁹

Tackling London's health inequalities

Health inequalities across London are inextricably linked with exposure to air pollution. Deprived communities are more likely to be exposed to toxic pollution levels, yet have less access to public transport, cycle paths, walking routes and green space.²⁰

People in London's poorest boroughs are twice as likely to have COPD and lung cancer compared to people living in London's richest boroughs.²¹ Children in more deprived areas are also likely to be at higher risk, 443 schools in London are located in areas that exceed legal levels of NO₂, 83% of these schools are considered deprived.²² Reducing air pollution and promoting active travel will help create greener, safer and healthier communities. In turn, this is likely to have co-benefits across public health, such as increased physical activity rates and reduced obesity levels.

An Ultra Low Emission Zone in 2019

- We strongly support the principle of an ULEZ to improve air quality in London
- We strongly support bringing forward the ULEZ to 2019

Air pollution on many of London's roads is at illegal and harmful concentrations. The largest share of NO_x and PM₁₀ emissions come from road transport. With 48% of these NO_x emissions coming from: diesel cars (24%), petrol cars (14%) and vans (14%).^{23 24} To clean up London's air, we need to radically reduce the number of polluting vehicles on our roads. That's why we strongly support the ULEZ and think that it should be implemented as widely and quickly as possible.

A recent report showed that if the number of diesel cars in London were reduced to around 10% of the car fleet (from its current level of 57%) then London would be much closer to legal compliance for NO₂ limits. This modelling showed that even this major reduction would not deliver legal compliance for London. Therefore, to achieve a safe and legal level of air pollution, all policy options should be considered.²⁵

We strongly support early implementation of the ULEZ in 2019 so that the health benefits are felt as soon as possible. TfL estimate that early implementation would result in road transport NO_x emissions in Central London being reduced by an additional 20% in 2019 with 42% less people in Central London living in areas exceeding the legal limits for NO₂.²⁶ Early implementation will save lives, improve people's quality of life and reduce the burden on health services. These health impacts will benefit vulnerable people the most.

Policy interventions in London to improve air quality and traffic congestion have so far failed to rise to the challenge of this public health crisis. London's current Low Emission Zone has failed to deliver positive health outcomes. In the three years it has been operating there has been little evidence of

¹⁹ London Councils (2016) Air Quality Poll, <http://www.londoncouncils.gov.uk/our-key-themes/environment/air-quality-london> , Accessed: November 2016

²⁰ Public Health England (2016) Working Together to Promote Active Travel: a briefing for local authorities

²¹ The British Lung Foundation (2016), The Battle for Breath: the impact of lung disease in the UK, May 2016 <https://www.blf.org.uk/what-we-do/our-research/the-battle-for-breath-2016>

²² Mayor of London (2016) Analysing Air Pollution Exposure in London, Accessed: November 2016

²³ Transport for London (2016) New proposals to improve air quality, consultation and information document.

²⁴ Department for Transport, Vehicle Certification Agency. Cars and fuel options (webpage: last checked May 2015).

²⁵ IPPR (2016) Lethal & Illegal: London's air pollution crisis, <http://www.ippr.org/publications/lethal-and-illegal-londons-air-pollution-crisis>

²⁶ Transport for London (2017) ULEZ consultation and information document, April 2017

air quality improvement or improvement in children's lung health.²⁷ This has been attributed to the lack of vehicles that it includes - it only includes large vehicles such as coaches, buses, lorries and light goods vehicles, rather than private cars. Additionally, the zone does not cover a wide enough area to be effective, and was modelled on an assumption that the real world emissions from vehicles are the same as those reported by manufacturers. Widespread evidence has shown this not to be the case. The Department for Transport's latest report found that some diesel cars break their own emission standard by a factor of 10.²⁸

Likewise, studies have shown London's congestion charge has helped reduce traffic on London roads and led to some improvement in air quality. With one study finding that from 2003-2007, 1,888 years of life were gained in London from air quality improvement. More deprived areas that had higher air pollution concentrations experienced the greatest reductions and mortality benefits compared to the least deprived areas.²⁹ By building on the congestion charge and targeting charging to the most polluting vehicles over a wider zone, these emissions reductions and health benefits will be even more significant.

Clean air zones in other European cities have demonstrated that emissions can be effectively reduced with strong and widespread implementation. A zone introduced in Berlin in 2008 (which included cars) and expanded in 2010 led to PM and NO₂ emissions 50% and 20% lower than the predicted trend.³⁰ Even small reductions in vehicle numbers can lead to significant health benefits. The low emission zone which operated in Rome from 2001-2005, achieved a 4% reduction in total number of cars. NO₂ emissions decreased from 22.9 to 17.4 µg/m³ and PM₁₀ emissions decreased from 7.8 to 6.2 µg/m³. As a result of the policy, 264,522 residents who lived alongside busy roads gained an average 3.4 days of life per person.³¹

An Ultra Low Emission Zone with ambitious health targets

- We strongly support the introduction of a particulate matter standard for diesel vehicles within the ULEZ standard
- Ambitious health targets should be set for the ULEZ and integrated with local health plans

While particulate matter levels in London do not breach legal limits, they are still at levels that pose a significant risk to human health. The EU annual average legal limits for PM₁₀ are twice as high as the limit that the WHO recommend as "safe."³² The WHO state that there is no "safe" level of exposure to particulate matter and it is strongly linked to increased incidence of lung cancer.³³ Studies have shown that the exposure to fine particles, such as PM₁₀ even at low concentrations below the legal level impact on our health.³⁴ Particulate matter can be some of the most dangerous pollutants for our health, with some studies finding that the smallest particles are able to pass through our lungs and travel deep into our bloodstream.³⁵ This has then been linked to numerous health conditions including Alzheimer's.³⁶ TfL state that there are three models of diesel car types approved at Euro 3 and 4 that meet the Euro 6 NO_x emissions limit but emit up to six times the Euro 6 PM limit. It estimates that up to 430 of these vehicles are currently registered in London, accounting for 0.02% of total car registrations in London.³⁷ Given the devastating effect particulate

²⁷ Mudway et al (2015) Effects of Air Pollution and the Introduction of the London Low Emission Zone on the Prevalence of Respiratory and Allergic Symptoms in Schoolchildren in East London: A Sequential Cross-Sectional Study, Accessed: 15 Nov 2016

²⁸ Department for Transport (2016) *Vehicle Emissions Testing Programme: Moving Britain Ahead* p.22

²⁹ Tonne C, Beevers S, Armstrong B, et al Air pollution and mortality benefits of the London Congestion Charge: spatial and socioeconomic inequalities *Occupational and Environmental Medicine* 2008;65:620-627.

³⁰ German Partnership for Sustainable Mobility (2014) *Clean Air - Made in Germany* p.26

³¹ Cesaroni G, Boogaard H, Jonkers S, et al Health benefits of traffic-related air pollution reduction in different socioeconomic groups: the effect of low-emission zoning in Rome *Occupational and Environmental Medicine* 2012;69:133-139.

³² European Commission (2016) *Air quality standards*

³³ World Health Organisation (2016) *Ambient (outdoor) air quality and health: Factsheet number 313*

³⁴ Royal College of Physicians (2016) *Every breath we take: the lifelong impact of air pollution* p.18

³⁵ Miller et. Al (2017) Inhaled Nanoparticles Accumulate at Sites of Vascular Disease, *ACS Nano*

³⁶ M Cacciottolo (2017) Particulate air pollutants, APOE alleles and their contributions to cognitive impairment in older women and to amyloidogenesis in experimental models, *Translational Psychiatry* (2017) 7, e1022; doi:10.1038/tp.2016.280 Published online 31 January 2017

³⁷ Transport for London (2017) ULEZ consultation and information document, April 2017

matter can have on our health, we strongly support the inclusion of a particulate matter standard for the ULEZ.

The ULEZ should be based on robust modelling and targets that seek to improve all our health. We want to see clear respiratory health targets set out for the ULEZ. These targets should include a reduction in premature deaths from air pollution and a reduction in hospital admissions from air pollution in London in the next five years. These targets should be measured and monitored alongside emission reduction targets. TfL should work with clinical commissioning groups (CCGs) and sustainability and transformation plans (STPs) across London to ensure that these respiratory outcomes are aligned and embedded with health planning in London. Particular alignment is needed with the North West London STP, where respiratory has been identified as a priority for the area. This area covers the following CCGs - Hammersmith and Fulham, Hounslow, Ealing, Brent, Harrow, Hillingdon and Westminster.³⁸ A holistic approach to tackling air pollution must be taken across transport and health planning in order to ensure that outcomes are delivered across local government.

A London-wide Ultra Low Emission Zone

- We support expansion of the ULEZ to a London-wide area
- The boundaries of the ULEZ should be drawn to include places where vulnerable people frequent such as schools, care homes and hospitals.

The ULEZ should be extended to cover a London-wide area. Given the extensive and widespread health impacts attributed to air pollution across Central and Greater London, all options for an extended ULEZ should be modelled. A ULEZ based on the boundaries of the north and south circular would fail to encompass some of the most polluted hotspots in London. Many boroughs with the highest rates of lung disease, highest rates of deprivation and illegal levels of air pollution would be excluded. For instance, Barking and Dagenham would be excluded - people in this borough are 61% more likely to die from COPD compared to the London average,³⁹ the whole borough is an air quality management area for NO₂ exceedances⁴⁰ and it has some of the worst deprivation levels in London.⁴¹ Drawing the boundaries of the ULEZ along the north and south circular would create a zone based on arbitrary delineation, rather than a zone that has been modelled and designed to benefit the most Londoners.

The boundaries of the ULEZ should be drawn up to include as many schools, hospitals and care homes as possible. While we recognise the challenge in extending the ULEZ, we urge TfL to carry out modelling for a London-wide ULEZ, and for a ULEZ that has been mapped against pollution hotspots and vulnerable groups. This will ensure the ULEZ benefits the people who are at most at risk from air pollution.

In the long-term, emissions should be regulated across a London-wide area in order to reduce the amount of vehicles on the road and encourage modal shift towards cleaner transport options. A significant reduction in harmful PM₁₀ emissions is going to be very hard to achieve without a reduction in the total number of actual vehicles on the road. This is due to the contribution from non-exhaust emission sources - around half of PM₁₀ emissions come from brake and tyre wear.⁴² To

³⁸ North West London (2016) STP Plan - consultation document, <https://www.healthiernorthwestlondon.nhs.uk/news/2016/11/08/nw-london-october-stp-submission-published>

³⁹ The British Lung Foundation (2016), BLF Statistics - relative risk of lung disease in London, <https://statistics.blf.org.uk/lung-disease-uk-big-picture>

⁴⁰ London Borough of Barking & Dagenham (2017) Air Quality Action Plan <https://www.lbbd.gov.uk/residents/pests-pollution-and-food-hygiene/pollution-and-noise/air-pollution/overview/>

⁴¹ London's poverty profile (2017) Barking & Dagenham, <http://www.londonpovertyprofile.org.uk/indicators/boroughs/barking-and-dagenham/>

⁴² Mayor of the London (2010) Clearing the air: The Mayor's Air Quality Strategy, https://www.london.gov.uk/sites/default/files/air_quality_strategy_v3.pdf

protect all our lungs and have a tangible health impact, pollution control measures are going to have to go much further and faster in London.

A clear and equitable sunset policy

- We support the three year resident sunset period from 8 April 2019 to 11 April 2022
- We support the sunset period for disabled tax class vehicles from 8 April 2019 to 11 April 2023
- We strongly disagree that people with blue badges shouldn't be included in the sunset period

We strongly support the early introduction of the ULEZ. Modelling has shown the scope of the ULEZ will need to be as wide as possible to achieve emission reductions and health benefits. We recognise that the most vulnerable communities will benefit the most from improvements in air quality. However we do not feel the current sunset policy sufficiently covers older people and people with long-term health conditions who have mobility challenges. In particular, no assessment has been made of the impact on people over 65 who receive attendance allowance and/or have a blue badge.

TfL has outlined a sunset period for residents and for people with disabled tax class vehicles. This will allow people extra time to change their vehicles. We strongly support the sunset period for disabled tax class vehicles, but are concerned that blue badge holders will not benefit from the same exemption. To qualify for a disabled tax class vehicle, recipients have to be on higher rate disability living allowance (DLA) or enhanced rate personal independence payment (PIP). People under 65 who receive lower rate DLA do not qualify for vehicle tax exemption at all, yet could still have considerable mobility challenges.⁴³ It's likely that many people with mobility needs over 65 could be disproportionately impacted.

The current sunset policy is only based on vehicle tax exemption, yet over 65s are less likely to receive this exemption so may be unfairly affected. To be eligible for PIP or DLA recipients have to be under 65 for their initial assessment. Over 65s only receive these benefits if they applied for them before they were 64. You have to be in receipt of one of these benefits to be eligible for a disabled tax class vehicle. The mobility benefit for over 65s is attendance allowance, which is not linked to eligibility for vehicle tax exemption. Therefore, the majority of people over 65 who have new mobility challenges or health problems, and who may receive attendance allowance will not benefit from the current sunset policy.

Many people with long-term and advanced respiratory conditions have reduced mobility and are likely to be over 65. Most COPD patients are not diagnosed until they are in their fifties, with the average age of death being 76.⁴⁴ People with advanced COPD often struggle to walk, rely on an oxygen cylinder to breathe and rely on cars to get to health appointments, to work or to socialise. Patients often tell us it is difficult for them to use public transport, such as the London Underground and London Overground, because they're not able to walk long distances, use stairs or access stations. These people are likely to be in receipt of attendance allowance and/or have a blue badge, however their mobility challenges would not be recognised by the current sunset policy.

People living with disabilities and long-term conditions are more likely to come from a low-income background and have less money to upgrade their vehicle. In London, 33% of people in a household where someone is disabled were in poverty in 2013/14, this is 8% higher than for other people in London.⁴⁵ People in London's poorest boroughs are twice as likely to have COPD and lung cancer when compared to people living in London's richest boroughs.⁴⁶ It's not clear how many of these

⁴³ Gov.uk (2017) Financial help if you're disabled, <https://www.gov.uk/financial-help-disabled/vehicles-and-transport>

⁴⁴ Gardiner et. al (2010) Exploring the care needs of patients with advanced COPD: An overview of the literature, <http://www.sciencedirect.com/science/article/pii/S0954611109003059>

⁴⁵ London Poverty Profile (2017) Disabled people, <http://www.londonpovertyprofile.org.uk/indicators/groups/disabled-people/>

⁴⁶ The British Lung Foundation (2016), The Battle for Breath: the impact of lung disease in the UK, May 2016 <https://www.blf.org.uk/what-we-do/our-research/the-battle-for-breath-2016>

people would be adversely impacted by the introduction of the ULEZ. We urge TfL to re-examine this sunset policy to ensure that health inequalities are not adversely impacted.

Many people with long-term conditions, including lung disease, travel across London to access specialist treatment and care. People with more advanced conditions could be in and out of hospital several times a month. However, they may not be in receipt of a vehicle tax exemption for the reasons outlined above. Therefore they could face disproportionate charges despite having to travel to receive expert medical care and support. For example, people with COPD travel in and around London to access specialist care at leading centres of excellence like the Royal Brompton Hospital in Kensington.⁴⁷ Likewise, the interstitial lung disease specialist centre at Imperial College provides specialist care for over 600 patients across the North West London region and has 2,000 in-patient admissions a year for this cohort of patients alone. Across the North West London area there are 2.3 million people who fall under the remit of Imperial College Hospital.⁴⁸ Many of these people live outside the proposed boundaries of the ULEZ in boroughs such as Hounslow, Ealing, Brent, Harrow and Hillingdon. Within that region there are likely to be many people over 65 with mobility constraints from a variety of conditions that require frequent medical support from Imperial College Hospital.

There are 239,000 people with a blue badge in London.⁴⁹ While it's not clear how many of these people have a lung condition, the BLF would be delighted to work with TfL to assess this and analyse whether blue badge holders should be included within the current sunset period.

Vulnerable lungs must be protected whilst pollution remains at harmful levels

- We strongly support TfL's air pollution alerts and think they should be accompanied with robust health advice
- We want a London-wide public health campaign on air pollution
- We want increased air pollution monitoring outside schools, care homes and hospitals

Improvement in London's air quality will not be immediate. The government's 2017 air quality plan predicts London won't achieve legal compliance until 2030.⁵⁰ During this transition time the health of children, older people and deprived communities must be protected.

On high and very high pollution days, TfL have started issuing alerts at 2,500 bus stops, 140 road side locations and all tube stations. We strongly support these measures. Currently alerts are accompanied with messages to encourage people to walk, cycle, use public transport and reduce idling. We think these messages are important in supporting people to change their behaviour but should also be accompanied by clear, concise and accurate health advice. This advice is needed to help people reduce their exposure and protect their health.

Many of the people we support are signed up to pollution alert services such as AirText and LondonAir. Alerts for vulnerable groups should be in an accessible format, available both on and offline, localised and timely. In April 2016, 10,962 people across London were signed up to receive pollution alerts from AirText. We strongly support pollution alert services and urge TfL to ensure all vulnerable groups are signed up.

A public health campaign on air pollution should be rolled out across London. A campaign based on clear, accurate and robust health information will ensure that people know how to protect

⁴⁷Royal Brompton (2016) The work we do, <http://www.rbht.nhs.uk/about/our-work/brompton/>

⁴⁸ The British Lung Foundation (2017) Interview with Imperial College London, May 2017, transcript available on request

⁴⁹ Department for Transport (2016) Blue badge stats 2015-2016.

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/572802/blue-badge-scheme-statistics-2016.pdf

⁵⁰ DEFRA (2017) Improving air quality: reducing nitrogen dioxide in our towns and cities

themselves. It will also help dispel myths around pollution exposure and reassure people that they are taking effective steps to protect themselves. For instance, we are often contacted by members of the public and organisations who are keen to use face masks. The majority of face masks do not effectively protect people from pollution as small particles are still able to get through any gaps. Studies have shown that providing data and information on air pollution significantly helps raise awareness of the problem. However, if this data is not accompanied with clear ways in which people can reduce their exposure people often report feeling “powerless” and unable to protect themselves.⁵¹ Health advice could be delivered in partnership with trusted voices such as health charities and/or health practitioners.

Given the damage that pollution is likely to do to vulnerable lungs in the next 13 years, measures should be put in place to increase monitoring and reporting of pollution outside schools, hospitals and care homes. We were pleased to see the Mayor commit £250,000 of funding to support schools in the most polluted London boroughs. We urge TfL to ensure the data and information gathered during these projects is shared with parents and teachers so they are able to protect children’s health. TfL should recommend that school travel plans are amended to include low pollution routes. Similar projects to raise awareness with hospitals and care homes should also be funded.

London already has the best monitoring network in the country, it’s time to make sure this network is delivering support, guidance and information for the most vulnerable Londoners.

About the British Lung Foundation

The BLF is the only UK charity looking after the nation’s lungs. We offer hope, help and a voice. Our research finds new treatments and cures. We help people who struggle to breathe to take control of their lives. And together, we’re campaigning for better lung health. With your support, we’ll make sure that one day everyone breathes clean air with healthy lungs.

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⁵¹ Christian Oltra & Roser Sala & Àlex Boso & Sergi López Asensio (2017) Public engagement on urban air pollution: an exploratory study of two interventions, *Environ Monit Assess* (2017) 189:296