



BREATHING SPACE: **CLEANING UP LONDON'S AIR**

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GREATER LONDON AUTHORITY
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March 2021

Contents

Introduction	3
Central London Ultra Low Emission Zone	3
The extension of Ultra Low Emission Zone	6
Beyond the ULEZ	6
Zero emission buses	7
Reducing household emissions through a new boiler replacement scheme	7
Tree planting	8
Electric charging points	8
Air quality audits	9
Conclusion & Recommendations	10

Introduction

I published *Clearing the Air*¹ in 2017, a report that examined the rationale for the early implementation of the central London Ultra Low Emission Zone [ULEZ] and the proposal to extend the ULEZ and argued against them with alternative recommendations that included increasing zero emission buses, better provision of low emission boilers and more rapid charging points.

This paper provides an update on Sadiq Khan's air quality agenda over the last five years. It will focus on his decision to extend the ULEZ out to the North and South Circulars, his failure to deliver on his promise to plant 2 million trees, the fact he has only brought into service just over 400 zero emission buses, the numbers of electric charging points in London and the air quality audit programme not being reviewed prior to more rounds of the scheme being announced.

Central London Ultra Low Emission Zone

The introduction of the central London ULEZ, which is based on the Congestion Charging Zone, was devised by the former Mayor of London, Boris Johnson. The ULEZ was proposed to have significant air quality benefits for the whole of London. The scheme charges vehicles that do not meet Euro VI diesel or Euro 4 petrol standards to enter the zone making it less attractive to drive older more polluting vehicles into central London. The ULEZ covers the same geographical boundaries as the Congestion Charge Zone. The cost of the charge is £12.50 for most vehicle types, including cars, motorcycles and vans (up to and including 3.5 tonnes) and £100 for heavier vehicles, including lorries (over 3.5 tonnes) and buses/coaches (over 5 tonnes)².

The original ULEZ decision included a start date of 2020. The 2020 start date was chosen in order to give a six-year lead-in time for Londoners to prepare for the scheme. The current Mayor, Sadiq Khan, after his election in 2016, announced that he would consult on implementing the central London ULEZ in 2019.³ The consultation result was overwhelmingly in favour of a 2019 start.⁴ However, GLA Conservatives was against earlier implementation because of the impact on small businesses and the fleets of the emergency services. The LFB for example had started a fleet upgrade programme in advance of the original 2020 ULEZ start date. The proposal to bring forward the introduction of the ULEZ to 2019 meant that the LFB upgrade programme was not going to be completed on time. A Memorandum of Understanding with each of the blue light services had to be agreed in the end so that TfL would not charge the Metropolitan Police, London Fire Brigade and London Ambulances Service to enter the ULEZ to respond to an emergency.⁵

¹ https://bceec56b-1210-4f10-95fb-8537ce6eebd5.filesusr.com/ugd/047866_03be648480744ae0b63697e4d94ecf9e.pdf

² [https://tfl.gov.uk/modes/driving/ultra-low-emission-zone#:~:text=Most%20vehicles%2C%20including%20cars%20and,to%20and%20including%203.5%20tonnes\)](https://tfl.gov.uk/modes/driving/ultra-low-emission-zone#:~:text=Most%20vehicles%2C%20including%20cars%20and,to%20and%20including%203.5%20tonnes))

³ <https://www.london.gov.uk/press-releases/mayoral/mayor-proposes-early-delivery-of-ulez>

⁴ https://consultations.tfl.gov.uk/environment/air-quality-consultation-phase-2/user_uploads/report-to-the-mayor_final.pdf Page 38

⁵ https://www.whatdotheyknow.com/request/ulez_5

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The COVID-19 pandemic and subsequent measures to protect people and control the virus have made 2020 a unique year from an air quality/ULEZ perspective, with profound and evolving changes to how people travel around London, providing different contexts from month to month.

Trend analysis for the first ten months of the scheme has been released which provides an assessment of the impact the central London ULEZ had pre-COVID19 traffic and air quality levels, that concentrations of NO₂ at roadside sites in the central zone in February 2020 were 39 µgm⁻³ less than in February 2017, when changes associated with the ULEZ began. This is a reduction of 44 per cent.⁸

The study to determine the directly attributable impact of the ULEZ shows that, for the period January to February 2020, NO₂ concentrations at roadside locations in central London were on average 29 µgm⁻³ lower, equating to a reduction of 37 per cent, compared to a scenario where there was no ULEZ.

Clearly, in terms of pre-COVID 19 air quality levels, the central London ULEZ has been successful. However, it was always proposed to deliver significant benefits, which was why it was planned in the first place by the former Mayor, Boris Johnson.

The extension of Ultra Low Emission Zone

The Mayor confirmed his decision to expand the ULEZ out to the North and South Circulars on 8th June 2018⁹. The consultation on expanding the ULEZ ran from 30 November 2017 to 28 February 2018.¹⁰ The consultation showed support for the Mayor's proposals, with 54 per cent supporting or strongly supporting the expansion of the ULEZ boundary¹¹. However, many business groups, including the Federation of Small Businesses, opposed the expansion. In the FSB's response, it stated that "the costs of extending the ULEZ scheme more widely across London from 2019 will disproportionately fall on the smallest operators within the business community."¹²

⁶ <https://www.london.gov.uk/press-releases/mayoral/mayor-proposes-early-delivery-of-ulez>

⁷ https://consultations.tfl.gov.uk/environment/air-quality-consultation-phase-2/user_uploads/report-to-the-mayor_final.pdf Page 38

⁸ https://www.london.gov.uk/sites/default/files/ulez_ten_month_evaluation_report_23_april_2020.pdf

⁹ <https://www.london.gov.uk/press-releases/mayoral/ultra-low-emission-zone-to-expand#:~:text=Zone%20to%20expand-,Mayor%3A%20Ultra%20Low%20Emission%20Zone%20to%20expand,up%20to%20North%20%26%20South%20Circular&text=The%20Mayor%20of%20London%2C%20Sadiq,South%20Circular%20boundary%20in%202021.>

¹⁰ <https://www.london.gov.uk/press-releases/mayoral/mayor-launches-ulez-expansion-consultation>

¹¹ <https://consultations.tfl.gov.uk/environment/air-quality-consultation-phase-3b/>

¹² <https://www.fsb.org.uk/docs/default-source/fsb-org-uk/air-quality-consultation---fsb-response---december-2016.pdf?sfvrsn=0>

The extended ULEZ will start on 25 October 2021. The zone will cover an area 18 times larger than the Central London Ultra Low Emission Zone and will affect large numbers of polluting vehicles that do not comply with strict emission standards. It is estimated that 100,000 cars, 35,000 vans and 3,000 lorries might be affected every day by the expanded zone and tighter standards.

Businesses

The FSB in its recent London Infrastructure Report stated that one in five small businesses are unaware of the changes to the ULEZ coming in October 2021.¹³ The London Infrastructure Report recommends a delay in the ULEZ extension until May 2022 to support those businesses seriously interrupted during the pandemic to get prepared; to nudge rather than penalise small businesses.¹⁴ It is clear that many small businesses remain unaware of the extension and the huge impact it will have in terms of costs in addition to the impact of COVID-19.

The Mayor's proposals to expand the ULEZ out to the North and South Circular will run through ten boroughs that straddle the charging zone. This division will significantly impact upon these boroughs, and the Mayor has still not fully taken into consideration the everyday consequences of using the North and South Circular as a boundary.

Public Services

In the Clearing the Air report it highlighted one of the impacts of the extension of the ULEZ on Londoners will be access to public services within the zone. If you live outside the zone in a borough that is divided by the ULEZ, your local hospital or school may be located within the zone. This means that if your car is not ULEZ compliant then the Mayor will be effectively charging £12.50 every day to drop your child to school or visit the local hospital.

As an example, North Middlesex Hospital is located in the London Borough of Enfield. This is the local hospital for Enfield's residents and the majority of them live outside the proposed expanded ULEZ area. The hospital, as you can see highlighted on the map above, is located on the North Circular. If the Mayor implements his proposals to expand the ULEZ out to the North Circular, Enfield residents whose vehicles are not compliant will be charged £12.50, on top of expensive hospital parking charges, to visit a person in hospital or to seek medical treatment themselves. This also equally applies to Londoners visiting Whipps Cross University Hospital in the London Borough of Waltham Forest.

The Mayor has yet to come forward with proposals to mitigate the charge Londoners who own older vehicles will face if they need to visit hospitals and schools, potentially impacting more families on lower incomes who might not be able to afford to upgrade their cars.

¹³Federation of Small Business London: Infrastructure Policy Report - Transportation/Broadband/Mobile Telephony, February 2021, Page 5

¹⁴ Ibid.

Beyond the ULEZ

The Mayor's policies to improve air quality are wide ranging. This paper will now touch on his broader environmental policies from this point. The paper will evaluate his boiler scheme, tree planting delivery, air quality audits and electric charging points programme. These schemes are smaller than the ULEZ but all form part of a package of measures delivered by the Mayor to tackle London's poor air quality.

Zero emission buses

On 21st January 2021, it was announced by Transport for London [TfL] that the main bus network now only uses Euro VI or cleaner buses, the same emissions standard as the Ultra Low Emission Zone.¹⁵

The nine thousand strong bus fleet now includes more than four hundred all-electric buses including the UK's first full routes of electric double decker buses.¹⁶ However, whilst four hundred buses are an improvement it equates to just 4.4% of the bus fleet, which is low. Therefore, there is scope for this to be significantly expanded by ensuring more of the bus fleet is low or zero-emission.

The Mayor has introduced twelve Low Emission Bus Zones during his term in office. Low Emission Bus Zones are bus corridors that are used only by buses with top-of-the range engines and exhaust systems that meet or exceed the highest Euro VI emissions standards¹⁷. The zones have been prioritised in the worst air quality hotspots outside central London where buses contribute significantly to road transport emissions.

A report was released in 2019 showing that the Low Emission Bus Zones have led to significant reductions in pollution levels. The first two Low Emission Bus Zones at Putney High Street and Brixton in particular have had a major impact, with Putney High Street exceeding legal limits for just one hour so far in 2019 compared to 289 over the same period in 2016, a reduction of over 99 per cent. The average reduction in annual average nitrogen dioxide at the nine Low Emission Bus Zones where monitoring is available is 28 per cent compared to 2016.¹⁸

Clearly, these Low Emission Bus Zones have worked on these routes in terms of reducing nitrogen dioxide. The low emission bus zones have been praised by both Labour and Conservative elected representatives. It would therefore make even more of an impact on air quality if these zones were upgraded to have zero emission buses on them.

If the expansion of the ULEZ was dropped, up to £130 million could be spent on delivering a zero-emission bus fleet earlier¹⁹. The £130 million could be spent on a

¹⁵ <https://tfl.gov.uk/info-for/media/press-releases/2021/january/london-s-buses-now-meet-ulez-emissions-standards-across-the-entire-city>

¹⁶ <https://tfl.gov.uk/info-for/media/press-releases/2021/january/london-s-buses-now-meet-ulez-emissions-standards-across-the-entire-city>

¹⁷ https://www.london.gov.uk/sites/default/files/lebz_report_sept_19_upload.pdf Page 3

¹⁸ <https://www.london.gov.uk/WHAT-WE-DO/environment/environment-publications/low-emission-bus-zones-evaluation-report>

¹⁹ https://consultations.tfl.gov.uk/environment/air-quality-consultation-phase-3b/user_uploads/ulez-consultation-report-to-the-mayor.pdf

project that would have limited impact on small businesses and lower income Londoners as we come out of pandemic whilst delivering on improving air quality.

Transport for London (TfL) has awarded Capita an extension to its contracts to manage London's Congestion Charge, Low Emission Zone (LEZ) and the Ultra-Low Emission Zone. The contract is worth over £355 million.²⁰ The new zone will be 18 times the size, but TfL said new technology means only around 750 additional cameras will need to be installed.²¹ There are considerable savings to be made if the extension does not go ahead which could be invested in delivering a zero emission bus fleet in a shorter period.

Reducing household emissions through a new boiler replacement scheme

It is often assumed that air pollution is only a transport-related issue. However, a sole focus on transport emissions hides the release of emissions from other sources, including household boilers. Gas boilers contribute approximately 12 per cent of London's NOx (nitrous oxide) emissions. New A-rated boilers are over 90 per cent efficient and can save over 1.2kg NOx per year compared to older boilers, as well as making significant carbon dioxide savings²². Moving to a more efficient boiler can also save households around £340 from their fuel bills per year²³.

A London Boiler Cashback Scheme was launched by the previous Mayor Boris Johnson in February 2016, providing £400 cashback to households that replaced the oldest, most polluting boilers with the newest and cleanest models. Funding of £2.6 million was allocated to the scheme, which provided for 6,500 owner occupiers and accredited private landlords to benefit from the scheme. An extension of this scheme would allow greater NO2 savings to be achieved and more households to benefit from lower bills. It could also be prioritised within pollution hotspot areas to help tackle high NO2 exceedance.

Whilst Mayor Khan launched a new 'Better Boilers' scheme aimed at cutting fuel poverty²⁴ during this term, this was not designed to tackle air pollution. By contrast, investing a similar amount of money [£1 million] into resurrecting the London Boiler Cashback Scheme could replace an additional 2,500 boilers: a much more effective means of reducing household emissions. The Mayor was forced to scrap a £10 million eco-boiler scheme launched in 2018 after only 134 applications. The scheme failed to attract enough take-up and was shut down with £8.95million of the original budget allocated elsewhere. Businesses were told they could save hundreds of pounds a year from making the switch. However, less than a year later the scheme was already in trouble.²⁵

²⁰ <https://www.transport-network.co.uk/Capita-scoops-355m-TfL-deal-as-ULEZ-expansion-work-starts/16753>

²¹ <https://www.transport-network.co.uk/Capita-scoops-355m-TfL-deal-as-ULEZ-expansion-work-starts/16753>

²² <http://www.london.gov.uk/LLDC/documents/s53612/Boiler%20Scrappage%20Scheme.pdf>

²³ <https://www.london.gov.uk/decisions/md1606-london-boiler-cashback-scheme>

²⁴ <https://www.london.gov.uk/press-releases/mayoral/mayor-tackles-fuel-poverty-with-1m-boiler-fund>

²⁵ <https://www.thesun.co.uk/news/10837173/sadiq-khan-10million-eco-boiler-scheme-flopped>

Tree planting

London's trees are estimated to provide at least £133m of benefits to Londoners every year. They help improve air quality by removing 2,241 tonnes of pollution annually, including harmful PM10 particulates and NO2 roadside emissions as well as making our streets more beautiful and encouraging walking and cycling²⁶. The ability to reduce pollution makes trees an essential part of London's green infrastructure and forms part of the Mayor's air quality agenda.

Sadiq Khan during his 2016 mayoral election campaign tweeted that he would plant two million trees if elected. The commitment to deliver two million trees also appeared on this campaign website. The Deputy Mayor for Environment, Shirley Rodrigues, said that the two million tree planting target had been ditched at her first meeting with the London Assembly's Environment Committee instead it would attempt to 'increase tree coverage by five per cent by 2025'.²⁷ At the end of this term, the Mayor has only funded the planting of over 280,000 trees a far lower figure than his original two million commitment to Londoners.²⁸

Electric charging points

The major benefit of electric cars is the contribution that they can make towards improving air quality in towns and cities. With no tailpipe, pure electric cars produce no carbon dioxide emissions when driving. This reduces air pollution considerably. Put simply, electric cars give us cleaner streets making our towns and cities a better place to be for everyone. Over a year, just one electric car on the roads can save an average 1.5 million grams of CO2. That's the equivalent of four return flights from London to Barcelona.²⁹ However, to facilitate the transition from petrol and diesel vehicles to electric it is essential that charging infrastructure is delivered.

In May 2018, the Mayor of London established the Electric Vehicle (EV) Infrastructure Taskforce. It consisted of industry leaders from 16 organisations, from both the public and private sector, with the aim of unlocking barriers to expanding charging infrastructure and accelerating the switch to EVs in the capital.³⁰ The Delivery Plan included modelled projections for the amount of infrastructure that would be needed in London to 2025 from both the public and private sector.

²⁶ <https://www.london.gov.uk/press-releases/mayoral/mayor-announces-thousands-of-new-street-trees#:~:text=Since%202016%2C%20the%20Mayor%20has,to%20be%20planted%20this%20winter.&text=All%20the%20trees%20planted%20will,will%20make%20an%20immediate%20impact.>

²⁷ <https://www.london.gov.uk/press-releases/assembly/tony-arbour/mayor-ditches-promise-to-plant-two-million-trees>

²⁸ <https://www.london.gov.uk/press-releases/mayoral/mayor-announces-thousands-of-new-street-trees#:~:text=Since%202016%2C%20the%20Mayor%20has,to%20be%20planted%20this%20winter.&text=All%20the%20trees%20planted%20will,will%20make%20an%20immediate%20impact.>

²⁹ <https://www.edfenergy.com/for-home/energywise/electric-cars-and-environment#:~:text=Research%20has%20shown%20that%20electric,to%20fuel%20them%20is%20considered.>

³⁰ <https://luc.content.tfl.gov.uk/london-electric-vehicle-infrastructure-delivery-plan-one-year-on-november-2020.pdf> Page 3

Key findings from the Delivery Plan showed that by 2020, the capital would need 200 to 400 rapid charge points and 3,400 to 4,700 slow to fast charge points. By 2025, this could rise to between 2,300 to 4,100 rapid charge points and 33,700 to 47,500 slow to fast charge points.³¹ As of August 2020, Zap-Map's data shows that London has approximately 5,500 charge points in total, of which over 450 are rapid charge points.³² This means just 8% of London's charge points are classed as rapid which means they can charge electric vehicles in 30-40 minutes.

London's first rapid hub was delivered in December 2019, in Stratford International carpark. It was jointly funded by TfL, HighSpeed 1 and Engenie.³³ This hub supports the idea that to promote moving to electric vehicles it must be as easy to charge vehicles as it is refuel them with petrol/diesel. The hub is a good move but there needs to be more of them to make it as convenient to charge an electric vehicle as it is to top at the petrol garage.

Air quality audits

In 2018, the Mayor developed a Schools and Nurseries Air Quality Audit Programme, which initially audited 50 primary schools across 23 London boroughs to produce recommendations designed to reduce emissions around schools and reduce school children's exposure to pollutants³⁴. Under the programme, the Mayor allocated £10,000 to each school, which was match-funded by the school or relevant London borough.³⁵

The programme has since been rolled out to 20 nurseries, with £4,500 allocated to each nursery and air filtration equipment provided to identify any reductions in indoor air pollution³⁶. Data on the initial 70 schemes, including their location, is publicly available at a pan-London level.

As part of the audit programme, a toolkit was developed for schools to use to identify and address a range of issues contributing to air pollution in and around their buildings. Examples of recommendations to reduce emissions and exposure included:

- Reducing emissions from boilers, kitchens and other sources;
- Encouraging students to walk and cycle to school along less polluted routes; and
- Introducing green infrastructure, such as 'barrier bushes' along adjacent roads to filter emissions.

The commitment to audit air quality at schools and nurseries is welcomed. However, it is concerning that the audit programme has not had the anticipated impact. The design, implementation and resourcing of the programme has led

³¹ <https://lruc.content.tfl.gov.uk/london-electric-vehicle-infrastructure-delivery-plan-one-year-on-november-2020.pdf> Page 5

³² <https://lruc.content.tfl.gov.uk/london-electric-vehicle-infrastructure-delivery-plan-one-year-on-november-2020.pdf> Page 5

³³ <https://lruc.content.tfl.gov.uk/london-electric-vehicle-infrastructure-delivery-plan-one-year-on-november-2020.pdf>

³⁴ Mayor of London, [The Mayor's School Air Quality Audit Programme](#), May 2018

³⁵ London Assembly Environment Committee, Air Quality Report, Page 31

³⁶ Mayor of London, [The Mayor's nursery air quality audit programme](#), May 2018

to too few schools and nurseries audited over the last two years. At the 17 November 2020 Environment Committee meeting, the Committee heard from Oliver Lord, the Environmental Defence Fund's Head of Policy and Campaigns, who reflected on the drawbacks of the Mayor's approach to the audit programme:

"Unfortunately, with the way it [the Air Quality Audit Programme] was resourced – and I understand there are priorities that need to be made – only 50 schools benefitted from that programme." Oliver Lord, Head of Policy and Campaigns, Environmental Defence Fund³⁷

In January 2020, the Mayor announced that the air quality audit programme would be expanded to additional schools in London. This announcement is welcomed.

Conclusion & Recommendations

London's air quality needs to improve, and it is right that the Mayor has sought to introduce measures to achieve this during this mayoral term. However, London is in a different situation from when some air quality measures were decided. The capital has experienced its worst pandemic in a century, and it has impacted the whole of the UK economy. It is becoming increasingly apparent that leading business groups have reservations about the Mayor's decision to continue with the expansion of the ULEZ to the North and South Circulars in October.

This paper highlights what the Mayor is doing right in terms of the central London ULEZ, cleaner buses and rapid charging hubs. The five recommendations below indicate what the Mayor should consider going forward in order to deliver policies that will make a difference to air quality in London.

Recommendation 1 - Abandon proposals to expand the ULEZ to the North and South Circulars taking into consideration the economic impact of the pandemic has had on London's residents and businesses.

Recommendation 2 – Invest the money from abandoning the extension of the ULEZ into delivering a zero-emission bus fleet quicker.

Recommendation 3 – Bring back the previous Boiler Cashback Scheme which provides Londoners with the opportunity of funding for cleaner and more economical heating systems.

Recommendation 4 - Install more rapid electric vehicle charging points and create additional charging hubs.

Recommendation 5 – Roll out the air quality audit programme to hospitals and care homes.

³⁷ London Assembly Environment Committee, Air Quality Report, Page 31



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