MAYOR OF LONDON

CENTRAL LONDON ULTRA LOW EMISSION ZONE – 2020 REPORT

March 2021

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Foreword

On 8 April 2019 the Mayor of London launched the world's first Ultra Low Emission Zone (ULEZ). Four previous reports (covering the first one, four, six and ten months of operation of the scheme) indicated that the scheme had a significant impact on air quality, with an observed increase in the rate at which older vehicles were removed from the fleet, or replaced, above the normal churn ("pre-compliance"). This pre-compliance was observed before the scheme was introduced and compliance has continued to accelerate after launch.

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

This report is, therefore, necessarily more constrained in its ability to provide interpretation of the data it contains. Instead the focus is on compliance rates and measured pollutant concentrations with the aim of presenting the evidence we have for the ongoing effectiveness of the scheme in terms of driving changes in the vehicle fleet present on London's roads.

In 2021 there will be changes to London's emission-based charging schemes with the ULEZ expanding on 25 October and the Low Emission Zone (LEZ) being strengthened on 1 March. This report aims to assess the level of preparedness within the fleet for these significant scheme changes

Further information on the impact of ULEZ, LEZ and the other air quality measures delivered by the Mayor will be published in due course.

Key Findings

On 8 April 2019 the Mayor of London launched the world's first Ultra Low Emission Zone (ULEZ) in central London.

This is the fifth in a series of reports evaluating the impact of the scheme. The complex effects of the Coronavirus pandemic on traffic and transport across the city, but especially in central London, means that for 2020 it is difficult to distinguish between Coronavirus impact and ULEZ impact. Unlike previous reports this iteration therefore focusses on compliance rates and overall trends in air quality and does not attempt to distinguish specific ULEZ air quality impacts in 2020. A more detailed breakdown of the vehicle numbers and compliance rates is reported on the TfL website[1].

This report shows that:

- Improvements in air quality seen in 2019 were maintained even when lockdown restrictions were eased over the summer of 2020.
- The scale of change in nitrogen dioxide (NO_2) levels during the tightest lockdown was similar to the scale of benefits from the central London ULEZ seen between 2017 and 2019, but the improvements due to ULEZ have been achieved, and maintained, without the profound curtailment of our lives seen during lockdown.
- **Compliance with the ULEZ and LEZ standards has continued to grow throughout 2020** and it is clear that both schemes have been effective in accelerating the shift to cleaner, less polluting vehicles
- Overall, compliance with the central London ULEZ at the end of December 2020 stood at **85 per cent of vehicles**. For cars, excluding black cabs, this rises to over **90 per cent compliance**. This compares to 39 per cent compliance across the whole vehicle fleet in February 2017 when the scheme was announced by the Mayor of London, and Londoners started preparing for ULEZ.

[1] https://tfl.gov.uk/corporate/publications-and-reports/ultra-low-emission-zone.

- ULEZ compliance is growing in all sectors of the fleet, with **van compliance up by 23 percentage points between April 2019 and December 2020** and taxi compliance up by 26 percentage points between November 2019 and December 2020. Despite starting from a very high compliance rate of 88 per cent, car compliance has grown by 3 percentage points between November 2019 and December 2020
- On 1 March 2021 the Mayor of London is strengthening the Low Emission Zone (LEZ) standards for heavy vehicles, these will match the ULEZ standards and apply across most of Greater London. This report shows that the fleet is well prepared for the tougher LEZ standards; by the start of 2021 pre-compliance with the new standards was at **nearly 90 per cent**.
- **All buses in TfL's 9,000-strong core bus fleet now meet or exceed the cleanest Euro VI** emissions standards.
- Prior to the start of lockdown in March 2020 compared to March 2019 the ULEZ, had already helped reduce traffic in the central zone by approximately 10 per cent.

Introduction

Between 2016 and 2019 the scale of reduction in toxic NO_2 has been five times greater in central London than the national average.[2] A key component of this success has been the use of emissions-based road charging to reduce emissions from vehicles. On 8 April 2019 the Mayor of London launched the world's first Ultra Low Emission Zone (ULEZ) in central London, which requires all vehicles to meet minimum emission standards or pay a charge. The ULEZ will be expanding up to the North and South circular roads on 25 October 2021. This ULEZ is complemented by the Londonwide Low Emission Zone (LEZ), which sets minimum emission standards for large diesel vans, minibuses, lorries, coaches and other heavy vehicles on most of the capital's roads. On 1 March 2021 the LEZ standards for heavy vehicles are being strengthened to be aligned with the ULEZ.

To support the ULEZ and LEZ, the Mayor allocated nearly £53 million in funding to create scrappage schemes that help small businesses, low-income and disabled Londoners and charities operating minibuses. These schemes have already helped replace more than 8,000 older, more polluting vehicles.

This is the fifth report evaluating the impacts of the central London ULEZ, and the first to assess preparedness for the strengthening of the LEZ standards. The first four reports are available from the GLA website:

Central London Ultra Low Emission Zone – First Month Report[3]

[2] https://www.london.gov.uk/press-releases/mayoral/5x-greater-reduction-in-toxic-no2-in-london

[3] https://www.london.gov.uk/WHAT-WE-DO/environment/environment-publications/central-london-ultra-low-emission-zone-first-month-report

Central London Ultra Low Emission Zone – Four Month Report[4]

Central London Ultra Low Emission Zone – Six Month Report[5]

Central London Ultra Low Emission Zone – Ten Month Report[6]

This update covers impacts of the scheme up to the end of 2020. Transport for London have also begun publishing quarterly updates on compliance data on their website.[7]

Unlike the previous reports this report will describe trends in air quality and the rates of compliance but will not attempt to attribute specific changes to the ULEZ. The evolving series of lockdowns and other measures to control the coronavirus pandemic have had complex impacts on traffic and travel throughout 2020 which mean it is particularly difficult to separate out the causes of changes in air quality over the past year. This is discussed in more detail below.

[4] https://www.london.gov.uk/WHAT-WE-DO/environment/environment-publications/central-london-ultra-low-emission-zone-four-month-report

[5]https://www.london.gov.uk/WHAT-WE-DO/environment/environment-publications/central-london-ulez-six-month-report

[6] https://www.london.gov.uk/WHAT-WE-DO/environment/environment-publications/central-london-ulez-ten-month-report

[7] https://tfl.gov.uk/corporate/publications-and-reports/ultra-low-emission-zone

What is the Ultra Low Emission Zone (ULEZ)?

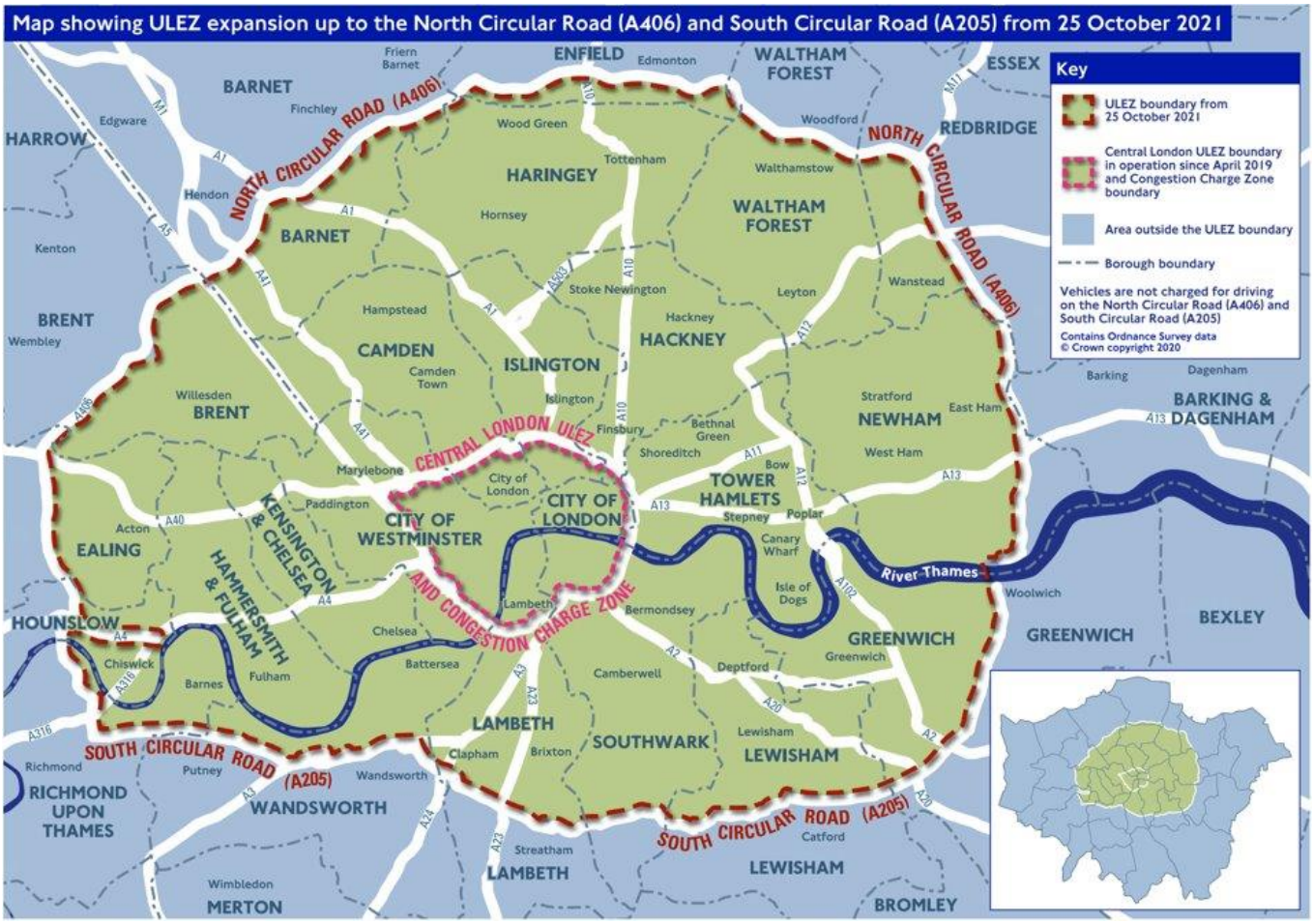

Figure 1. Map of the current central London Ultra Low Emission Zone and the expanded boundary

The central London ULEZ started on 8 April 2019 and operates in the existing central London Congestion Charge Zone. On 25 October 2021 the zone is expanding up to (but not including) the North and South Circular Roads. Figure 1 is a map of the area covered by the central ULEZ and the expanded boundary.

The ULEZ operates 24 hours a day, every day of the year except Christmas Day (25 December). Vehicles must meet strict emission standards to drive in the ULEZ area:

- Euro 4 for petrol cars and vans (generally vehicles less than sixteen years old in 2021)
- Euro 6 for diesel cars (generally vehicles less than five years old in 2021)

- Euro 6 for diesel vans (generally vehicles less than four years old in 2021)
- Euro 3 for motorcycles and other L-category vehicles (generally vehicles less than 13 years old in 2021)

Vehicles that do not meet these standards must pay a charge of £12.50 per day.

Prior to 1 March 2021 lorries, coaches and other heavy vehicles had to meet the ULEZ standards or pay a charge. From 1 March 2020 changes to the LEZ described below mean that most heavy vehicles will need to meet these toughest standards throughout London.

To find out more about the ULEZ or to check if your vehicle is affected please visit the TfL website.[8]

Operation of the ULEZ and LEZ were temporarily suspended in from 23 March to 18 May 2020 due to the first national lockdown linked to the coronavirus pandemic. There have been no other substantial changes to the ULEZ scheme since launch and the date for expansion remains fixed at 25 October 2021.

[8] https://tfl.gov.uk/modes/driving/ultra-low-emission-zone

What is the Londonwide Low Emission Zone (LEZ)?

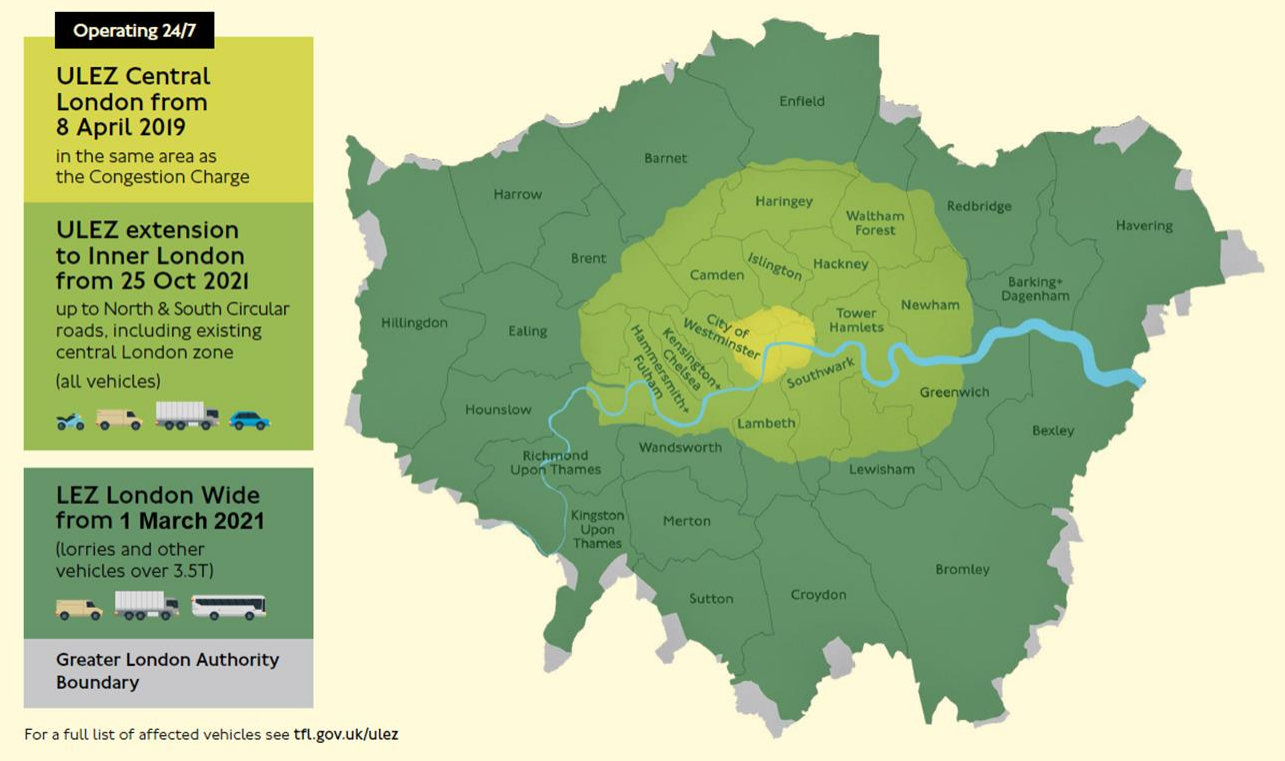

Figure 2: Map of the Low Emission Zone (LEZ) and ULEZ boundaries

The Low Emission Zone was introduced in 2008 and operates 24 hours a day, every day of the year. From the 1 March 2021 the emission standards for the LEZ are being strengthened for heavy vehicles, the new standards are:

- Euro VI for buses coaches and HGVs/vans over 3.5T (generally vehicles that are less than 5 years old in 2021),
- Euro 3 for particulate matter only for vans between 1.2T and 3.5T and minibuses under 5T (generally vehicles that are less than 20 years old in 2021).

Vehicles that do not meet these standards must pay a charge of £100 per day. Heavy vehicles that do not meet the lower Euro IV standard must pay a higher charge of £300 per day.

For the majority of vehicles, the strengthening of the LEZ standards means that they are not separately subject to LEZ and ULEZ standards. The exception is for vans between 1.2T and 3.5T and minibuses under 5T where the LEZ and ULEZ standards are different.

These vehicles will need to comply with both schemes if they drive into the ULEZ area or pay both sets of charges.

The LEZ was originally scheduled to be strengthened in October 2020. However, in response to concerns about the supply chains for newer vehicles and retrofit equipment during the first lockdown the strengthening of the LEZ was delayed until 1 March 2021. When TfL reviewed this decision in early September 2020, they found that supply chains had largely resumed and there was no need to further delay the implementation of this scheme.

For more information about the Low Emission Zone, or to see if your vehicle needs to pay the charge, please visit the TfL website.[9]

[9] https://tfl.gov.uk/modes/driving/low-emission-zone

Assessing the impacts of ULEZ

The purpose of the central London ULEZ is to improve air quality by reducing the number of older, more polluting vehicles that enter the central zone. The impact of the ULEZ can be assessed using a number of different metrics including:

- Air quality monitoring
- Modelling of vehicle emissions
- Number of vehicles and compliance rates
- Traffic flow data

Air pollution concentrations are affected by many different factors including the weather and regional contributions from outside London, as well as impacts from other local schemes, therefore analysis of air quality monitoring data will need to continue over time.

Vehicle compliance refers to the number of vehicles that “comply” or meet the ULEZ emission standards and therefore they do not have to pay the daily charge. Non-compliant vehicles do not meet the strict ULEZ emissions standards and have either:

- Paid the daily charge
- Incurred a penalty charge
- Not been required to pay the daily ULEZ charge as they are eligible for a 100 per cent discount or exemption

COVID-19 and analysing air quality in 2020

Even in a normal year, air quality is subject to a range of effects, such as weather and seasonal variations in atmospheric chemistry and behaviour that make it complicated to compare and quantify the short term (less than one-year) impacts of large projects such as the Ultra Low Emission Zone.

The impact of the pandemic, and individual, regional and national responses to the need to control it have made understanding air pollution in London in 2020 even more complicated.

The first national lockdown in March 2020 imposed severe restrictions on personal activity and on most sectors of the economy, and even saw people being advised to avoid public transport for all but the most critical journeys. Anyone who could do so was told to work from home.

Subsequent easing of lockdown measures over the summer saw some sectors of the economy, including construction and high street retail, allowed to return to work, but others, such as professional sports, theatres and tourism remaining severely curtailed.

In the autumn schools returned alongside the introduction of a three-tier system, which was soon superseded by a “circuit breaker” lockdown in November and then new “tier four” restrictions in London.

The central London ULEZ covers an area that is dominated by offices, shopping and entertainment venues, and has been the area of London where travel and transport have been most significantly affected by the changes brought about by the pandemic.

Alongside the direct changes brought about by the lockdowns and other restrictions there were also unanticipated changes to London’s road user charging schemes. Operation of the ULEZ, LEZ and Congestion Charge schemes was suspended in March 2020. After they were reactivated in May 2020 temporary increases to the operational hours and charges for the Congestion Charge were imposed by central Government as a condition of TfL's funding agreement. The temporary changes to the congestion charge are currently still in effect. More information about temporary changes to the Congestion Charge is available on TfL’s website.[10]

The Low Emission Zone, which applies to larger diesel vehicles across London, was originally due to be tightened in October 2020, bringing the standards for heavy vehicles in line with the ULEZ. However, in response to concerns about the supply of new, compliant, vehicles and retrofit abatement equipment this was deferred until 1 March 2021. More information about the postponement of the LEZ is available on the TfL website[11].

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[10] https://tfl.gov.uk/modes/driving/congestion-charge

[11] https://tfl.gov.uk/info-for/media/press-releases/2020/april/transport-for-london-to-temporarily-postpone-enforcement-of-new-stricter-rules-for-freight-vehicles-on-the-capital-s-roads

Finally, in order to provide safe, socially distanced, facilities for walking and cycling TfL introduced the Streetspace programme to introduce temporary pavement widening and cycle lanes while many of the London boroughs introduced Low Traffic Neighbourhoods to manage the risk of unsustainable growth in car usage while people were being advised to avoid public transport. It is possible that, in accordance with relevant applicable statutory procedures (including public and stakeholder consultation, equalities and other relevant impact assessments), some of these schemes may be turned into permanent changes (with or without modifications) whilst others may be removed completely.

In early 2021, as this report is being written, the UK is back in lockdown. As such it is not possible yet to identify which changes to travel behaviour will remain in place in the long term or how London's recovery will finally shape commuting behaviour and travel choices in the future.

This report, therefore, focuses on what we are able to measure directly: air quality trends (without attributing ULEZ impact), traffic volumes in different parts of London, the proportion of vehicles that comply with the ULEZ and LEZ standards and monitored concentrations of air pollution.

Air pollution concentrations

In 2016 around half of London's NO_x emissions were from road transport[12]. The purpose of the ULEZ is to improve air quality in and around central London by reducing the number of older, more polluting vehicles that enter the central zone.

The analysis presented here uses data from London's automatic monitoring network. This data is publicly available from the GLA website[13] or the London Air Quality Network[14] and Air Quality England[15] websites.

Previous ULEZ reports used monthly average concentrations to calculate trends in the period from 2010 to end of the reporting period and used sophisticated techniques to separate out the impact of ULEZ from the natural "churn" in the fleet and the impact of the Mayor's wide ranging programme to reduce emissions from all sources of pollution in London.

Due to the complex impacts of lockdowns and other pandemic related restrictions on transport and the wider economy in London, it has not been possible to separate out the impacts of ULEZ in Figure 3 below.

It also should be noted that measurement data from 2020 have not yet been ratified. As a result, these may be subject to change following equipment tests undertaken as part of the routine audit and servicing of air quality monitoring sites.

[12] https://data.london.gov.uk/dataset/london-atmospheric-emissions-inventory--laei--2016

[13] https://www.london.gov.uk/what-we-do/environment/pollution-and-air-quality/london-air-quality-map

[14] https://www.londonair.org.uk/LondonAir/Default.aspx

[15] https://www.airqualityengland.co.uk/

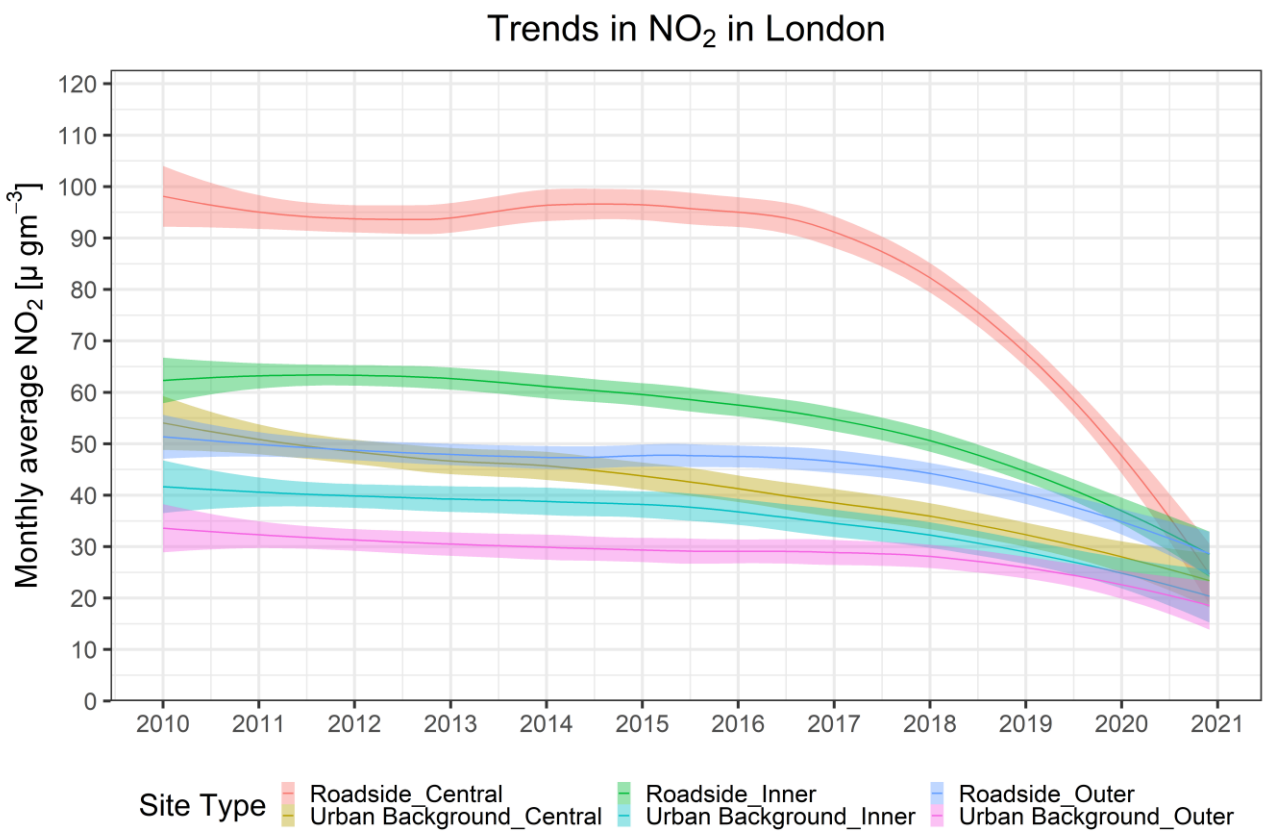

Figure 3: Trends in nitrogen dioxide (NO_2)

The ULEZ ten month on report analysed the impact of the ULEZ in central London and found that at the beginning of 2020 the ULEZ has reduced mean NO_2 concentrations at roadside sites by an estimated 29 μgm^{-3}, a reduction of 37 per cent compared to the scenario where “no ULEZ” is in place.

Figure 3 above shows the rapid downward trend continued through 2020 in Central London. However, as discussed below, traffic flows in central London were the most affected by pandemic measures and this will have had the effect of reducing NO_2 levels temporarily below those achieved by the ULEZ.

In inner and outer London where traffic flows were less affected by the pandemic the downward trend since the ULEZ was announced in 2017 have also continued.

The downward trend in inner and outer London concentrations remains less significant than in central London, which is why the expansion of the ULEZ remains a vital tool for improving air quality rapidly in these areas.

Comparing monthly nitrogen dioxide concentrations from 2020 to earlier years

In order to show more clearly how air pollution in 2020 has changed from previous years the graphs in Figure 4 below show monthly average NO_2 concentrations for 2020, 2019 and the 2017 baseline year at roadside and background monitors in central, inner and outer London.

In broad terms 2019 (the green line) shows the impact of the Mayor's policies to improve air quality in London, including the ULEZ, against the 2017 baseline year (the red line), when changes associated with the ULEZ began. The usual seasonal trends are clear, particularly in the background measurements.

For 2020 (the blue line) shows a more complex picture: in January and February, before the first national lockdown it appears that the downward trend since the launch of the ULEZ is 2019 was continuing, although some of the drop may also be from normal seasonal trends. After March there is clearly a much larger drop in roadside NO_2, particularly in central London where economic activity was most curtailed. As lockdown restrictions eased over the summer, we can see the measured pollution levels rising, but remaining below 2019 levels. Some of the rise in NO_2 levels in the autumn and early winter of 2020 is likely to be due to normal seasonal variation, but the return to near 2019 traffic volumes, particularly in inner and outer London, will have also had an impact.

Figure 4 also shows that background concentrations across London were lower in 2021 than 2020, this is likely to be due to a combination of reduced transport emissions and reduced activity in other non-transport sectors during lockdown.

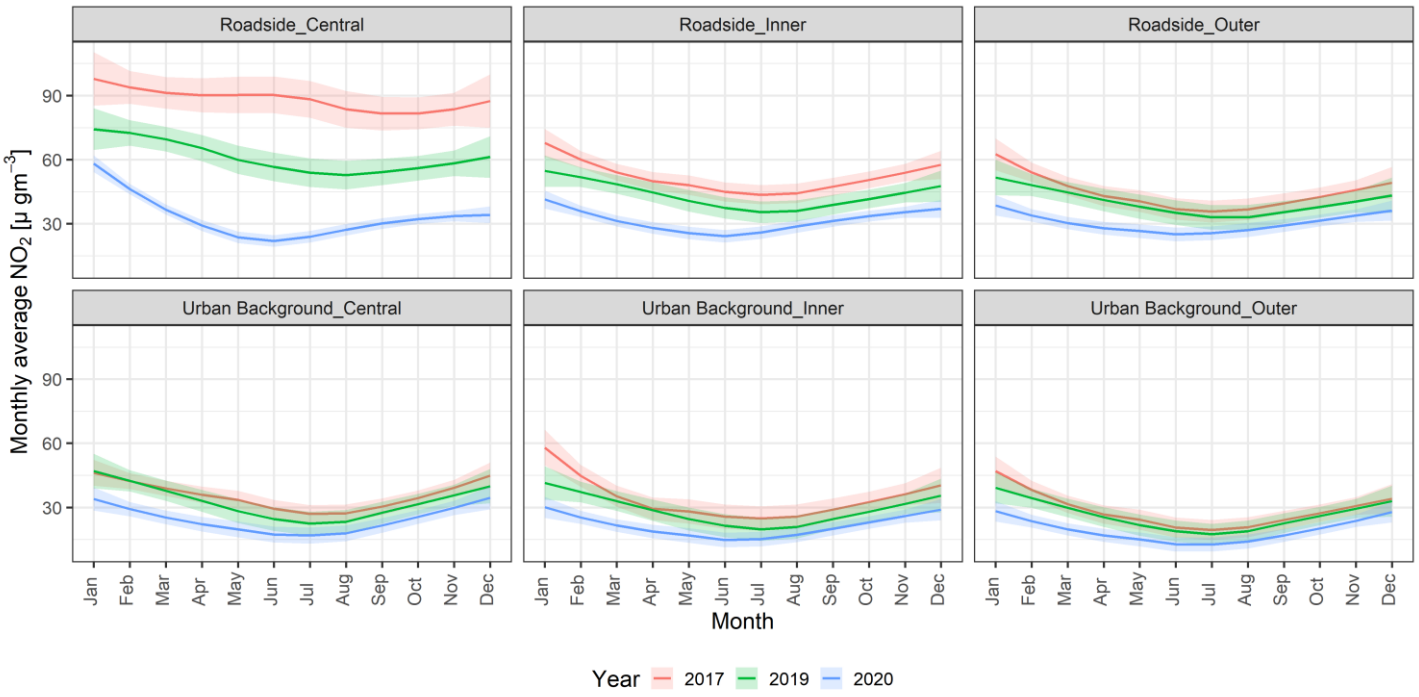

Figure 4: NO_2 comparisons 2017 (baseline year), 2019 and 2020

Given the rapid changes in advice and restrictions on work and travel over the course of 2020 care must be taken not to over-interpret measured air pollutant concentrations, but some tentative conclusions can be drawn:

- The most stringent lockdown measures, by reducing road traffic, reduced NO_2 concentrations but this was additional to ULEZ-stimulated improvements made in preceding years.
- The scale of additional change in NO_2 levels during the tightest lockdown was similar to the scale of benefits from the ULEZ seen between 2017 and 2019, but the improvements due to ULEZ have been achieved without the profound curtailment of our lives seen during lockdown.
- As traffic returned to near pre-pandemic levels in inner and outer London, average roadside pollution remained below 2019 levels; showing that, unlike the transient changes brought about by the pandemic, reductions in pollution brought about by the ULEZ are likely to be maintained or increase in the long term.

Air pollution emissions

Previous reports on the ULEZ have compared overall emissions from vehicles within the zone before and after the introduction of the scheme based on like for like changes in compliance.

Given the impact on lockdown on overall traffic volumes within the ULEZ during and even between periods of lockdown in 2020 any quantification of emission changes is extremely difficult as it is likely to be so heavily dominated by the impacts of the pandemic.

Preliminary estimates in the ten month report indicated that between October to December 2019 NO_x emissions from road transport reduced by 35 per cent (or 230 tonnes of NO_x) compared to a scenario where there was no ULEZ, and up from the 31 per cent reduction between July – September 2019 estimated in the six month report. Similarly, reductions in $PM_{2.5}$ and CO_2 increased from thirteen per cent and four per cent to 15 and 6 per cent respectively.

Table 1. Summary of emissions reductions in central zone estimated in previous reports

Pollutant	Comparison to "no ULEZ" scenario, July – September 2019		Comparison to "no ULEZ" scenario, October – December 2019	
	Reduction [tonnes]	Reduction [per cent]	Reduction [tonnes]	Reduction [per cent]
NO_x	200	31%	230	35%
$PM_{2.5}$	5	13%	6	15%
CO_2	9,800	4%	12,300	6%

Future reports will return to this analysis when possible.

Traffic flows

Transport for London uses automatic traffic count data at representative sites across London to monitor changes in traffic flows. These sites provide total traffic flows (for all vehicles) for each hour of the day.

Traffic flows change across the year reflecting seasonal patterns such as holiday periods. Therefore, previous ULEZ reports have evaluated changes in traffic flow by comparing the same period after launch of the scheme to previous years. For instance, in March 2020 compared to March 2019 the ULEZ, had already helped reduce traffic in the central zone by approximately 10 per cent.

Figure 5 below shows the change in daily traffic flows in central, inner and outer London between comparable periods in 2019 and 2020.

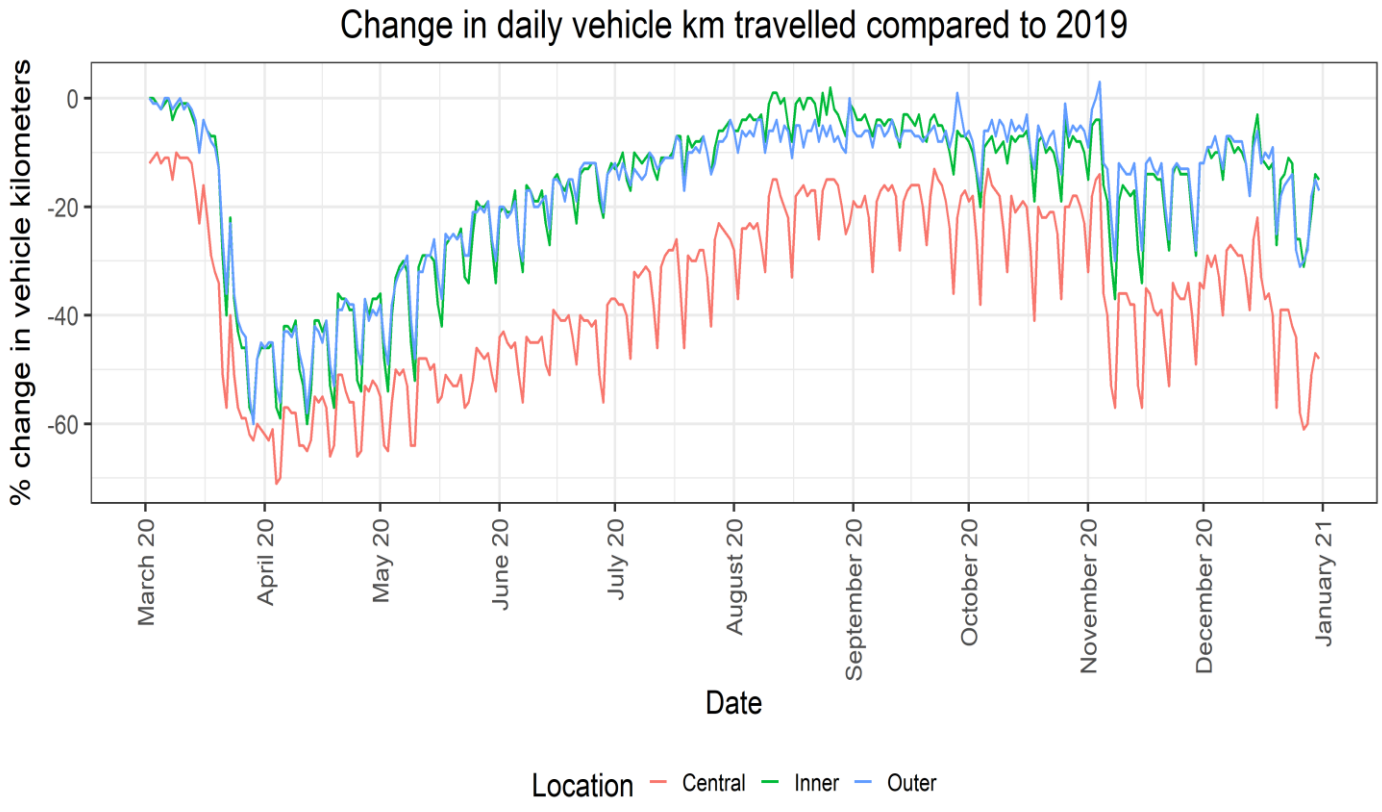

Figure 5. Change in daily vehicle km travelled in London (TfL, 2020)

This graph shows that when lockdown measures were introduced in March, overall road traffic volumes in London reduced by around 50 per cent. Between May and the second lockdown in November, traffic volumes steadily increased. By October, in inner and outer London traffic was just below pre-pandemic levels. In central London road traffic was around 20 per cent below pre-pandemic levels.

During the second lockdown in November, traffic levels reduced to around 40 per cent of pre-pandemic levels in central London and around 15 per cent of pre-pandemic levels in inner and outer London. This was a smaller decrease than recorded during the first national lockdown.

This series of changes shows that the traffic flow in all parts of London in 2020 has been dominated by the impacts of the pandemic, it is therefore not possible to draw out any additional or separate impact of the ULEZ on traffic flows in 2020.

However, it should also be noted that even when restrictions were most relaxed in October traffic flows were largely at or below 2019 levels, suggesting that the reductions in traffic flow previously attributed to the introduction of the ULEZ have not been lost. However, as London recovers through 2021 and future years, we will continue to assess any long term trends that emerge in traffic flow.

Compliance rates

The previous reports on the ULEZ have reported both the absolute numbers of compliant and non-compliant vehicles seen on typical days in each month and the percentage of compliant vehicles.

As noted in the previous sections, however, the lockdowns and other restrictions on economic activity and travel over the course of 2020 have had a significant effect on the absolute numbers of vehicles. In order to avoid false comparisons this report has omitted the absolute numbers of vehicles from this report to focus on the proportion of the vehicles that are on the road each month that are compliant. However, the full data sets are published on the TfL website[16].

Previous reports, such as the ULEZ ten month on report, considered “pre-compliance” in detail.

Table **2** below compares compliance rates from the scheme launch in April 2019 up to December 2020. As with previous reports a number of atypical days have been excluded from the April 2019 data. All of the data represents 24-hour compliance rates.

[16] https://tfl.gov.uk/corporate/publications-and-reports/ultra-low-emission-zone

Table 2: ULEZ compliance rates since launch

Month	Overall Compliance Rate	Car Compliance Rate	Car (excluding Taxi) Compliance Rate§	Taxi only Compliance Rate§	Van Compliance Rate
*Feb-17**	*39%*				
Apr-19	73%	77%			52%
May-19	74%	78%			53%
Jun-19	75%	79%			53%
Jul-19	75%	80%			55%
Aug-19	76%	80%	87%	24%	58%
Sep-19	77%	81%			58%
Oct-19	77%	81%			59%
Nov-19	78%	81%	88%	26%	60%
Dec-19	78%	81%	88%	27%	60%
Jan-20	79%	82%	89%	29%	64%
Feb-20	79%	83%	89%	30%	64%
Mar-20	80%	83%	89%	31%	65%
Apr-20†					
May-20	81%	85%	87%	44%	64%
Jun-20	82%	86%	88%	47%	67%
Jul-20	83%	86%	89%	49%	69%
Aug-20	83%	86%	90%	49%	70%
Sep-20	83%	86%	90%	48%	71%
Oct-20	84%	86%	90%	48%	72%
Nov-20	84%	87%	90%	52%	73%
Dec-20	85%	87%	91%	52%	75%
Overall change April 2019 to December 2020	**Increase of 12 percentage points**	**Increase of 10 percentage points**	**Increase of 3 percentage points (Nov 19 to Dec 20 only)**	**Increase of 26 percentage points (Nov 19 to Dec 20 only)**	**Increase of 23 percentage points**
% Change Jan 2020 to December 2020	**+17%**	**+13%**	**+10%**	**+100%**	**+44%**

Table notes:

** February 2017 was when the T-charge was confirmed and the ULEZ was first consulted on. Between February 2017 and the scheme launch there was a significant uptick in "pre-compliant" vehicles as Londoners prepared in advance.*

† Operation of the ULEZ was suspended from 23 March to 18 May in response to the lockdown and Government advice not to use public transport.

§ Prior to November 2019 compliance rates for cars and taxis were not routinely separated. Taxis refers to black cabs only and does not include Private Hire Vehicles

Table 2 shows that:

- Despite already high compliance rates at the launch of the scheme due to pre-compliance, compliance has continued to grow through 2019 and 2020 for cars, vans and taxis.
- The proportion of cars and vans that are compliant has grown at a slightly higher rate during 2020 than after the launch of the scheme in 2019.
- The growth in the proportion of taxis that are compliant has grown significantly since the launch of the ULEZ.

Taxis are not formally subject to the ULEZ, instead they are subject to stringent licensing conditions which mean that all newly licensed taxis have had to be "Zero Emission Capable" (ZEC) since 2018. The age limit for the most polluting older taxis is also being reduced. There are now nearly 4,000 ZEC taxis licensed in London.

The taxi trade has been severely impacted by the Coronavirus pandemic. The Mayor has taken steps to support taxi drivers in the move to cleaner cabs with TfL's Taxi Delicensing Scheme, launched in 2017, offering payments of up to £5,000 to retire the oldest taxis from London licensing. The scheme was enhanced in 2019 to offer top level payments of £10,000. Over 80 of the 300 rapid electric charging points installed by the Mayor in London are dedicated to supporting the taxi trade.

To support small businesses and low-income Londoners the Mayor has provided nearly £53 million in funding for scrappage schemes. These schemes are working, with over 8,000 of the most polluting vehicles taken off the road as a result of them, contributing to the increase in the proportion of compliant vehicles we can see from the data. Despite the

evidence that scrappage works and repeated lobbying, the Government is yet to match the Mayors commitment in London or create a properly funded national scheme.

Heavy vehicles and the Low Emission Zone

From the 1 March 2021 the rules for heavy vehicles, including lorries (HGVs) and buses and coaches are changing; for these vehicles the Londonwide Low Emission Zone standards are being brought in line with the existing ULEZ standards, which currently only apply in central London. The alignment of LEZ and ULEZ standards means that heavy vehicle compliance with the ULEZ will not be included in future reports, instead we will report compliance with the tougher LEZ standards Londonwide for these vehicles.

Table 3 below shows compliance rates for HGVs and non-TfL Buses and coaches with the *current central London ULEZ* only. However, these compliance rates also provide an indication of how well prepared they are for the strengthening of the LEZ standards.

Table 3: ULEZ Compliance rates for heavy vehicles

Date	HGVs	NON-TfL BUS/COACH§
Apr-19	87%	74%
May-19	87%	71%
Jun-19	87%	72%
Jul-19	88%	71%
Aug-19	88%	73%
Sep-19	89%	76%
Oct-19	89%	77%
Nov-19	89%	78%
Dec-19	89%	76%
Jan-20	90%	77%
Feb-20	91%	76%
Mar-20	91%	78%
Apr-20†		
May-20	90%	64%
Jun-20	91%	71%
Jul-20	92%	77%
Aug-20	91%	81%
Sep-20	92%	87%
Oct-20	92%	87%

Nov-20	92%	91%
Dec-20	94%	91%
Overall change April 2019 to December 2020	**Increase of 7 percentage points**	**Increase of 17 percentage points**
% Change April 2019 to December 2020	**+8%**	**+23%**

Table notes:

† Operation of the ULEZ was suspended from 23 March to 18 May in response to the lockdown and Government advice not to use public transport.

§Due to the low number of vehicles in the non-TfL bus/coach category, this vehicle type is subject to more significant fluctuations in compliance month on month

The Low Emission Zone has been operational since 2008 at the lower standard of Euro IV, or equivalent, for particulate matter only for heavy vehicles. As with the ULEZ this scheme is enforced using an Automatic Number Plate Recognition (ANPR) camera network. This has allowed us to take snapshots of the recorded vehicles in the wider LEZ zone and check whether they comply with the new, tougher standards before they are formally introduced. As the introduction of tougher LEZ standards was announced at the same time as the ULEZ we would expect to see a similar pattern of growing “pre-compliance” as vehicle operators and owners prepare their fleets in advance.

Table 4: Pre-compliance rates with the tougher LEZ standards

Date	All	HGV Compliance Rate	NON-TfL Bus and coach Compliance Rate§
May-19	71%	69%	59%
Sep-19	74%	72%	64%
Jan-20	79%	77%	67%
Apr-20	81%	80%	55%
May-20	83%	82%	61%
Jun-20	83%	82%	62%
Jul-20	84%	83%	70%
Aug-20	85%	84%	74%
Sep-20	85%	84%	74%
Oct-20	86%	85%	74%
Nov-20	88%	86%	72%
Dec-20	89%	86%	73%
Overall change May 2019 to December 2020	**Increase of 18 percentage points**	**Increase of 17 percentage points**	**Increase of 14 percentage points**
% Change May 2019 to December 2020	**25%**	**25%**	**24%**

Table notes:

§Due to the low number of vehicles in the non-TfL bus/coach category, this vehicle type is subject to more significant fluctuations in compliance month on month

Taken together Table 3 and Table 4 show that:

- Compliance with the ULEZ standards for heavy vehicles driving within the zone is high and continued to grow throughout 2020
- In the wider LEZ area pre-compliance with the tougher standards has also continued to grow and was very high at nearly 90 per cent by the end of 2020.

Not shown in the table, TfL announced that the whole of the core bus fleet (nearly 9,000 buses) **met the Euro VI standard or better by the end of 2020**. Over 400 buses are now electric or hydrogen powered.

Caution should be applied to drawing any additional conclusions from the non-TfL bus and coach figures as this sector has been particularly affected by a downturn in the tourist industry due to the pandemic and the absolute numbers of vehicles recorded within the zone have declined by around eighty percent over the period covered by the table.

In summary, it appears that, despite the complex disruptions to society, transport and new vehicle and retrofit supply chains over the course of 2020 the ULEZ is still driving an increase in the proportion of vehicles that meet the emission standards.

Pre-compliance with the tougher LEZ standards is also very high and increasing, reflecting not just the success of the Mayor’s scrappage schemes but also the positive steps taken by large and small business both in London and across the UK to help clean London’s air.

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