

MAYOR OF LONDON

CENTRAL LONDON ULTRA LOW EMISSION ZONE – FOUR MONTH REPORT

September 2019



COPYRIGHT

**Greater London Authority
September 2019**

Published by
Greater London Authority
City Hall
The Queen's Walk
More London
London SE1 2AA

www.london.gov.uk

enquiries 020 7983 4000

minicom 020 7983 4458

ISBN

Photographs ©

Copies of this report are available
from www.london.gov.uk

Key Findings

On 8 April 2019 the Mayor of London launched the world's first Ultra Low Emission Zone. In May 2019 City Hall published the "[Central London Ultra Low Emission Zone – First Month Report](#)" outlining the initial success of the scheme. This four-month report updates the original report with an additional three months of data and analysis.

As explained in the previous report, there were a number of non-typical events in central London in April 2019. As a result, only a limited number of days were used for analysis of the first month of the scheme. This report includes data for February 2017 (when the Mayor announced the T charge and the accelerated change in the vehicle fleet began), March 2019 (the month before the scheme was introduced) and April – July 2019 (the first four months of the scheme). Key findings from the first four months of operation are:

- After the first four months of operation the average compliance rate with the ULEZ standards was around 73 per cent in congestion charging hours and 75 per cent in a 24 hour period. This is much higher than 39 per cent in February 2017 and the 61 per cent in March 2019 (congestion charging hours).
- From March – July 2019 there was a large reduction in the number of older, more polluting, non-compliant vehicles detected in the zone: some 12,524 fewer on an average day, a reduction of over a third.
- There was a 30 per cent decrease in the proportion of vehicles in the central zone that were non-compliant from March 2019 to July 2019.

To fully understand the impact of the scheme it is necessary to take into account pre-compliance (i.e. people and businesses preparing ahead of time for the start of the new scheme). With this in mind, the changes between February 2017 and July 2019 were as follows:

- There was a large reduction in the number of older, more polluting, non-compliant vehicles detected in the zone: a reduction of 39,256 vehicles on an average day, or around a 63 per cent reduction.
- There was an 85 per cent increase in the proportion of vehicles detected in the central zone that were compliant from February 2017 to July 2019.

Further work will be needed to understand the full impact of the scheme including the impact on local air quality and emissions reductions, this will be included in a six month evaluation report.

Introduction

On 8 April 2019 the Mayor of London launched the world's first Ultra Low Emission Zone in central London. This report evaluates the impact of the scheme in its first few months of operation. At this early stage it is not yet possible to determine the full impacts of the scheme on air quality concentrations and emissions – these will be assessed in a six month evaluation report once more data is available. The best interim measure of success currently available is vehicle compliance data. Once the scheme has been in operation for a sufficient duration, impact assessments for air pollution emissions and concentrations will also be published. As with all schemes of this type, our understanding of the impacts of the scheme will improve over time.

What is the Ultra Low Emission Zone (ULEZ)?

The Central London ULEZ started on 8 April 2019 and operates in the existing central London Congestion Charge Zone. Figure 1 is a map of the area covered by the central ULEZ. Unlike the congestion charge the ULEZ operates 24 hours a day, every day of the year. Vehicles must meet strict emission standards to drive in the ULEZ area:

- Euro 4 for petrol cars and vans (less than 14 years old in 2019)
- Euro 6 for diesel cars (less than five years old in 2019)
- Euro 6 for diesel vans (less than four years old in 2019)
- Euro 3 for motorcycles and other L-category vehicles
- Euro VI for lorries, buses and coaches

Vehicles that do not meet these standards must pay a charge:

- £12.50 per day for cars, motorcycles and vans
- £100 per day for lorries, buses/coaches

All TfL buses operating in the zone meet the ULEZ standards. The ULEZ replaces the T-Charge in central London and is in addition to the Congestion Charge. To find out more about the ULEZ or to check if your vehicle is affected please visit:

<https://tfl.gov.uk/modes/driving/ultra-low-emission-zone>.

Alongside the ULEZ, the Private Hire Vehicle exemption to the congestion charge was removed on 8 April 2019.

Ultra Low Emission Zone





-  Ultra Low Emission Zone (ULEZ)
-  Ultra Low Emission Zone boundary
-  Additional residents' discount area
-  Main roads within the ULEZ



Figure 1. Map of the central London Ultra Low Emission Zone

Vehicle compliance and traffic data

The purpose of the ULEZ is to improve air quality in and around central London. However, air pollution concentrations are affected by many different factors including the weather and regional contributions from outside London and therefore require more than a few months to assess trends. An interim/proxy measure of success of the scheme is the reduction in the number of older more polluting vehicles driving in the central zone. This will translate into real world air pollution emission and concentrations reductions.

Vehicle compliance refers to the number of vehicles that “comply” or meet the ULEZ emission standards. 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% discount or exemption

Limitations of this analysis

Time period of data available for analysis

To assess the impact of the scheme we have compared the number of vehicles detected in the zone and compliance rates from February 2017 and March – July 2019. In February 2017 the Mayor confirmed the introduction of the T-charge as a stepping stone for the ULEZ and this can be seen as the start of the accelerated change in the vehicle fleet as Londoners and businesses prepared for the new schemes. March 2019 is the month before the ULEZ was introduced and July 2019 is the latest available full month of data.

The ULEZ is a 24 hour scheme, however, historic data was collected during congestion charging (CC) hours only – 07:00 to 18:00, Monday to Friday. When assessing the impact of the first months of ULEZ compared to historic months, comparison has been made based on CC hours to ensure the comparison is fair. 24 hour data for the months since the scheme has been in operation has also been provided.

Disruptions to traffic flow in the central zone in April 2019

As explained in the [previous iteration](#) of this report, there were a number of non-typical events in central London in April 2019. These included.

- Road works (leading to signed diversions into the ULEZ).
-

- The Extinction Rebellion climate protests, leading to further diversions into the central zone and an unknown impact on the number of motorists choosing to drive in central London.
- Easter holidays and Bank Holidays. The timing of the introduction of ULEZ was specifically chosen to target a “quiet” week when there would be fewer vehicles in the zone.

As a result, only a limited number of days were used for analysis of the first month of the scheme. Data for April 2019 presented in this report is the average over “typical days” only. This report includes data and analysis for the first four months of the scheme’s operation without non-typical events.

To account for this in the previous iteration of this report the data for April 2019 covered the period from 8 April to 5 May 2019. For consistency this report has taken the same approach. However, using only non-typical days exclusively in the month of April has little effect on the results and anyone who wishes to can calculate this from the data accompanying this report.

Unique vehicles detected in zone and relation to traffic flow

Vehicle volumes within this report relate to the daily number of confirmed unique vehicles detected in central London. Unique vehicle volumes will be different in scale to changes in traffic volumes entering or within central London for a number of reasons:

- Unique vehicle volumes do not take into account how a vehicle is used. For example, a proportion of traffic is associated with a minority of vehicles that make multiple trips a day within the zone, e.g. delivery vehicles and taxis.
- Trips made wholly within the zone are currently less likely to be captured by an ANPR camera than trips crossing the boundary (for which all entry and exit points are monitored). There is currently less incentive for internal trips to cease as local residents have a 100% ULEZ discount grace period until 24th October 2021.
- The comparison in this report is between two different months of the year. Traffic exhibits seasonal variation, which means underlying changes in demand may not be accurately reflected in the above figures.

If you want to know about estimates for changes in traffic in both central London and pan-London please see the latest Travel in London report, which looks at various sets of data for understanding traffic flow including that from TfL’s automatic traffic counters:

<https://tfl.gov.uk/corporate/publications-and-reports/travel-in-london-reports>

Further analysis is ongoing in order to understand the impacts of ULEZ including trends in changes in compliance, traffic flows, and air quality.

FIRST MONTH – changes in vehicle numbers and compliance (March 2019 – April 2019)

Table 1 compares vehicle numbers and compliance rates for the month immediately before the scheme was introduced (March 2019) and the scheme's first month in operation (April 2019). As explained above, this excludes non-typical days.

The changes below capture the more immediate effect following the launch of the scheme and does not take into account those who changed their behaviour ahead of time in preparation of the scheme, nor the other events referred to above.

Table 1. Average number and proportion of compliant vehicles detected in the zone per 'typical' day during CC hours March 19 – April 19

Date	Number of vehicles driving in the charging zone per day during CC hours			Proportions of vehicles driving in the charging zone during CC hours	
	Unique vehicles detected in zone*	Non-compliant vehicles	Compliant vehicles	Non-compliant vehicles	Compliant vehicles
Mar - 19	91,035	35,578	55,457	39.1%	60.9%
Apr – 19	89,380	26,195	63,185	29.3%	70.7%
Change	-1,655	-9,383	7,728	Decrease of 9.8 percentage points	Increase of 9.8 percentage points
% change	-1.8%	-26.4%	13.9%	-25.0%	16.1%

*not representative of traffic flow

Key impacts of the first month of the scheme compared to the previous month:

- In the first month of operation (excluding non-typical days) the compliance rate with the ULEZ standards was around 71 per cent. This is much higher than the 39 per cent in February 2017 and the 61 per cent in March 2019.
- There was a large reduction in the number of older, more polluting, non-compliant vehicles detected in the zone: some 9,400 fewer on an average 'typical' day, a reduction of over a quarter.

FIRST FOUR MONTHS – changes in vehicle numbers and compliance (March 2019 – July 2019)

Table 2 compares vehicle numbers and compliance rates for the month immediately before the scheme was introduced (March 2019) and the scheme's first few months in operation. This excludes non-typical days for April 2019. The table below captures the more immediate effect following the launch of the scheme and does not take into account those who changed their behaviour ahead of time in preparation of the scheme, this is captured in the pre-compliance data presented later in this report.

Table 2. Average number and proportion of unique compliant vehicles detected in the zone during CC hours March 19 – July 19

Date	Number of vehicles driving in the charging zone per day during CC hours			Proportions of vehicles driving in the charging zone during CC hours	
	Unique vehicles detected in zone*	Non-compliant vehicles	Compliant vehicles	Non-compliant vehicles	Compliant vehicles
March 19	91,035	35,578	55,457	39.1%	60.9%
April 19	89,380	26,195	63,185	29.3%	70.7%
May 19	88,796	25,610	63,186	28.8%	71.2%
June 19	87,113	24,549	62,564	28.2%	71.8%
July 19	83,899	23,054	60,844	27.5%	72.5%
Change March – July 2019	-7,136	-12,524	5,387	Decrease of 11.6 percentage points	Increase of 11.6 percentage points
% change	-7.8%	-35.2%	9.7%	-29.7%	19.0%

*not representative of traffic flow

Key impacts of the first few months of the scheme compared to March 2019 (the month before the scheme was implemented):

- In July 2019 the compliance rate with the ULEZ standards was around 73 per cent. This is much higher than the 39 per cent in February 2017 and the 61 per cent in March 2019.
 - From March – July 2019 there was a large reduction in the number of older, more polluting, non-compliant vehicles detected in the zone: some 12,524 fewer on an average day, a reduction of over a third.
 - There was around a 30 per cent decrease in the proportion of vehicles in the central zone that were non-compliant between March – July 2019.
-

PRE- COMPLIANCE – changes in vehicle numbers and compliance (February 2017 – March 2019)

Table 3 below shows the change in the number of vehicles detected in the zone and the compliance level between February 2017 and March 2019. This data was released in April 2019 to coincide with the launch of the scheme.¹

Table 3. Average number and proportion of unique compliant vehicles detected in the zone per day during CC hours Feb 17 – March 19

Date	Number of vehicles driving in the charging zone per day during CC hours			Proportions of vehicles driving in the charging zone during CC hours	
	Unique vehicles detected in zone*	Non-compliant vehicles	Compliant vehicles	Non-compliant vehicles	Compliant vehicles
Feb 17	102,493	62,310	40,184	60.8%	39.2%
March 19	91,035	35,578	55,457	39.1%	60.9%
Change Feb 17 – March 19	-11,458	-26,732	+15,273	Decrease of 21.7 percentage points	Increase of 21.7 percentage points
% change	-11%	-43%	+38%	-35.7%	55.4%

*not representative of traffic flow

As Table 3 indicated, the proportion of compliant vehicles detected in the Central London ULEZ zone rose from 39 per cent in February 2017 (when the Mayor confirmed the introduction of the T-charge) to 61 per cent in March 2019. This represents a 55 per cent increase in the proportion of compliant vehicles detected in the zone.

The proportion of vehicles that are compliant is the best way of comparing changes in the vehicle fleet, given the number of unique vehicles detected in the zone also changed over this period.

¹ <https://www.london.gov.uk/press-releases/mayoral/ulez-launches-in-central-london>

PRE- COMPLIANCE and LATEST MONTH – changes in vehicle numbers and compliance (February 2017 – July 2019)

Table 4 shows the change in vehicle compliance from February 2017 to July 2019. This is presented as an absolute change in the number of vehicles detected, the change in the percentage of vehicles that are compliant, and also the change in the proportion of vehicles that are compliant.

Table 4. Average number and proportion of unique compliant vehicles detected in the zone during CC hours Feb 17 – July 19

Date	Number of vehicles driving in the charging zone per day during CC hours			Proportions of vehicles driving in the charging zone during CC hours	
	Unique vehicles detected in zone*	Non-compliant vehicles	Compliant vehicles	Non-compliant vehicles	Compliant vehicles
Feb 17	102,493	62,310	40,184	60.8%	39.2%
July 19	83,899	23,054	60,844	27.5%	72.5%
Change Feb – July 2019	-18,594	-39,256	20,660	Decrease of 33.3 percentage points	Increase of 33.3 percentage points
% change	-18.1%	-63.0%	51.4%	-54.8%	85.0%

*not representative of traffic flow

Key findings for the first few months of the scheme compared to February 2017, taking pre-compliance into account:

- From February 2017 – July 2019 there was a large reduction in the number of older, more polluting, non-compliant vehicles detected in the zone: some 39,256 fewer on an average day, a reduction of 63 per cent.
- There was an 85 per cent increase in the proportion of vehicles detected in the zone that met the ULEZ standards between February 2017 – July 2019. As mentioned previously, the proportion of vehicles that are compliant is the best way

of comparing changes in the vehicle fleet, given the number of unique vehicles detected in the zone also changed over this period.

Comparison between congestion charge hours and 24 hour data

To ensure a fair comparison with historic data the previous section compares data for CC hours only. Table 5 below includes vehicles numbers and compliance rates for CC hours and 24 hour average daily vehicles detected in the zone for July 2019.

Table 5. Comparison of average unique daily vehicles for July 2019 for CC hours and 24 hour data

Time	Number of vehicles driving in the charging zone per day			Proportions of vehicles driving in the charging zone	
	Unique vehicles detected in zone*	Non-compliant vehicles	Compliant vehicles	Non-compliant vehicles	Compliant vehicles
CC hours	83,899	23,054	60,844	27.5%	72.5%
24 hour	116,082	28,562	87,520	24.6%	75.4%

*not representative of traffic flow

As was the case in the first month, the majority of unique vehicles detected in the zone (around three quarters) were detected during CC hours. There was a slight increase in compliance rate between CC hours and 24-hour data, this indicates that vehicles entering the zone in evening and weekends were less likely to be older more polluting vehicles.

Table 6. Average number and proportion of unique compliant vehicles detected in the zone over a 24 hour period from April – July 2019

Time	Number of vehicles driving in the charging zone per day			Proportions of vehicles driving in the charging zone	
	Unique vehicles detected in zone*	Non-compliant vehicles	Compliant vehicles	Non-compliant vehicles	Compliant vehicles
April 2019	121,664	32,137	89,527	26.4%	73.6%
May 2019	117,289	30,146	87,144	25.7%	74.3%
June 2019	118,021	29,434	88,588	24.9%	75.1%
July 2019	116,082	28,562	87,520	24.6%	75.4%

*not representative of traffic flow

Table 6 above shows the number of unique vehicles detected in the zone and compliance rate for an average day (24 hours) from April – July 2019. For all months the 24 hour compliance rate was higher than the CC hours compliance rate.

As discussed, data before April 2019 was collected during congestion charging (CC) hours only and we are therefore unable to compare 24 hour data to a time before the ULEZ was introduced.

Charge payments and penalty charges

On an average day in July 2019 around 28,562 non-compliant, unique vehicles were detected in the zone. Of these:

- Around 14,950 (52%) paid the charge (3,602 ULEZ web or call centre payments, 7,147 Auto Pay payments and 4,201 ULEZ Fleet charge payments).
 - Around 2,791 (10%) were in contravention of the scheme and incurred a penalty charge.
 - Around 10,821 (38%) were not required to pay the daily ULEZ charge as they are eligible for a 100% discount or exemption.
-

Other formats and languages

For a large print, Braille, disc, sign language video or audio-tape version of this document, please contact us at the address below:

Greater London Authority
City Hall
The Queen's Walk
More London
London SE1 2AA

Telephone **020 7983 4000**
www.london.gov.uk

You will need to supply your name, your postal address and state the format and title of the publication you require.

If you would like a summary of this document in your language, please phone the number or contact us at the address above.