MAYOR OF LONDONLONDONASSEMBLY

Inner London Ultra Low Emission Zone Expansion One Year Report

Key information

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Background

On 8 April 2019 the Mayor of London launched the world's first 24-hour Ultra Low Emission Zone (ULEZ) in central London. On 25 October 2021 the zone was expanded across inner London, up to, but not including, the North and South Circular Roads. The ULEZ is now 18 times the size of the original area and covers four million people – around 44 per cent of London's population.

The ULEZ does not operate in isolation. It operates in conjunction with the London-wide Low Emission Zone (LEZ), which was originally launched in 2008. It is the oldest of the capital's emission control schemes and applies to large and heavy vehicles. In March 2021 enforcement of tougher emission standards for the LEZ began. Prior to this, the standards hadn't changed since 2012. The LEZ standards are now the same as the ULEZ standards for most large and heavy vehicles.

About the report

In this one year report, we evaluate the impacts of the ULEZ and the LEZ schemes, focusing on one year following the ULEZ expansion to inner London and for the LEZ, over a year and a half on from the enforcement of tighter LEZ standards.

The report, including the methodology for assessing impacts on air pollutant concentrations, underwent independent peer review.

Key findings

The findings indicate that the Mayor's air quality policies, and in particular the ULEZ and LEZ schemes, are having a significant impact reducing the number of older, more polluting vehicles seen driving in London and on reducing the levels of harmful air pollution that Londoners are exposed to. In summary, the key findings are:

Traffic and vehicle compliance

- The vehicles traveling in London are increasingly cleaner. The overall ULEZ compliance rates have continued to increase, with 94.4 per cent of vehicles seen driving in the zone on an average day meeting the ULEZ standards a year following the expansion. This is an increase from just 39 per cent when the expansion was announced in 2017.

- The number of older, more polluting vehicles in the zone has continued to reduce significantly. There was an almost 60 per cent reduction in non-compliant vehicles detected in the zone since the expansion came into operation, an average reduction of 74,000 polluting vehicles per day.

- The heavy vehicle fleet is cleaner because of the London LEZ. The strengthening of emission standards resulted in a significant increase in compliance rates, such that compliance has now reached 97 per cent, increased from 90 per cent in February 2021, immediately prior to the tightening of the standards.

- The proportion of diesel cars on London's roads has reduced. In October 2022 the proportion of kilometres driven in London by diesel cars is estimated to have reduced from 32 per cent to about 25 per cent in inner London, showing the impact of the expansion in reducing diesel cars driving in inner London. In terms of private hire vehicles (PHVs), petrol hybrid electric vehicles comprise the largest proportion of this fleet. PHVs experienced an increase in the proportion of electric vehicles from October 2021 when the ULEZ was expanded, in both central and inner London. Changes to the composition of PHVs has been highly influenced by the additional licensing requirements for newly registered PHVs set by Transport for London to reduce emissions from these vehicles.

- There has been an overall reduction in vehicles and traffic flows in the zone. In October 2022, there were 47,000 fewer vehicles seen in the zone on an average day (a reduction of almost 5 per cent) and data suggest traffic flows are around three per cent lower than in the weeks before the expansion. This is similar to the reduction in traffic flows observed following the introduction of the central London ULEZ. The COVID-19 pandemic also affected traffic levels. However, in outer London, traffic levels have largely returned to pre-pandemic levels but in central and inner London they remain below what they were in 2019.

Air pollutant emissions

- Pollution emissions have reduced dramatically. Cumulatively since 2019, it is estimated the ULEZ led to nitrogen oxides (NO_x) emissions from road traffic reducing by 13,500 tonnes across London over the four-year period compared with what they would have been without the ULEZ, a reduction of 23 per cent. Within the ULEZ area NO_x emissions are estimated to have reduced by 5,000 tonnes, a reduction of 26 per cent, over the same period. Reductions in NO_x emissions were seen across all vehicle types, but the greatest proportion was occurred in TfL busses at 70 per cent. Cumulatively, emissions of fine particulate matter (PM2.5) are estimated to have reduced by 180 tonnes across London since 2019, compared to without the ULEZ, a reduction of 7 per cent. Within the ULEZ area PM2.5 emissions are estimated to have reduced by 80 tonnes, a reduction of 19 per cent, over the same period.

- Carbon emissions from vehicles have also reduced. Cumulatively since 2019 it is estimated the ULEZ has led to a reduction of around 800,000 tonnes of CO^2 emissions from vehicles across London over the four-year period compared to without the ULEZ, a saving of three per cent. Within the ULEZ area this is a saving of 290,000 tonnes, a reduction of 4 per cent over the same period.

Air pollutant concentrations

- The air in the zone is substantially cleaner. The ULEZ expansion has led to four million people breathing cleaner air, including 1,362 more schools. Harmful nitrogen dioxide (NO_2) concentrations are estimated to be 21 per cent lower than they would have been in inner London without the ULEZ and 46 per cent lower than they would have been in central London. This is above what was predicted for the scheme. Substantial reductions in NO_2 concentrations were seen at roadside locations, with a 56 per cent reduction in central London, 47 per cent in inner London, and 37 per cent in outer London since 2017. Background monitoring sites away from the main road network also had significant reductions in NO_2 of 47 per cent in central and 45 per cent in inner London, since 2017. Unlike central and inner London sites, average concentrations at outer London background sites have remained constant since 2021.

- The boundary roads have also benefited from cleaner air. All air quality monitoring sites on the boundary roads recorded large reductions in NO_2 concentrations and there has been an estimated reduction of 19-27 per cent compared to a scenario without the ULEZ with the impact increasing over time. Showing therefore there has been no displacement of pollution to the boundary.

- NO_2 levels have not returned to those experienced pre-pandemic, indicating that even as traffic levels have risen; cleaner vehicles in the fleet caused by the ULEZ and its expansion, have had sustained and positive impacts on air pollution meaning concentrations continue to be far below what they would have been otherwise.

- Particulate matter (PM2.5) levels have also continued to reduce across London with a 41 per cent reduction in average concentrations in central and inner London since 2017.

Full report

Read the full evaluation of the impacts of the the ULEZ and the LEZ schemes, one year following the ULEZ expansion to inner London and over a year and half on from the enforcement of tighter LEZ standards.

Read the ULEZ one year report
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