



LONDON'S CONGESTION CHARGE AND ITS LOW EMISSION ZONES

Key messages

London's Congestion Charge Zone is one of the largest in the world. It was set up nearly two decades ago to discourage road traffic in central London, improve air quality and raise additional resources for public transport. In addition, the City of London introduced the world's first 24-hour Ultra Low Emission Zone in 2019, covering 4 million people or about a third of the city's population. While traffic congestion in central London remains a challenge, carbon emissions and other air pollutants from transport have been reduced. A larger share of vehicles in London is cleaner, contributing to London's commitment to becoming a zero-carbon city by 2030.

Country: [United Kingdom](#)

Sectors: [Transport](#) | [Urban planning](#)

Scale: [Local](#)



Industries, innovation and infrastructures



Sustainable cities and communities



Climate action

Challenge

In 2019, the City of London generated around 31.4 million tonnes of CO₂-eq (LEGGI, 2019); road transport represented 6.5 million tonnes of CO₂-eq or 21% of the city's emissions. A key challenge in reducing emissions from road transportation is car dependency. According to [UK Road Traffic Statistics for London](#), between 2011 and 2019, the number of miles driven across the 9 200 miles of London's road network increased by 4.1%. Miles driven fell with the COVID-19 lockdowns. However, in 2021, road traffic rebounded and reached close to the pre-COVID-19 levels of 18.5 billion miles.

Despite a well-developed public transport system, car use remains high. Low-cost alternatives to cars do exist; more than a third of car trips in London can be walked in under 25 minutes and two-thirds could be cycled in under 20 minutes (Mayor of London, 2022).

Moreover, traffic congestion generates economic costs associated with time loss and significant health impacts due to increased local air pollution. Road traffic also contributes to the city's carbon footprint. Given these multiple challenges, London committed to become a zero-carbon city by 2030.

Approach

Since 2003, the City of London has applied a [congestion charge](#) in a large area of central London. The coverage of the zone, operational timeframes and level of charges have evolved over time. In 2022, drivers

entering the congestion charge area paid a standard charge of £15 per day, applicable between 7:00-18:00 from Monday-Friday and from 12:00-18:00 on weekends and most bank holidays. The scheme is administered by *Transport for London*. A comprehensive network of cameras across the congestion charge zone records car number plates and cross-references them against a register of cars that have paid the charge. Drivers who do not pay the congestion charge within three days receive a penalty charge notice for £160.

The revenues cover the operational costs of the scheme and are channelled into London's public transport system. The measure aims to discourage car traffic, reduce the length of journeys and make public transport services more attractive. Different groups benefit from reductions or exemptions, including people with disabilities, residents living within the congestion zone, emergency services, taxis and drivers of electric and alternative fuel vehicles. Motorbikes, mopeds and bicycles are also exempt from paying London's congestion charge.

In addition, the City of London introduced two road pricing schemes to reduce carbon emissions and other air pollutants: a Low Emission Zone ([LEZ](#)) for heavy goods vehicles, created in 2008, and a 24-hour Ultra Low Emission Zone ([ULEZ](#)) launched in 2019, also applicable to residents.

The LEZ emission standards were strengthened for heavy vehicles in 2021 (Euro 6 for buses, coaches and vans over 3.5 tonnes, and Euro 3 for particulate matter only for vans and minibuses). Vehicles that do not meet these standards must pay a charge of £100 per day. Heavy vehicles that do not meet the Euro 4 standard must pay a higher charge of £300 per day. These measures contributed to reducing the number of highly polluting vehicles in central London, and thus improving air quality.

The ULEZ applies to passenger vehicles, motorcycles, vans, specialist vehicles and minibuses. Vehicles driving within ULEZ must either meet the relevant emission standards (Euro 4 for petrol, Euro 6 for diesel and Euro 3 for motorbikes) or pay a daily fee of £12.5, or £100 for buses and heavy goods vehicles. Since October 2021, the ULEZ has been expanded to the whole of inner London (up to the north and south circular covering 4 million people). This makes it one of the world's largest LEZs.

In parallel, *Transport for London* has purchased over 500 zero emission buses; as of 2021, all new buses must be zero emission; the city aims to achieve zero emissions for its entire bus fleet by 2034.

Results

The congestion charge initially contributed to reducing the level of car traffic in inner London. However, the regained space was quickly filled by taxis and other service vehicles, which benefit from exemptions. Cars and taxis represent about three-quarters of London's road traffic. The number of miles driven by cars and taxis has progressively decreased by about 6% or 1 billion vehicle miles since 2000; in turn, the traffic of light commercial vehicles increased by 1 billion vehicle miles. Overall, the level of London's road transport has thus remained fairly stable over the past two decades, ranging around 20 billion vehicle miles per year. However, the traffic situation would probably be much worse, if London had not introduced the congestion charge.

The City of London was more successful in discouraging older, more polluting vehicles to cross the inner London area and thus reducing carbon emissions and other toxic air pollutants. According to the [six-month assessment report of the expanded ULEZ](#), a larger share of vehicles in London is cleaner. Nearly 94% of vehicles driving in the ULEZ meet the emission standards on an average day. The compliance rate on boundary roads is 90% and the compliance rate in outer London is 85%. Similarly, the tightened standards

of the LEZ triggered a reduction of more polluting large and heavy vehicles, which had a compliance rate of 96% in 2022, compared to only 48% in 2017.

The City of London also recorded a sharp decline in the use of diesel cars driving in the ULEZ, resulting in cleaner air and important health benefits for Londoners. On average, there were 44 000 fewer diesel cars each day, representing a 20% reduction. Vehicles and traffic flows have been slightly reduced by about 2%.

Lessons learnt

Implementing restrictions on high polluting vehicles in a significant part of London has contributed effectively to improving air quality in the broader London area and reducing CO2 emissions.

The introduction of London's congestion charge two decades ago has helped maintain road traffic at the same level but did not significantly reduce the total volume of road traffic in central London. Additional measures will be needed to reduce city car traffic.

The road pricing schemes are an important instrument for raising additional income for greening London's transport system. According to the [Annual Report and Statement of Accounts 2021/22](#) of *Transport for London*, congestion charge net revenues reached £307 million in 2021/22. The ULEZ and LEZ generated a net income of £111 million and £34 million in 2021/22, respectively.

Political leadership matters. The Mayor of London, Sadiq Khan, played a key role in tightening emissions standards to clean London's air. He intends to further reduce air pollution, carbon emissions and congestion, and committed to exploring a London-wide expansion of the ULEZ in 2023. He plans to transform road user charging schemes into one simple and fair scheme. He also wants to explore development of a distance- and time-based scheme for the second half of the decade. These are important steps in the right direction.

London is a member of C40 Cities, a network of mayors of nearly 100 cities working together to accelerate climate action in cities. London's extensive experience with congestion charging and LEZ offers many lessons for other cities.

Further information

Transport for London (2022). Moving London forward safely, inclusively and sustainably Annual Report and Statement of Accounts 2021/22, <https://content.tfl.gov.uk/tfl-annual-report-and-statement-of-accounts-2021-22.pdf>.

Mayor of London (2022). Expanded Ultra Low Emission Zone – six-month report, including Low Emission Zone, one year report, https://www.london.gov.uk/sites/default/files/expanded_ultra_low_emission_zone_six_month_report.pdf.

London Energy and Greenhouse Gas Inventory - LEGGI (2019). <https://data.london.gov.uk/dataset/leggi>, (Accessed on 28 October 2022).

Featured publication

Link to: [Greening transport - OECD](#).

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