

Addendum to the Mayor's Transport Strategy (MTS): Proposal 24.1

The triple challenges of toxic air pollution, the climate emergency and traffic congestion

1. Toxic air pollution

The two pollutants that are of the greatest concern in London are nitrogen dioxide (NO₂) and particulate matter (PM). Since the publication of the Mayor's Transport Strategy (MTS) in 2018, significant progress has been made in reducing these pollutants and improving air quality for Londoners.

This is in large part owing to the successful delivery of the actions set out in the MTS, including the implementation of the central London Ultra Low Emission Zone (ULEZ) in April 2019 and the expansion of the zone to cover inner London in October 2021 (see Proposal 24). The scheme delivers air quality benefits by encouraging individuals to use sustainable transport or switch to cleaner vehicles, thereby contributing to the reduction in the number of older, more polluting vehicles in London.

Compliance with the scheme has been high, including during the period between the announcement of the new zones and their formal implementation (the pre-compliance period) as Londoners made the switch to cleaner vehicles in anticipation of the scheme. Overall compliance with the central London ULEZ went from 39 per cent when the Mayor first announced the scheme, to 87 per cent two years after implementation.¹ A similar response to the expansion of ULEZ has been seen in inner London for motorcycles, cars and vans where compliance rates for these vehicles increased to nearly 94 per cent six months after implementation,² including a five per cent increase within the first month of operation alone.³ Compliance rates for these types of vehicles in outer London were estimated to be at 82 per cent in November 2021 (reflecting a greater proportion of older vehicles)⁴ and it could be expected that an expansion of the zone to whole of London would lead to a similar pattern of increasing numbers of compliant vehicles, both in the pre-compliance period and after scheme implementation, as seen previously.

The expansion of ULEZ to inner London has contributed to the ongoing reduction in London's air pollution. In the central zone, there was a 44 per cent reduction in roadside NO₂ between February 2017 and January 2020 and a 27 per cent reduction in PM_{2.5}.⁵ The number of state primary and secondary schools in areas exceeding legal limits for NO₂ fell from 455 in 2016 to 20 in 2019, a reduction of 96 per cent.⁶

As a result of the expanded inner London zone, and the accompanying tighter Low Emission Zone (LEZ) standards, NO_x road transport emissions are expected to further reduce by 30 per cent in 2021 and PM_{2.5} emissions to reduce by six per cent London-wide contributing to significant improvements to Londoners' health.

However, toxic air pollution in London remains the biggest environmental risk to the health of all Londoners, particularly the most vulnerable. There remains more that can and should be done to lower exposure to poor air quality as quickly and effectively as possible to protect human health, including potentially going beyond achieving existing UK air quality requirements.

The World Health Organization (WHO) guidelines were tightened in September 2021 so that there are now lower thresholds for recommended levels of pollutants. The UK Government is currently consulting on new legal limits for PM_{2.5} as a result and the Mayor

has made the case for these to be aligned with the new interim WHO targets and for the legal limit for NO₂ to be updated as well.

While all Londoners now live in areas which are within the UK legal limits for PM_{2.5} (25 µg m⁻³), 88 per cent of Londoners still live in areas which do not meet the lowest WHO interim target (10 µg m⁻³), and all Londoners live in locations where concentrations exceed the guideline limit of 5 µg m⁻³. For NO₂, we estimate that 2.8 per cent (225,000) Londoners are still living in areas that exceed the new WHO interim target (30µg/m³).

The reduction in NO_x and PM_{2.5} emissions from road transport since 2013 has not happened equally across London. Air pollution is overall lower in outer London. However, the rate at which toxic emissions have fallen in outer London has been slower than in the rest of London. Outer London, therefore, accounts for an increasing proportion of NO₂ and PM_{2.5} emissions from road transport and - due to the higher proportion of older Londoners living in outer London boroughs - has the greatest share of premature deaths related to poor air quality.

2. Climate emergency

We are facing a climate emergency: global warming is going to exceed 2°C during this century unless there are deep and rapid reductions in CO₂ and other greenhouse gas emissions.⁷ In February 2022, the UN's Intergovernmental Panel on Climate Change (IPCC) warned that global warming, reaching 1.5°C in the near-term, would cause unavoidable increases in multiple climate hazards and present multiple risks to ecosystems and humans⁸, with the most vulnerable the most at risk from adverse impacts.

In October 2021, the Government published a national net zero strategy setting out how it plans to meet the UK's legally binding emissions targets by 2050. The strategy includes a range of policy measures alongside funding to support the UK's transition to net zero and is supported by its transport decarbonisation plan (July 2021).

In January 2022, the GLA published the Element Energy report on London's 2030 net zero target. In response to this, the Mayor announced his preferred pathway to net zero carbon in London.⁹

25 per cent of the city's carbon emissions now come from road transport.¹⁰ Some progress has already been made towards reducing vehicle carbon emissions in London. Between 2016 and 2019 there was an estimated six per cent reduction in CO₂ emissions in the central London ULEZ compared to a scenario with no ULEZ.¹¹ CO₂ emissions from cars and vans in the expanded zone (within inner London) are expected to reduce by five per cent in the first year.¹²

However, there is more to be done including taking action to reduce car vehicle kilometres travelled on London's roads by 27 per cent by 2030.

3. Traffic congestion

Vehicle congestion cost London £5.1 billion in 2021.¹³ Congestion levels have returned to close to pre-Covid-19 pandemic levels. Congestion leads to gridlocked traffic as well as increasing air pollution and carbon emissions. It also has adverse impacts on journey times for bus users, making this a less attractive mode of transport, and impacts on essential trips such as freight and servicing (including the emergency services).

Road user charging schemes can make a contribution to reducing congestion as demonstrated by the Congestion Charge in central London. The inner London ULEZ has only been in operation since October 2021 but early indications suggest it has contributed to a reduction of around 21,000 vehicles (around two per cent) in the expanded zone on an average day compared to the month before the launch of the scheme.¹

Figure 1: London faces the triple challenges of toxic air pollution, the climate emergency and traffic congestion



Addressing the triple challenges

Each element of the triple challenges is complex and cannot be comprehensively addressed by any one measure. Nonetheless, reducing traffic is key to addressing each element; road user charging schemes have proven to be successful in doing so and will need to be part of the solution. Depending on the scheme design and objectives, impacts across each of the three challenges could vary.

Proposals for any new or amended RUC schemes would need to be introduced in accordance with statutory procedure, including consultation requirements.

Road user charging schemes can also support other MTS objectives, such as the target of 80 per cent sustainable mode share by 2041 and Vision Zero for road danger. They can also help Londoners to achieve the 20 minutes of active travel that is recommended for good health and wellbeing.

In the light of this, the Mayor has developed a new proposal:

Proposal 24.1:

The Mayor, through TfL and the boroughs, will seek to address the triple challenges of toxic air pollution, the climate emergency and traffic congestion through road user charging schemes including by expanding the Ultra Low Emission Zone London-wide.

References

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- ¹ Ultra Low Emission Zone Six Month Report, https://www.london.gov.uk/sites/default/files/expanded_ultra_low_emission_zone_six_month_report.pdf
- ² Mayor of London press release, 19 July 2022 <https://www.london.gov.uk/press-releases/mayoral/londoners-breathing-cleaner-air-thanks-to-ulez>
- ³ Expanded ULEZ First Month Report, 2021 https://www.london.gov.uk/sites/default/files/ulez_first_month_report_december_2021.pdf
- ⁴ Next Steps for Reducing Emissions from Road Transport, TfL, Jan 2022 <https://content.tfl.gov.uk/next-steps-for-reducing-emissions-from-road-transport.pdf>
- ⁵ Air quality in London 2016 – 2020 <https://www.london.gov.uk/what-we-do/environment/pollution-and-air-quality/air-quality-london-2016-2020>
- ⁶ LAEI press release: <https://www.london.gov.uk/press-releases/mayoral/huge-progress-made-in-improving-londons-aq> and LAEI 2019 [summary note](#)
- ⁷ IPCC (2021) [Sixth Assessment Report \(ipcc.ch\)](#)
- ⁸ https://www.ipcc.ch/report/ar6/wg2/downloads/report/IPCC_AR6_WGII_SummaryForPolicymakers.pdf
- ⁹ London Net Zero 2030: An updated pathway, GLA, 2022: https://www.london.gov.uk/sites/default/files/london_net_zero_2030_-_an_updated_pathway_-_gla_response_1.pdf
- ¹⁰ Next steps for reducing emissions from road transport, TfL, 2022: <https://content.tfl.gov.uk/next-steps-for-reducing-emissions-from-road-transport.pdf>
- ¹¹ Air quality in London 2016 – 2020 <https://www.london.gov.uk/what-we-do/environment/pollution-and-air-quality/air-quality-london-2016-2020>
- ¹² Expanded ULEZ First Month Report, GLA, 2021 https://www.london.gov.uk/sites/default/files/ulez_first_month_report_december_2021.pdf
- ¹³ <https://inrix.com/press-releases/2021-traffic-scorecard-uk/> This figure does not take into account the cost of congestion on bus passengers and bus operating costs.