

Some terms used: This report considers the two main air pollutants relevant to ULEZ expansion. NO₂ is nitrogen dioxide, a harmful gas, and PM_{2.5} represents tiny particles, or microparticulates, less than 2.5 micrometres in diameter. These are so small they float around like a gas, and also have harmful health effects. The amount present in the air is expressed as µg /m³ which means the number of micrograms of pollutant in a cubic metre of air.

Overview:

Expansion of ULEZ to cover the whole of Greater London will cost residents and the GLA around **£1800 million** or **£1.8 billion**. (Does not include costs to those living just outside the Greater London boundary).

These costs will particularly affect lower income groups, at a time of hardship and rising prices.

There will be a real negative impact on care workers who often have to drive to their places of work and to their clients, and so a downgrading of the delivery of care to the vulnerable. Also negative impacts on employability particularly in lower income jobs where cross-London travel is required to access work, and also an increase in social isolation.

So why do it? Air quality and health improvements, according to the official Impact Assessment, would be **scandalously small**. The improvement in particulate PM_{2.5} levels is estimated to be **ZERO**.

The improvement in nitrogen dioxide (NO₂) levels is estimated to be a reduction of **1.4%** or **0.3 µg /m³**. This compares with an ongoing year on year fall in NO₂ levels of **1.7 or 1.8 µg /m³** per year. In other words the effect of ULEZ in Outer London will be to advance improvements in NO₂ levels, which are happening anyway, by around **just two months**. That's all.

The reduction in carbon emissions is forecast to be **0.8%**, less than one part in a hundred, trivial.

Health benefits from the effect on PM_{2.5} levels are estimated to be **ZERO**.

Health benefits from the effect on NO₂ levels would be small, are valued at just **£13 million**, and represent reductions in respiratory illnesses of **1.5%** - but again, the ongoing improvements are simply advanced by a couple of months, and much greater improvements will happen anyway, irrespective of ULEZ.

The Mayor of London does not report these numbers from the official Impact Assessment. Instead he keeps saying "the greatest number of deaths are attributable to air pollution in London's outer boroughs". However, a report by his City Hall points out this is "mainly due to the higher proportion of the elderly in these areas".

We point out that respiratory disorders are often developed over a long period of exposure, and the older residents would have been exposed to higher levels of air pollution in past decades when pollution was much higher everywhere. A small reduction in the already low pollutant levels now will likely not affect a long-established respiratory condition. Also Outer London residents will have been exposed to high levels of pollution if they commuted by Tube into Central London. A recent (2019) academic paper reports shockingly high levels of PM_{2.5} particles on the London Underground. Thirty stations were listed having PM_{2.5} levels **above 250 µg m⁻³**, which is **50 times** the WHO recommended limit of 5 µg m⁻³ and **28 times** the average level of 8 – 10 µg m⁻³ estimated for Outer London. The mean (average) value across the network was 88 µg m⁻³, **ten times** the current outdoor levels in Outer London. Perhaps GLA resources would be better spent on cleaning up the toxic air in London Underground, rather than on the ULEZ vanity project which will deliver virtually no benefit, especially in Outer London.

So the Mayor's "Outer London" explanation is nonsense, and his brushing aside of the Impact Assessment disgraceful. Fuller details are given in the next two pages, together with full references to the sources of information.

ULEZ EXPANSION 2023: COSTS vs BENEFITS SUMMARY

BACKGROUND	Links to source documents
ULEZ expansion's main effect would be on NO ₂ , effects are much less on particulate PM _{2.5} as exhaust emissions are just a small proportion of PM _{2.5} sources	Impact Assessment, see below
There is an ongoing reduction in NO ₂ pollution levels resulting from a range of existing policies including vehicle specifications (Euro 4,5,6 etc) and ongoing replacement of internal combustion by electric motors. ULEZ effects are small in comparison.	https://www.gov.uk/government/statistics/air-quality-statistics/nitrogen-dioxide ; also https://www.imperial.ac.uk/news/231894/london-pollution-improved-with-evidence/ 3 rd paragraph
The Mayor avoids quantifying the benefits of ULEZ expansion, perhaps because the Impact Assessment predicts them to be so small. Instead he keeps saying "the greatest number of deaths are attributable to air pollution in London's outer boroughs" (widely reported). But a report commissioned by City Hall says " <i>The greatest burden, as a proportion of the population, falls in Outer London boroughs, even though pollution levels there are relatively lower, mainly due to the higher proportion of the elderly in these areas</i> ". Elderly people could be dying today from respiratory problems first contracted many years ago when air pollution levels were far higher everywhere. Respiratory diseases are long term. Also, residents commuting into Central London using the deep Tube lines can be exposed to PM _{2.5} particulates 50-100 times or more above the WHO limit of 5 µg/m ³ ! Commuters from the outer suburbs also spend more time on the Tube.	Impact Assessment: https://haveyoursay.tfl.gov.uk/15619/widgets/44946/documents/27025 Health burden report: download at https://www.london.gov.uk/programmes-and-strategies/environment-and-climate-change/environment-publications/health-burden-air-pollution-london elderly: see p3 Tube line pollution: https://www.sciencedirect.com/science/article/pii/S0160412019313649 Figs 2, 3, 6

COSTS	Links to source documents
Installation: many reports put costs of signage and enforcement cameras at around £200 million .	
Vans: the official Impact Assessment, commissioned by Transport for London, estimates the total cost to non-compliant van owners from 2023 to 2030, with 66% upgrading their vehicles and the rest paying the charge, would be £392 million, which we shall round up to £400 million	Impact Assessment: https://haveyoursay.tfl.gov.uk/15619/widgets/44946/documents/27025 Page 117
Cars: the Impact Assessment does not estimate the comparable total cost to car owners. There are about 4x the number of non-compliant cars as vans (160k vs 42k). 4x £400m = £1600 m. For low usage cars there would be less incentive to replace the vehicle, so a better estimate might be around £1200 million .	https://tfl.gov.uk/info-for/media/press-releases/2022/may/tfl-seeks-views-on-expanding-world-leading-ulez-london-wide (TfL numbers for non-compliant cars and vans)
Total cost of above: £1800 million, or £1.8 billion – give or take around £200 million. The costs will fall mainly on lower income people with older vehicles.	
Key workers: many key workers are low paid and dependent on older vehicles to get to work. The Impact Assessment notes: "Overall, there is likely to be a short-to-medium term, moderate negative impact on care workers and health staff currently serving the outer London area as a result of the additional cost associated with the Proposed Scheme..... there is likely to be a short-to-medium term, differential moderate negative impact on people who receive domiciliary care and other mobile health services in outer London – particularly disabled people, older people, people with underlying health conditions-- resulting in poorer health outcomes "	Impact Assessment: https://haveyoursay.tfl.gov.uk/15619/widgets/44946/documents/27025 Page 100
Income: Disproportionate moderate negative financial impact for people on low incomes who travel by non-compliant private vehicle in outer London to access employment (particularly in night time economy)	Impact Assessment page 8: https://haveyoursay.tfl.gov.uk/15619/widgets/44946/documents/27025
Social isolation: "The Proposed Scheme would increase the cost of driving into outer London for residents and businesses that do not own compliant vehicles, and this may lead to social isolation and reduced access to opportunities particularly for some PCGs and vulnerable groups such as older people, disabled people, and people on low incomes who are unable to access public transport or use active modes of travel."	Impact Assessment: https://haveyoursay.tfl.gov.uk/15619/widgets/44946/documents/27025 Page 83

ULEZ EXPANSION 2023: COSTS vs BENEFITS SUMMARY

BENEFITS	Links to source documents
<p>Non-ULEZ ongoing improvements in air quality: a GLA report on London air quality 2000 – 2016 shows NO₂ levels for Outer London background to be decreasing over those years at about 1.8 µg /m³ per year, during a period before any ULEZ was introduced. See Figure 2 of the pdf document accessed by the link, right. Any benefits from expanding the ULEZ should be viewed against this very significant underlying trend.</p>	<p>https://www.google.com/url?sa=t&ct=j&q=&esrc=s&source=web&cd=&ved=2ahUKEwic8Z6PofL8AhWClFwKHQgvCtsQFnoECA8QAQ&url=https%3A%2F%2Fwww.london.gov.uk%2Fsites%2Fdefault%2Ffiles%2Ffiles_appendix_2_-_evidence_base_0_0.pdf&usg=AOvVaw15vx8Bozg1madVcSSVq-e</p>
<p>Effect of original ULEZ (2019): A report from Imperial College says “compared to the overall decrease in London’s air pollution levels, the ULEZ caused only small improvements in air quality in the weeks following its start date: an average reduction of less than 3 per cent for nitrogen dioxide concentrations, and insignificant effects on ozone and particulate matter (PM_{2.5}) concentrations..... the biggest improvements in air quality in London in fact took place before the ULEZ was introduced in 2019”.</p>	<p>https://www.imperial.ac.uk/news/231894/london-pollution-improved-with-evidence/ paragraph 10</p> <p>Full report: https://iopscience.iop.org/article/10.1088/1748-9326/ac30c1</p>
<p>Estimated future pollutant reduction from proposed expansion: The Impact Assessment estimates that 2023 population-weighted NO₂ and PM_{2.5} concentrations in Outer London would be reduced by just 1.4% and 0% respectively: almost negligible, and zero, benefits. The forecast NO₂ reduction for Outer London was from 20.2 to 19.9 µg /m³, a reduction of 0.3 µg /m³, a small fraction of the ongoing (no ULEZ) reduction of about 1.8 µg /m³ occurring every year and referred to above - the ULEZ effect being equivalent of just two months’ worth of the ongoing reduction. ULEZ expansion would just advance the ongoing air improvement by a couple of months, at enormous cost and disruption.</p>	<p>Impact Assessment: https://haveyoursay.tfl.gov.uk/15619/widgets/44946/documents/27025 Table 5.5, p 47</p>
<p>Carbon emissions reduction: The Impact Assessment estimates changes in 2023 road traffic CO₂ emissions within outer London to be - 0.8%, i.e. negligible</p>	<p>Impact Assessment as above, Table 5.9, p 60</p>
<p>Health benefits from PM_{2.5} reduction: consistent with the zero impact on PM_{2.5} concentrations, the Impact Assessment estimates a reduction of less than one tenth of one percent , essentially zero, in microparticulate-related chronic mortality, respiratory hospital admissions, cardiovascular disease, coronary heart disease, stroke, lung cancer and asthma in older children. (Area: Greater London)</p>	<p>Impact Assessment: https://haveyoursay.tfl.gov.uk/15619/widgets/44946/documents/27025 Table 6.3, p 74</p>
<p>Health benefits from NO₂ reduction: the Impact Assessment estimates Outer London reductions as shown (number of cases, or number of life years lost (LYL) for chronic mortality, with % reduction in brackets): chronic mortality, 137 LYL (1.5%); respiratory hospital admissions: 17 cases (1.5%); asthma, small children, 115 (1.5%); asthma, larger children: 22 (1.5%). Note that these numbers, eg 17 fewer respiratory admissions, are spread over an Outer London population of 5.4 million. Divide case numbers by 17 to get cases per Outer London borough.</p>	<p>Impact Assessment: https://haveyoursay.tfl.gov.uk/15619/widgets/44946/documents/27025 Table 6.2, p 74</p>
<p>Monetised health benefits: The Impact Assessment applied monetary values to the estimated health benefits. The total first year benefit for the whole of Greater London was assessed at £13 million. The magnitude of these benefits would, however, reduce over time due to normal renewals in the vehicle fleet. This monetary saving is very small indeed compared with the overall cost of the scheme, explained above to be of the order of £1800 million.</p>	<p>Impact Assessment: https://haveyoursay.tfl.gov.uk/15619/widgets/44946/documents/27025 pp 74 - 76</p>

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