

What is the Cost to Londoners of Extending the ULEZ?

The Mayor of London, Sadiq Khan, is proposing to extend the Ultra Low Emission Zone (ULEZ) to an area within the North/South Circular of London in October 2021. This will mean all cars, vans and even motorcycles will need to be compliant with recent emission standards or pay a daily charge of £12.50. Owners of older vehicles will need to pay that charge, even residents within the specified area, or buy a new vehicle.

In April 2017 we requested information using the FOI Act on the financial budgets for the ULEZ so that we could make an informed response to the public consultation on the proposals. We were particularly interested in how much “profit” TfL were likely to make from the new regulations in terms of income from those charges and associated penalty charges (£130 per infringement) versus the cost of implementing the scheme and on-going costs. Bearing in mind the relatively small impact the scheme was likely to have on air pollution, considering that emissions from vehicles are rapidly falling anyway as older vehicles are scrapped, this was an important question.

There was delay and obstruction by Transport for London (TfL) in providing the information requested but we have recently received some information as a result (too late for the original consultation but there is another one in progress). Before covering what they said, I will first attempt to examine what the likely figures for revenue and costs are based on information published by TfL.

1. Income from ULEZ Charges

Vehicle owners which do not meet the required emission standards have three options in 2021: 1) Pay the daily charge of £12.50; 2) Upgrade to a newer, compliant vehicle; or 3) Choose another mode of transport, or not travel at all.

In the document entitled “Changes to Low Emission Zone and Expansion of the Ultra Low Emission Zone – Supporting Information Document” published in November 2017 by TfL they provide estimates of the numbers of vehicles likely to be affected and the probable decisions the vehicle users will take on what to do. We are happy to accept their estimates for the present.

Cars: Pages 46 to 49 of the aforementioned document give the number of cars that will be likely to enter the ULEZ zone in 2021, and numbers that may be non-compliant. Page 46 indicates 100,000 per day on an average day. But only 6% would be liable and choose to pay the charge (see page 62). They would be paying £12.50. That equates to £75,000 per day in income to TfL, or £27.4 million per annum.

Vans: For LGVs, which are mainly used by businesses and hence they may have fewer options, the figures are 35,000 vehicles per day and TfL’s estimate is for 27% to be liable and choosing to pay. That equates to £118,125 per day, or £43.1 million per annum.

Motorcycles, Taxis and PHVs (minicabs): The emission standards for motorcycles are lower and even 14-year old ones will be compliant by 2021. TfL gives no figures for the numbers likely to need to pay but with the charge being set so high, most are likely to upgrade to a newer vehicle. Taxis are subject to a separate regulatory regime and hence are exempt from the ULEZ. Private hire vehicles (PHVs) are required by licensing regulations to be relatively new, but even so TfL estimate that 29,000 such vehicles in London will be non-compliant by 2021 – some of these may be in outer London and avoid driving into the centre. As TfL have not provided an estimate for these, we have assumed 1,000 vehicles per day paying a charge in 2021 which equates to £12,500 per day or £4.5 million per year.

2. Penalty Charges: Apart from the ULEZ charges paid by drivers, there will also be income from “Penalty Charges” incurred by drivers who for some reason do not pay the charge (typically forgetting to do so, accidentally driving into the ULEZ zone, or simply not being aware of the ULEZ). The ULEZ will be enforced by camera and number plate recognition systems. There are two similar systems already in use in the London area. These are the Dartford (M25) crossing where 5% of drivers fail to pay and are issued with a Penalty Charge and the Central London Congestion Charge where 1.5 million drivers failed to pay in 2016/17 (that’s about 3% of the annual usage but first-time offenders are allowed time to pay). Those numbers are similar to other such schemes worldwide.

One can reasonably estimate that say 4% of drivers liable to pay the charge will not do so. That’s likely to mean 4% of 6,000 cars and 9,450 vans, suggesting that 620 vehicles per day will be issued with a penalty charge notice, i.e. 226,300 vehicles per annum. The penalty charge for not paying the ULEZ fee is likely to be £160 (current PCN charge is £130 but Sadiq Khan has recently authorised an increase after a public consultation). That’s therefore the equivalent of £36.2 million. There is normally a 50% discount though for prompt payment which many people will take advantage of, plus there will be a certain percentage of PCNs that are not collectable (foreign drivers or otherwise untraceable). Our best estimate is therefore for net income of £18 million per annum from this source.

3. Total Income in 2021: Our estimate therefore for the overall income to TfL in the first year of the expanded ULEZ scheme is therefore £93 million.

In the following years, the number of non-compliant vehicles is likely to reduce as older vehicles are replaced (that’s assuming the level of emissions at which “compliance” is set remains unchanged, e.g. at Euro 6 for diesels and Euro 4 for petrol vehicles, although that is by no means certain).

One might expect the number of infringements and PCNs to fall as people became more familiar with the system but the effect here seems to be relatively small on other similar schemes so no estimate has been included for that.

Assuming a reduction of 20% per year in non-compliant vehicles, and the associated penalty charges, that would reduce the income over the **first five years of the scheme to £313.6 million**. This is the figure for charges paid by users of older vehicles, and the associated income to TfL over five years.

Once the infrastructure of cameras is in place (on the North/South Circular boundary) and the necessary IT systems for charging and issuance of penalty notices for infringers, then clearly the scheme may be continued and still provide some income to TfL after 5 years. That would particularly be so if the compliance level was increased so that only zero emission or zero emission capable (i.e. hybrid vehicles) were permitted within the ULEZ boundary which seems quite likely given the Mayor’s and central Government’s stated desires.

The above figure does not include the income from HGVs or buses which are covered by the existing LEZ. Charges for non-compliant vehicles of those categories will rise to £300 per day, with a penalty charge for non-payment as much as £2,000 per day. It seems likely that a high proportion of HGV operators will have difficulty in complying by the due date.

4. TfL Estimates of Income

The figures provided by TfL in response to our FOI Act request were as follows:

Implementation costs:

Implementation Cost (£m)	38.4
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Operating income and costs:

Impact of introduction of ULEZ on income (£m) over 5 years 2017/18 to 2021/22 inclusive. (+ve is net increase in income)	55.3
Impact of introduction of ULEZ on costs (£m) over 5 years 2017/18 to 2021/22 inclusive. (-ve is net increase in costs)	-12.7

Note how they suggest an income of £55.3 million over 5 years whereas our estimate is £313.6 million. Even in the first year alone we suggested an income of £93 million which would reduce to £38 million in the fifth year. Are their figures actually a “per annum” figure and not for the whole 5 years as they suggest? Or have they omitted income from penalty charges or other income?

In essence, their “budget” figures are irreconcilable with our own prudent estimates of income to TfL.

5. TfL Estimates of Costs, and Resulting Profits

The above tables include estimates by TfL of implementation costs and on-going costs and without further detail, which we will try to obtain, we cannot question those figures. They do not seem totally unreasonable.

But if our income estimates are correct, but their costs are accurate, then the capital cost of £38.4 million will generate an overall net profit over 5 years (income of £313.6 million less costs of £12.7 million) of £300.9 million. That is an enormous profit for the investment required, and would solve Sadiq Khan’s budget problems at a stroke.

6. Other Costs Borne by Drivers

The fees paid by drivers who choose not to upgrade their non-compliant vehicles are covered above. Some may switch to using public transport or walking/cycling. However a proportion will choose to buy a new or newer vehicle. TfL has provided estimates of the number of such people in the document entitled “Ultra Low Emission Zone – Further Proposals: Integrated Impact Assessment” dated 8 December 2017 and written by consultants Jacobs.

In Para 3.2.26 they give a table of the cost of upgrading/replacing non-compliant cars which range from £3,390 for purchase of a second-hand petrol vehicle to £21,400 for purchase of a new diesel vehicle. They had some difficulty in estimating the number of vehicle users likely to upgrade because many drivers who visit the central zone of London do so relatively infrequently. They give an overall cost figure for upgrading cars in the range £137 million to £244 million (Para 3.2.41). Let us assume £150 million for purposes of simplification.

In Para 3.2.17 of Part C, they give the following figures for LGVs:

- average cost of purchase of compliant Euro 4 petrol vehicle: £1,200;
- average cost of purchase of compliant Euro 6 diesel vehicle: £9,400; and
- average cost of purchase of compliant Euro 6 diesel vehicle when current vehicle is scrapped: £10,500.

From the above they give the following estimates of the total cost of LGV vehicle changes:

- purchase of Euro 4 petrol vehicle: £8,200,000;
- purchase of Euro 6 diesel vehicle; £12,000,000;
- scrap current vehicle and purchase of Euro 6 diesel vehicle; £32,900,000.

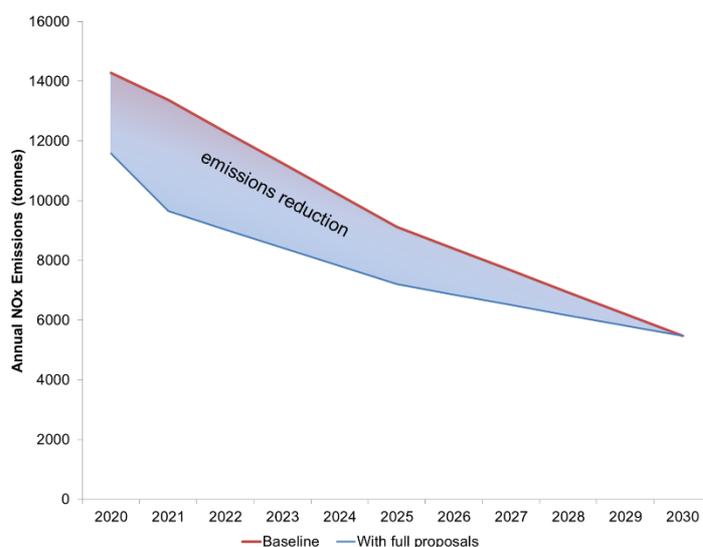
Some of these costs would be forced on owners when they would otherwise not buy new vehicles. Others are simply bringing forward when a vehicle owner might upgrade to a new vehicle, but clearly there are very considerable cost implications for vehicle users. The overall upgrade figure for LGVs is therefore £53.1 million.

For cars and vans (LGVs) combined the total expected upgrade cost is therefore approximately £203 million. That needs to be added to the £313 million in charges to those who do not upgrade their vehicles, **so the overall cost to vehicle users who travel in London is £516 million (i.e. half a £billion).**

7. Overall Cost/Benefit

There is some cost/benefit analysis contained in the latest ULEZ Consultation and the associated documents (see <https://consultations.tfl.gov.uk/environment/air-quality-consultation-phase-3b/?cid=airquality-consultation>).

NOx is one of the most important emissions from vehicles to reduce and the graph below shows the trend.



The “baseline” is the trend without the impact of the ULEZ so you can see the emissions have been falling rapidly due to older vehicles being phased out and scrapped. The ULEZ will simply accelerate that trend in the short term, but after 2030 will have no impact whatsoever.

The Impact Assessment Document mentioned above gives more details on the likely impact of emissions of the ULEZ. For cars and vans there will be a reduction of 17% in NOx emissions in 2021 (see page 65) in the Inner London Zone but also 12% in the Outer London Zone because vehicles move from one to the other and winds blow the emissions around. In 2025 those figures reduce to 9% and 8% respectively. There would be similar, but lesser, reductions in particulates (PM10 and PM2.5). The impact of the ULEZ is less because particulates partly come from brake and tyre wear which are not covered by the regulations at present. The main benefit of the impact of the ULEZ will be seen on those roads most heavily trafficked and particularly the key routes used by HGVs and buses. The reductions in NOx there may be 20%, but even so there will still be many main roads forecast to exceed the annual limit value in 2025.

Appendix J of the Integrated Impact Assessment document mentioned above gives the forecast “monetised health impacts” of strengthening the LEZ and expanding the ULEZ. Using the estimated mortality effects for NOx pollution published by COMEAP in 2017, which might be subject to challenge on technical grounds, the consultants report figures of mortality valuation benefits of **£1.86 million in 2021 and £0.96 million in 2025** (that’s near the end of a 355-page document which few people will read, or get to the end of). So over 5 years that might summate to £7.1 million by interpolation.

Therefore, in summary for a total cost of £516 million to London vehicle users, the health benefit is valued at £7.1 million over 5 years. This is surely one of the most ineffective uses of financial resources ever devised.

To put in another way, if the Mayor of London and central Government had £516 million to spend on improving health and life expectancy in London, would it be best spent on regulating emissions from cars and vans? Or would it be better spent on other projects? To put it in perspective the entire national capital spending budget for the NHS is running at about £5 billion per annum. So the equivalent of 10% of that is being spent on one project in London alone, where the benefits are uncertain in terms of health and longevity to say the least.

There are of course alternative, and more cost-effective ways, or reducing air pollution than simply taxing vehicles which are not compliant. Vehicles are not the only major source of air pollution and even in those there are ways of reducing emissions other than by forcing users of diesel vehicles to pay a fee or change their vehicles.

Please note that my organisation is supportive of reducing air pollution in London. There are good reasons to do so not just because of health benefits. Unfortunately the present problem of NOx emissions has been caused by mistaken past policies that have encouraged the use of diesel vehicles. Central Government has already taken steps to change this policy. As a result of that and improved vehicles, air pollution is already falling rapidly and will continue to do so. But London Mayor Sadiq Khan seems to believe that it is politically wise to scare Londoners about the health risks associated with transport, and is using it as a way to generate very large sums of money to support TfL budgets.

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