

Response to Transport Select Committee inquiry

# **Zero emissions vehicles and road pricing**



February 2021

# 1. Introduction

1.1 This is the submission from Transport for the South East (TfSE) in response to the Transport Committee's call for evidence in relation to their inquiry into zero emissions vehicles and road pricing.

1.2 TfSE is one of seven Sub-national Transport Bodies (STBs)<sup>1</sup> that cover England. The role of STBs as set out in the enabling legislation<sup>2</sup> is to identify and prioritise larger scale transport investment schemes in their areas to facilitate sustainable economic growth. They bring a strength of partnership among their membership to speak to Government with one voice.

1.3 In view of the timescale for the submission of evidence, this response is an officer level response which will be presented for subsequent endorsement by the members of TfSE's Shadow Partnership Board.

## Key points:

1.4 The key points raised in this response are as follows:

- A whole system approach is needed to the roll out of zero emissions vehicles with robust, integrated and evidence-based planning of future transport and energy provision.
- TfSE, together with the other English Sub-national Transport Bodies, is ideally placed to support Government in realising the shift to zero emission vehicles.
- The increasing shift to zero emissions vehicles (ZEV) and the resulting decline in road vehicle tax income means action needs to be taken sooner rather than later to address this through the introduction of a national road user charging scheme before expectations that ZEVs mean lower motoring costs become entrenched.
- TfSE recognises the need to address the emerging deficit in Government finances, and to seize the advantages of more direct payment for road use. We are ready to work alongside other STBs with Government to develop a solution that works for road users that could achieve both those goals.
- TfSE's transport strategy sets out a bold vision at a time when the way we travel in is changing. It will need bold national and local direction to manage demand and decarbonise transport and advocates a pay-as-you-go mobility policy, paving the way for a pay-as-you-go charge for road use. TfSE is therefore willing to assist the Government with the work required to develop and deliver a national road user charging scheme.

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<sup>1</sup> Outside London, the seven STBs covering England are: Transport for the North; Midlands Connect; England's Economic Heartland; Transport East; Western Gateway; Peninsula Transport; and Transport for the South East.

<sup>2</sup> The Local Transport Act 2008 (as amended)

## 2. Accelerating the shift to zero emission vehicles

### 2.1 The feasibility, opportunities, and challenges presented by the acceleration of the ban of the sale of new petrol and diesel vehicles to 2030.

2.1.1 The Government's recent announcement on the ban on the sale of new petrol and diesel vehicles in 2030 **sends a clear message to the automotive industry and the general public that we must act now to accelerate the transition to electric vehicles** as part of an overall strategy to achieve net zero emissions in 2050. The shift to electric vehicles will need to be accompanied with an intensive decarbonisation of the power supply used in both the re-fuelling of electric vehicles and also their production. It presents a key opportunity for UK to become a world leader in the electric vehicle sector with the associated economic benefits, in particular the creation of skilled jobs.

2.1.2 Like a number of other STBs, **TfSE has undertaken work to understand the challenges associated with getting to zero emissions from the surface transport** sector by 2050. This has served to highlight the need to shift to zero emission vehicles (ZEV) but has demonstrated the need for a more comprehensive package of measures involving a shift to zero emissions lorries and public transport, and more active travel. This work has also highlighted the need to achieve reductions in future number of trips that have been forecast, with an increased focus on digital connectivity to reduce the need to travel.

2.1.3 **TfSE voiced its support for the principle of the Government stipulating an end date for the sale of petrol and diesel vehicles** in response to the consultation undertaken last year on this issue. At the same time, TfSE called on the Government to set out the mechanisms that will be deployed to achieve the desired outcome in an action plan. In November 2020, the Government committed to publishing a Delivery Plan in 2021, setting out key milestones to deliver the new phase out dates as part of its Ten Point Plan for a Green Industrial Revolution<sup>3</sup>. The Government has also announced a package of financial measures including investment in supporting the electrification of the UK vehicle manufacturing sector and its supply chains, charging infrastructure, grants to reduce the sticker price of electric and hybrid vehicles, and in trials of zero emissions lorries.

2.1.4 **The setting of a target date and the development of a Delivery Plan increase the chances of success.** The fact that the UK Government is not alone in declaring a ban, with Ireland, the Netherlands, Denmark, Sweden and importantly Germany (with its very large car market), also now committed to the same 2030 deadline, increases the chances of success. Car manufacturers are already committed to producing increased volumes of electric and hybrid cars ahead of the 2030 deadline and electric vehicles are forecast to achieve price

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<sup>3</sup> The Ten Point Plan for a Green Industrial Revolution, HM Government, November 2020. <https://www.gov.uk/government/publications/the-ten-point-plan-for-a-green-industrial-revolution/title>

parity with ICE vehicles by the mid 2020s<sup>4</sup>. Together these developments should stimulate the growth of a second-hand car market making electric vehicle more available and affordable for those on lower incomes.

## **2.2 The actions required by Government and private operators to encourage greater uptake of electric vehicles and the infrastructure required to support them.**

2.2.1 As set out above, the Government is committed to the development of a Delivery Plan setting out key milestones to deliver the new phase out dates for petrol and diesel cars. **The key things that this delivery plan will need to cover** in order to encourage the greater uptake of electric vehicles include:

- the continuation of financial incentives to lower the upfront or ownership costs to increase uptake of electric vehicles until they achieve parity with petrol and diesel vehicles;
- a scrappage scheme to ensure residual petrol and diesel vehicles are removed as quickly as possible;
- behavioural and education campaigns to accelerate the shift to electric vehicles by raising public awareness of their benefits and dispelling common myths;
- continuation of the coordinated roll out of vehicle charging infrastructure.

2.2.2 **The STBs stand ready to assist the Government with the transition to ZEVs.** The scale and pace of change needed for achieving the mass adoption of electric vehicles will require coordinated action at all levels of national, regional and local government. A whole system approach is needed to the roll out of zero emissions vehicles with robust, integrated and evidence-based planning of future transport and energy provision. There are two key areas where STBs could provide assistance:

- working with their constituent authorities to coordinate the roll out of electric infrastructure to ensure the development of a comprehensive network of charging points both en route as well as at homes and destinations that meets the needs of the travelling public;
- developing multidisciplinary partnerships to coordinate the activities of their constituent authorities on the roll out of charging infrastructure with energy providers, those developing zero emission fuels and bus and freight operators, in order to facilitate the uptake of ZEVs.

## **2.3 The Government's ambition to phase out the sale of new diesel heavy goods vehicles, including the scope to use hydrogen as an alternative fuel.**

2.3.1 The work that TfSE has undertaken to understand the challenges associated with getting to zero emissions from the surface transport sector by 2050 has highlighted the need to shift to zero emission road freight vehicles.

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<sup>4</sup> <https://www.ubs.com/global/en/investment-bank/in-focus/2020/heart-of-electric-car.html>

2.3.2 TfSE is currently in the process of developing a freight strategy which includes a workstream looking at the decarbonisation of the sector. A freight forum is to be convened as part of the development of this strategy. This will provide a mechanism for a dialogue with the sector about this issue and for courses of action to be identified that will be needed to facilitate the shift to ZEVs that will then be incorporated into an action plan.

### 3. Road pricing

#### 3.1 **The case for introducing some form of road pricing and the economic, fiscal, environmental and social impacts of doing so.**

3.1.1 **For a number of years both receipts from fuel duty and vehicle excise duty (VED) have been falling**, due to increases in the uptake of electric and hybrid vehicles, increasing level of fuel efficiency of ICE vehicles and the decision of Government not to increase fuel duty levels since 2011. Together fuel duty, the VAT paid on it and VED constitute approximately 5% of total government's tax revenues. The Office for Budget Responsibility estimates that fuel duty will raise £28.4 bn (£34 bn including VAT) in 2019/20<sup>5</sup> but this will continue to decline in the future. Unless action is taken this will only be hastened by the Government's recent announcement of the ending of the sale of new petrol and diesel vehicles in 2030. Another £6.5bn is raised from VED but again this is forecast to decline in the face of the current reductions offered to those owning lower emission vehicles.

3.1.2 **Replacing fuel duty and VED with a road user charging system has been identified as a way of addressing the ongoing decline in the Government's motoring tax receipts.** Despite the short term need to encourage the shift to ZEVs, they are still going to need to 'pay their way' in the longer term, making a contribution to the cost of maintaining and enhancing road infrastructure. However, it is difficult to find a 'like-for-like' replacement for fuel duty that could be applied to ZEVs. Charging a 'fuel duty' uplift on the cost of the electricity used to recharge an EV at a public charging point would be feasible. However, this would be far less so for those charged at home. An alternative would be to increase VED on electric vehicles but this 'flat fee' would not be seen as equitable, as it would be the same for low mileage and high mileage owners. This could be part of a strategy to shift VED away from being a carbon-targeted tax to a surrogate charge for road use, an 'entry fee' to the network but is less fair than the current fuel duty regime where higher mileage drivers pay more tax and as a consequence, if a distance related element of the current taxation regime is to be retained, ZEVs would need to be charged on a per mile basis. This approach could be considered to be counterproductive given the current impetus to facilitate the shift to ZEVs. However, the Government could continue with the current purchase related subsidies and phase these out over time as new ZEVs achieve cost parity with ICE vehicles. It has to be accepted that in the longer term

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<sup>5</sup> <https://obr.uk/forecasts-in-depth/tax-by-tax-spend-by-spend/fuel-duties/>

ZEVs must ‘pay their way’ and arguably the time to act is now as it will become harder to introduce mileage based charge on ZEVs if drivers become accustomed to their lower operating costs. Clearly, there is a strong fiscal argument for introducing some form of road user charging scheme for ZEVs solely to maintain the Treasury’s motoring related tax receipts. The precise form any road user charging scheme should take is considered further in response to the next question.

**3.1.3 Transport economists have long argued that motorists using the road network fail to pay the wider costs (the externalities) that their journeys impose on other road users and on wider society.** These costs include congestion, accidents, greenhouse gas emissions, noise and air pollution. Road traffic congestion has negative economic consequences, as it reduces the operational efficiency of the road system, which in turn reduces the productivity of the people and businesses using it, reducing economic output and tax receipts to the Treasury in the process. In theory, a well thought out road user charging scheme has the potential to address this by making people pay more directly for the costs imposed by their use of the road system on a ‘pay as you’ go basis. At present, the £40bn that drivers pay annually is on some calculations close to the aggregate external costs that driving imposes, but it is not paid according to where and when the costs arise: urban driving generally pays too little, rural driving too much.

**3.1.4 Reductions in traffic levels have occurred even in cases where a road user charging scheme has been introduced without the explicit aim of influencing traffic levels.** A road user charging pilot scheme in Oregon, USA that involved users being charged according to the number of miles driven, resulted in a 12 percent decrease in vehicle miles travelled—even though the charge per mile was, on average, equivalent to what a person would pay for the same travel through motor fuel taxes<sup>6</sup>. Even though the aim was for a revenue neutral scheme, levels of usage declined as a consequence of drivers seeing more directly than through fuel duty the extra cost of each mile driven.

**3.1.5** Many of the strategic road links in the TfSE area suffer from congestion in the morning and evening peak periods. In line with the governing legislation relating to STBs, TfSE has developed a transport strategy that seeks to deliver increased levels of sustainable economic growth. The modelling work undertaken as part of the development of the transport strategy indicated that increased levels of economic activity combined with population growth, will lead to increased levels of trip making activity. The environmental constraints in the TfSE area means that new road building is not an option to accommodate this growth. This growth can only be accommodated through significant modal shift to more sustainable forms of transport which will make more efficient use of the existing road space. The modelling work demonstrated that the introduction of a road user charging system alongside other forms of pay as you go mobility, could significantly support the management of future road traffic levels. In the context

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<sup>6</sup> James Whitty, “Oregon’s Mileage Fee Concept and Road User Fee Pilot Program” 2007, [http://www.oregon.gov/ODOT/HWY/RUFPP/docs/rufpp\\_finalreport.pdf](http://www.oregon.gov/ODOT/HWY/RUFPP/docs/rufpp_finalreport.pdf).



of future funding and financing challenges, the prospect of using part of the receipts from a future road user charging schemes to fund transport investment is set out in the TfSE transport strategy. TfSE therefore supports the rationale for the introduction of a national road user charging scheme and the role such a scheme because of its role in realising the 2050 vision set out in the transport strategy.

**3.1.6 Concerns are often raised about the social impacts of road user charging schemes.** As with any proposed major change to a taxation or charging regime there will be individual winners and losers. The case of the low paid worker who needs to travel at times poorly served by public transport and so has to travel to work by car is often raised. Analysis produced by the Institute for Fiscal Studies shows that the duties paid on households' fuel purchases are, on average, roughly proportional to household spending, accounting for between 2% and 3% of the non-housing budget for all income groups. Among car owners, fuel duties take up a larger share of poorer households' budgets. But because lower-income households are much less likely to own a car in the first place, the average budget share across all households is broadly constant over the income distribution<sup>7</sup>. Lower levels of car ownership amongst low income groups means they are more likely to benefit from the improvements to public transport services, in particular bus journey times that are likely to result from the introduction of a road user charging scheme, particularly if some of the revenues raised are used to pay for improved public transport services. The way in which any scheme was configured would ultimately determine how the low paid worker referred to earlier would be impacted. If the primary objective of the scheme is to maintain current levels of motoring tax revenue and a scheme is introduced which replaces fuel duty and VED with a with a straight forward vehicle mileage based charge then the majority of drivers should continue to make similar contribution to the exchequer. More sophisticated schemes where charges vary by place or time of day could have more differential impacts. Careful analysis of the potential impact of specific proposals upon lower income groups (specifically the low paid worker mentioned earlier) would need to be undertaken with consideration being given to the need for specific measures to mitigate these.

**3.1.7** Any road user charging scheme that brings about a reduction in traffic levels, either by design or as a secondary consequence, **will deliver environmental benefits.** Setting aside the reductions in greenhouse gas emission that will result from the shift to ZEVs, any reduction in traffic levels will also deliver overall reductions in accidents, noise and local air pollution. Although ZEVs will deliver significant environmental benefits from the reduction in tail pipe emissions accidents, and dust pollution from tyres and brakes will still persist but their magnitude will be determined by the volume of traffic using the roads. As has already been highlighted in this response, the shift to ZEVs is only one part of the integrated strategy that will be needed to reach zero emissions from surface transport by 2050.

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<sup>7</sup> <https://www.ifs.org.uk/publications/14407>

### 3.2 Which particular road pricing or pay-as-you-drive schemes would be most appropriate for the UK context and the practicalities of implementing such schemes.

3.2.1 Given the current impetus for the Treasury to maintain future tax receipts and revenues in the face of a mass shift to ZEVs **any road user charging proposals that are brought forward will need to apply to road use across the UK**. Only a national scheme could deliver this but any such proposals needs careful consideration in the context of devolution. This is because across the nations of the UK, responsibility for introducing road user charging is devolved and as a result, the UK Government would require the consent of the relevant administrations in Northern Ireland, Scotland and Wales to legislate for a UK-wide national road pricing scheme<sup>8</sup>.

3.2.2 One of the key concerns when planning for a road user schemes has been the **potential displacement effects** with potential increases in traffic levels in the area around the charging area as a result of drivers avoiding the charging area. Displacement would also be an issue if a proposal were developed for a national road user scheme that only applied to certain roads, such as the Strategic and Major Road Networks.

3.2.3 If the sole aim of the scheme is to raise revenue and maintain the treasury's tax income, then **initially a scheme which solely charges vehicles on a mileage basis would probably suffice**. A simple distance-based charge system where the charge be collected by car insurance companies who already manage all data necessary for calculating the charge has been proposed<sup>9</sup>. When a driver pays their insurance, they would also pay their 'road bill', thus avoiding issues of privacy and reducing administration costs.

3.2.4 One key criticism of a flat rate, mileage based, road user charging proposals is that they mean rural residents driving further distances on uncongested roads would pay more than urban residents travelling shorter distances on more congested roads. A refinement that has been suggested to address this is to give drivers a certain number of free miles (for example 3000 for urban drivers and 4000 for rural drivers) before they start paying a flat rate charge. Although offering concessions in this way might make a road user charging scheme more palatable and encourage drivers to reduce their overall mileage, it would also potentially weaken the revenue raising potential of the scheme, and cause challenges at any arbitrary cut-off points.

3.2.5 A more effective way of dealing with the potential inequities of a mileage-based approach, would be a more sophisticated scheme that allows **differential charging by location and time of day**. This would enable both the urban-rural

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<sup>8</sup> <http://researchbriefings.files.parliament.uk/documents/SN03732/SN03732.pdf>

<sup>9</sup> <https://policyexchange.org.uk/wp-content/uploads/2017/07/Gergely-Raccuja-Miles-Better-Revised-Submission.pdf>



inequity and externality issues to be addressed by charging a higher tariff for driving in urban areas at peak times of the day. It would also enable differential charges to be applied for different types of road, with lower tariffs for major roads with greater traffic handling capacity and fewer immediate neighbours to suffer from adverse impacts like noise. A more sophisticated system like this would require technology that is more advanced, but already well-established. The electronic road user charging system that has been in operation in Singapore has used a number of different technologies since it was introduced twenty years ago. Singapore has recently migrated to a satellite-based system which communicates with an on-board unit<sup>10</sup>. Clearly there is a trade-off between the road user charging system's level of sophistication and its set up costs. Some commentators have suggested that fuel duty and VED should initially be replaced by a 'low tech' mileage based system before expectations that ZEVs mean lower motoring costs become entrenched, whilst a more sophisticated system is developed for subsequent roll out.

### **3.3 The level of public support for road pricing and how the views of the public need to be considered in the development of any road pricing scheme.**

3.3.1 Despite the strong economic rationale for road user charging proposals to introduce they have proven to be **very controversial and politically contentious**. The linkage between the use people make of the road network and the costs and charges that they incur for doing so has long been blurred. Consequently, proposals that have come forward to place additional charges for using roads on top of what drivers are already paying in fuel duty and vehicle tax, have proved controversial, which is not surprising as drivers are being asked to pay twice. Proposed schemes in Manchester and Edinburgh were scrapped following referendums. By contrast, the scheme that was introduced in central London in 2003 was introduced by a Mayor who included a commitment to a congestion charging scheme in his manifesto. The London scheme was also subject to an 18 month long public consultation exercise (rather than a referendum), after which refinements were made to the scheme. This serves to illustrate that the way a proposal is politically led, developed and consulted on, are key determinants of its likely success.

3.3.2 **A widespread demand in the current debate around the need to address the declining levels of fuel duty and VED, is that the any road user charging scheme should in time completely replace these two forms of revenue rather than supplement them.** There is a growing recognition amongst the public and politicians that 'something needs to be done' about this and rather than road user charging being seen as a 'nice to have' that will enable the cost of using the roads to be more directly borne by those using them it is increasingly being seen as more of 'must have' if unpalatable increases in general taxation are to be avoided. A key issue that will need further consideration is the **how the revenues raised from any national road user**

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<sup>10</sup> <https://www.straitstimes.com/singapore/transport/electronic-road-pricing-turns-20-in-april-notable-milestones-over-the-years>

**charging schemes are used.** Although there is a desire for ‘revenue neutrality’ this has to be balanced against the desire of road users to see more of the revenue raised from motorists reinvested in the road system. It may be that a tariff designed to achieve ‘revenue neutrality’ may not be optimal in terms of addressing the externalities outlined earlier. There is some evidence from the attitudinal surveys that have been undertaken to date that road users may be willing to tolerate some increase in the overall amount of money that is levied, as long as this is used to improve the road network and in particular address the severe maintenance back log.

3.3.3 The results of recent polling illustrate that **public attitudes towards road user charging and vehicle taxation are changing.** Drivers have long been dissatisfied with the unfairness of fuel duty, as only one quarter of it is invested back into roads. Any road user charging scheme which simply seeks to maintain existing revenue for the Exchequer is unlikely to be well supported. The annual RAC reports on motoring which gauge drivers attitudes to various aspects of motoring have revealed the following:

- The 2019 RAC Report on Motoring revealed that *“a sizeable number of drivers would see a ‘per mile’ road pricing option as fairer than the current system of paying fuel duty, and there is a large level of support for the principle of the ‘more you drive, the more you pay. In addition, drivers tell us that any ‘pay per mile’ system of road pricing would make them consider cutting out short journeys”*<sup>11</sup>.
- An RAC poll of 3200 drivers undertaken early in 2020, revealed that a majority of respondents wanted to see more of current vehicle taxation invested back into the road network<sup>12</sup>.
- The 2020 RAC Report on Motoring revealed that a significant number of drivers would be willing to pay a little more in fuel duty, provided the extra money raised was ring-fenced to pay for local pothole repairs<sup>13</sup>.

3.3.4 In December 2020 Ipsos MORI undertook a survey of public attitudes (drivers and non-drivers) towards road user charging. This found that 62% of participants were in favour of schemes which would charge road users a fee to drive around towns and cities. Those with access to a car are equally as supportive as the wider public with 60% in support of the idea in principle. There has been a marked increase in the level of support for road user charging since a similar survey undertaken by Ipsos MORI using the same question found higher levels of opposition than support (48% were opposed, 33% in support).

3.3.5 One of the main concerns that has been raised in relation to road user charging schemes has been the **implications for privacy, data security and civil liberties**, specifically the ability of those administering the scheme to track vehicles. It is generally felt that concerns about privacy have decreased in recent

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<sup>11</sup> <https://www.rac.co.uk/drive/news/motoring-news/new-road-tax-could-soon-be-pay-as-you-drive/>

<sup>12</sup> <https://www.rac.co.uk/drive/news/motoring-news/slash-fuel-tax-or-actually-spend-it-on-roads-rac-research-reveals-uk-driver/>

<sup>13</sup> <https://www.rac.co.uk/drive/features/report-on-motoring-2020/>

years. Privacy controls could be built into the system from the start and a potential way round these concerns would be to allow a third party to administer the scheme on behalf of the government.

### **3.4 The lessons to be learned from other countries who are seeking to decarbonise road transport and/or utilise forms of road pricing.**

3.4.1 Nowhere in the world has introduced a road user charging scale at a national level. Experience from the Netherlands in the 2000s, where the Government was close to implementing national road user charging scheme shows how difficult the introduction of a larger scale charging scheme could be.

**Poor governmental communication policy, a lack of perception that the policy measure would be effective and a feeling that scheme would amount mainly to a redistribution of income to the state** were amongst the reasons that were identified for the failure of the approach<sup>14</sup>. The 1997-2010 Labour Government actively pursued a national road pricing scheme in some detail but abandoned any plans, partly because of concerns around available technology and privacy, but more because the public were less concerned about tackling congestion than about paying more overall for road use. Technology has moved on dramatically since that time but the challenges of introducing a scheme at scale cannot be underestimated and would require detailed study and evaluation. As has already been outlined in this response, a phased approach might be advisable with a lower tech solution based on a mileage charge being introduced whilst a more sophisticated scheme enable differential charging by time and place is developed.

**In conclusion, TfSE, together with the other English sub-national transport bodies, is ideally placed to support Government in realising the shift to zero emission vehicles. TfSE also recognises the need to address the emerging deficit in Government finances and to seize the advantages of more direct payment for road use. We are ready to work alongside other STBs with Government to develop a solution that works for road users that could achieve both those goals.**

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<sup>14</sup> TIPP (2004) Transport Policy Implementation and Government Structure, Deliverable 5,