

Transport Select Committee

Zero emission vehicles and road pricing

Submission by the Chartered Institute of Transport and Logistics (CILT)

February 2021

Acceleration of the ban on the sale of new petrol and diesel vehicles to 2030

- 1 We support the ban of new petrol and diesel cars and vans by 2030 provided there is an adequate provision of charge points, particularly for those without access to off-street parking. The proposal for new hybrid cars and vans with significant zero emissions capability to be permitted until 2035 is supported in principle, but the permission should refer to 'significant zero emissions in actual operations' because some hybrid vehicles operate for significant periods with their petrol or diesel engine.
- 2 The acceleration of the ban on new vehicles presents an opportunity to change behaviour and encourage a shift towards sustainable and less congestion-causing travel. You can decide not to replace an old car, but travel more by public transport or choose a new electric car and use it differently, less or at different times of day. All this can be encouraged by clear statements of long-term policy, a mixture of carrots and sticks (such as road pricing considered later) and by an extensive, multi-faceted campaign of public information and nudging.
- 3 One of the challenges is the management of change in rural areas because of the distances involved and the lower level of public transport accessibility. We have covered this issue in more detail in our response to DfT's call for evidence on the Future of Transport: rural strategy¹.

Actions required by Government and private operators to encourage greater uptake of electric vehicles and the infrastructure required to support them

- 4 The 2030 and 2035 bans should be firmly stated and written into legislation. To encourage greater uptake of electric vehicles in the meantime requires
 - financial incentives (direct subsidies for purchasing a new car, as well as for scrapping an old one and changes to the vehicle tax system (including road user charging).
 - Infrastructure provision.
- 5 To gain planning permission all new developments (except 'car-free' developments) must include electric charging points. For urban developments of high rise or terraced housing the requirement should be that a proportion of convenient off-street parking places are provided with charge points. For existing residential areas without off-street parking, a proportion of on-street parking should be provided with charging facilities. Charging facilities should also be available at parking locations (workplaces, shopping centres, rail stations, airports etc.) Details of how both off- and on-street charging facilities are used will need to be worked out.
- 6 There remains a question about charging facilities replacing petrol/diesel service stations. Motorway service areas or similar places with multiple facilities (eg. restaurants) are suitable locations. The ability to charge in the same time as it takes to fill with petrol is likely to be limited and so motorway service areas may need to be expanded. DfT should explore the possibility of simplifying or accelerating planning permission for this.

¹ To be sent separately

Decarbonising buses

- 7 Considerable progress has been made in improving the efficiency of diesel buses to reduce emissions and wider adoption of fully electric fleets and vehicles powered by other means including compressed natural gas, hydrogen fuel cells and biomethane. While there is a long way to go until non-diesel buses become the norm, partly due to high initial vehicle and plant costs and partly to draw on UK experience to date, decarbonisation presents a major opportunity. Bus services complement efforts to reduce vehicle pollution both by reduced emissions themselves and by attracting people away from car use.

Phasing out diesel HGVs

- 8 The date of 2040 has been recommended by the Committee of Climate Change for the banning of sale of diesel HGVs. We believe that the replacement of diesel with electric power is entirely practical for most smaller HGVs which are typically deployed on radial distribution and local journeys. However, the technology choices in terms of motive power and supply infrastructure are more problematic for large vehicles covering long distances – typically heavy articulated HGVs up to 44 tonnes GVW. The options for decarbonising these movements include:
- very large and heavy battery packs reducing payload, adversely affecting operating economics,
 - pantographs or induction charging which will require huge investment and take longer than to 2040 to install,
 - major charging infrastructure installations across the country with longer dwell times for vehicles – again a major cost in time for operators,
 - conversion to hydrogen – which we consider to be a very inefficient use of energy and which requires major distribution investments.
- 9 The development of battery technology may mitigate some of these issues but that is not yet a clear, trajectory on the 2040 timeline. Furthermore, the installation of appropriate infrastructure for charging or hydrogen distribution in rural settings will be highly problematic and potentially uneconomic for these big vehicles.
- 10 HGVs built to Euro VI standards are very clean and by 2040 would be the minimum standard. In the context of the potential for bio-diesel fuels, we invite the government to consider a roadmap to decarbonisation of large HGVs (c. 200,000 vehicles) that transitions via bio fuels, allowing the most viable green technologies for HGVs to be identified and established.²

Road Charging

- 11 In considering the possible use of road charging to reduce carbon emissions it is important to look at the issue in the round and not ignore other related problems such as local air pollution.
- 12 In principle, a well-designed electronic road charging system would be a much fairer, more effective and more efficient means of reducing carbon emissions and local air pollution than the area-wide restrictions and charges introduced or proposed in a number of cities. It would
- (a) be proportionate to miles driven (and therefore environmental damage caused) and targeted on times and places where the harm is greatest
 - (b) have the potential to deal with congestion which increases carbon and other tailpipe emissions

²Because of the importance of road freight to and from the EU (including Eire) vehicle standards may need to be coordinated with Brussels.

- (c) provide an incentive to travel less or use less polluting transport modes by giving people information to make personal choices about how, where and when to travel to meet their own needs while minimising the harm to society more generally

13 It could have several other advantages

- It would be more convenient for road users by combining all charging regimes including existing tolls, congestion charges and ULEV charges in a single GB-wide system³.
- It could plug the financial hole caused by the drop of some £30 billion a year in fuel tax revenue as we switch from petrol and diesel to electric or other non-fossil fuel vehicles.
- In the long run this would not only be fairer but also avoid the side-effect that a drop in running costs per mile for electric vehicles will increase traffic demand and congestion.
- Part of the revenues from the charge could flow to the areas on which the road mileage takes place. This would make it possible eventually to devolve responsibility and resources to local areas to develop and implement transport and land use strategies tailor-made for their areas without the need for involvement by Whitehall.
- Provided that the charges are classified as a charge not a tax, some £30 billion a year would be removed from national taxation and make a significant reduction in its % of GDP

14 The Institute would strongly favour the development of a system of this kind, but the implementation and operation face a number of challenges. These include technical, political and public acceptability. Implementation could be difficult and would need to be gradual

15 Two key issues will be:

- (a) what type of charging regime would be acceptable to the public?
- (b) how confident can we be that a major computerised system on this scale could be successfully implemented?

Public Acceptability

16 An electronic pay-as-you-go regime would probably be regarded by most road users as fair if the amount raised were broadly similar, for each vehicle type, as the revenue from fuel duty now. Responses to public opinion surveys (including a study by the Independent Transport Commission⁴) suggest that this would be the case but it would be crucial to guarantee that revenues would be spent on roads and other transport improvement and not be a stealth tax. A charge with environmental and health objectives will be more popular than one designed solely to reduce congestion by charging more for busy roads.

17 A significant part of the revenue from charging should be allocated to the highway authorities on which the mileage occurs. This will be part of the assurance to road users that it will not be a stealth tax.

18 A number of additional points need to be considered to ensure that urban charging is fair and seen to be so.

- (a) have road users faced by a high peak hour charge got a realistic alternative?
- (b) will poorer people be particularly disadvantaged?
- (c) will the charge drive economic activity away from the area?

³ It would be desirable to reach agreement with the EU on the technology (but not the charging regime) to make it more straightforward for drivers going abroad.

⁴ ITC March 2016

- 19 The main way of dealing with these justifiable concerns is to introduce charging as part of a broader urban strategy that includes improvements in public transport and measures to facilitate other behaviour changes such as car sharing, park-and-ride schemes, cycling and walking and more flexible working hours, supported by land use planning policies and sustainable transport alternatives aimed at reducing car dependency.

Social impact. Winners and losers.

- 20 The general position is that road charging as an alternative to fuel duty benefits people who travel at less busy times or on quiet roads, particularly in rural areas and people for whom punctuality and lower congestion are very important such as health, delivery and service providers and other workers; and families travelling to the airport.
- 21 The “losers” are peak hour commuters in cities. But whether they are individually worse off depends to a great extent on the availability and quality of alternative forms of transport and how flexible they can be in their journey times or sharing cars with others. The poorest inhabitants on the whole benefit, because many do not own cars and their transport services would be improved as a result of the new investment funded from the charge. But there will be some car users, including those on low incomes who have no choice in the time of their journey and yet cannot afford to pay the charge. A number of steps could be taken to help them, including night-time buses in major cities, encouraging employers to offer more flexible working hours and specific exemption from the scheme or rebates.
- 22 Detailed studies of the likely impacts have been published by the Social Market Foundation and Imperial College⁵

Lessons to be learned from other countries

- 23 Urban charging schemes have been successfully introduced in Stockholm and Singapore. The main lesson to be learned from Stockholm is that it was introduced as an experiment on the understanding that it would not be made permanent if a public consultation voted against it. While many people were opposed initially because of fears about the impacts it would have, once the scheme was introduced and the actual benefits could be compared with the cost to users it received widespread support
- 24 A full review of overseas experience can be found in the IET Digital Library⁶. This includes reviews of Stockholm, Singapore, Gothenburg, Milan, Hungary and Oregon.

Privacy

- 25 This is likely also to be a sensitive issue, because a system that charges by place, mileage and time of day would require drivers’ movements to be tracked.
- 26 This may not be so serious a concern nowadays as most people have become accustomed to the use of systems that can see where they are, including mobile phones and cameras used to enforce speed limits, bus lanes and other traffic regulations. A possible protection for users is to delete details of place and time as soon as the payment has been received. Some drivers will however want the facility to ask for a detailed statement of their movements to justify the level

⁵ <https://www.smf.co.uk/wp-content/uploads/2007/02/Publication-Road-User-Charging-A-Road-Map.pdf>

⁶ <https://digital-library.theiet.org/content/books/tr/pbtr008e>

of the charge (like details of individual calls in telephone statements). This might be accessible on-line protected by a password.

Technology

- 27 It seems very probable that the GPS system used in smartphone technology could be used as the basis of a charging system. It is widely used by the logistics industry to track and manage freight and service vehicles and forms the basis for the on-line apps operated by Uber and black cabs (FREENOW). Modern vehicles often incorporate GPS tracking systems for vehicle security to facilitate the location of stolen vehicles.
- 28 The main issues are
 1. if the charge is to vary by vehicle characteristics in order to deal with air pollution and other issues, the device in the vehicle must be firmly linked to the vehicle
 2. enforcement that the device is switched on and cannot be tampered with by the vehicle operator to avoid the charge
 3. objections by users to having all their movement tracked and possibly seen by others (see above).
- 29 Ideally the in-vehicle unit (IVU) should be built in to prevent illegal avoidance of the charge. Suitable units are used in some car insurance schemes, which charge a premium reflecting when and where they drive.
- 30 Retrofitting all existing vehicles would be a major challenge unless a secure way can be found of using vehicle-specific smartphones backed by the use of ANPR to check that they are kept switched on and transmitting the signal to the road authority

Implementation

- 31 Introducing an electronic road charging system on the whole network will be a major challenge particularly if it is accompanied by nationwide changes in fuel duty. Could it be introduced gradually?
- 32 It is helpful to distinguish between major inter-urban roads and cities. One suggestion is that the system could be introduced initially by Highways England on its trunk and motorway network. But this has one serious disadvantage. Experience with the introduction of the tolled M6, while the existing M6 was free of charge, and modelling by the Government on improvements to the A14 show that there is a serious problem of diversion onto other, usually much less suitable roads if one is tolled and the alternatives are not. Moreover, if electronic charges were combined with a reduction in fuel tax, demand for road use on the non-charged part of the network would increase.
- 33 It would almost certainly be better to introduce a simple charging system over the inter-urban and rural network as a whole.
- 34 Charging in urban areas is more important because air pollution and congestion are a much more serious problem there. But urban charging is also more contentious and needs to be done as part of an agreed land-use and transport plan, including measures to improve public transport and other improvements to provide acceptable alternatives for those priced off the use of their cars. These plans need to be tailor made for each area and are best carried out by local government. A trial could be held in London where there is a pressing need to replace the present system with one that is mileage based and varies by peak and off peak.

- 35 Our suggestion is therefore that a simple charge per mile, weighted by vehicle characteristics (including CO₂, air pollution and noise) and set initially at a level broadly similar to the present cost per mile of fuel duty (5p) should be planned for all roads. It could be trialled on parts of the trunk road network where diversion to other roads is not a serious problem but then quickly extended once any snags had been ironed out. Vehicles on these roads would be required to have the necessary on-board technology. As the system is rolled out all vehicles would have to be so equipped.
- 36 Once it has been bedded in variations can be introduced, eg: reductions in rural areas and peak hour surcharges in cities.

Other Issues

Scotland and Wales

- 37 Since fuel duty is a UK wide tax, its replacement, or a combination of a reduction in the duty combined with the introduction of some new form of charge would need to apply across England, Scotland and Wales if border anomalies are to be avoided.⁷

Allocation of proceeds from charging

- 38 Fuel duty is not hypothecated to transport expenditure but in practice fuel duty plus VAT raise more than central and local government spend on transport and considerably more than the spend on roads (only about 1/3 of the revenue). The balance funds public expenditure generally. If the road charge is regarded as a charge for a service, it would be natural for the VAT (£5.7 billion pa) to go to the Treasury, but policy decisions would be required on how the remaining £28 billion should be allocated. While fuel duty is very cheap to collect, there would be major costs associated with implementation and operation of a road user charge.
- 39 A significant part should go to local areas, as we suggest above, but some will be needed to fund national expenditure on public transport and improvements to the strategic and trunk road networks.
- 40 Road users might argue that the total levied in charges should not exceed present transport expenditure. The argument against this is
- (a) road users do not at present meet the external costs of road use and a lower charge would increase demand excessively;
 - (b) the “headroom” above present spending levels may be needed to fund additional public expenditure on road maintenance and economically justified increases in capacity
 - (c) in the short run it could be used to reduce charge levels on quiet rural roads and begin introducing urban transport improvements.

These options need to be studied in detail by DfT and HMT in developing the charging system.

Submitted by:
Daniel Parker-Klein
Director of Public Policy and Communications
The Chartered Institute of Logistics and Transport
Daniel.parker-klein@ciltuk.org.uk
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⁷ There is no need to include Northern Ireland, where cross-border travel into Eire will be more significant