

Transport Planning Society

Consultation submission on reforming the Road User Levy for HGVs

January 2018

1 Introduction

The Transport Planning Society is an independent institutional body based in England, established to facilitate, develop and promote best practice in transport planning and to provide a focus for dialogue between practitioners and others interested in the field. It is the only body focussing entirely on transport planning as a profession. It is supported by four long established professional institutions – ICE, CIHT, CILT and RTPI - all of whom have an interest in transport planning within their own core activities.

The Transport Planning Society administers its own Professional Development Scheme for transport planners, leading to award of the Transport Planning Professional qualification which is the only professional qualification uniquely aimed at transport planners. The Society has over 1300 professional members in the UK and elsewhere. Many of our members are active in highway planning and management, including extensive experience of working with or within the Highways Agency. They are involved in transport modelling, forecasting and appraisal from a multi-modal perspective and increasingly in the analysis and development of transport planning in response to new technology and vehicle autonomy.

Our response has been drafted by the Policy Group within the elected Transport Planning Society Board. In addition, a draft note outlining the content was circulated to members and published on the website in December with a news item and social media publicity. Our annual member survey contains questions on transport revenue and member preferences. The Policy Group is in continuous dialogue with all members of the Society and the views expressed here may be taken as representative of those held generally by our membership.

Overall it reflects our recognition of the important role of road goods transport, balanced with an objective understanding of the high costs imposed by such vehicles on individuals and places which are not included in their user costs. It sits within our view that all transport modes need to be properly and rationally priced according to use, if both economic and environmental efficiency are to be improved.

Our final comment in this section is that the lack of user charging to reflect real costs may seem like an economic benefit from the user's viewpoint. However, the use of what is in effect a subsidy is not the most effective use of Government money nor does it produce maximum economic benefit. Removing a subsidy paid for largely by non-users should lead to a better allocation of resources and higher total benefits. The increase in revenue can be used to offset taxes elsewhere or to improve public services.

2 Background

The crucial role of road goods transport in delivering to businesses and to individuals is well documented, and the sector employs almost 250,000 people¹. It is important to distinguish between different roles within the sector, and the very different vehicles which are used. Thus the largest HGVs are articulated and weigh up to 44 tonnes gross, while local deliveries can be undertaken in smaller rigid lorries down to 3.5 tonnes gross. At this weight there is an interplay between HGVs (where registration for an HGV operator licence is required) and large vans. There is also a powerful interplay between transport costs and the number and size of depots where goods are stored. In broad terms lower transport costs results in fewer larger depots and an increase in traffic measured as vehicle kilometres, and goods moved, measured as tonne kilometres.

While undertaking these roles HGVs have very different but very significant third party costs not represented in the way they are charged. These include carbon emissions, road casualties, air pollution, congestion and road maintenance. The latter is particularly important since a 44 tonne vehicle is well over 100,000 times more damaging to road surfaces than a car². These external costs vary between road types, on motorways, for example, many of the impacts are lower than on other A roads or on minor roads, and some impacts such as air pollution and casualties are higher in urban areas than rural. This varies between the impact being considered. An example list used by DfT to summarise impacts is shown below.

- Congestion
- Accidents
- Noise
- Pollution
- Greenhouse Gases
- Infrastructure costs (maintenance or capital)
- Soil and water Pollution
- Nature and Landscape
- Driver frustration/stress
- Fear of accidents
- Community severance (including restrictions on cycling and walking)
- Visual intrusion

Clearly some of these are strongly correlated, such as fear of accidents, visual intrusion and community severance. However the first 6 are often measured and monetised, for example in the DfT' Mode Shift Benefits (MSB)³. There are many studies in the UK and Europe on HGV external costs, undertaken for the road and rail industries and for the European Commission. While the detailed costings vary, TPS does not consider it controversial to identify significant external costs in relation to HGVs which are not currently reflected in the cost to road freight users. This leads to significant economic and environmental inefficiency, both having their source in additional vehicle kilometres (30% of HGV kilometres are run empty) than would otherwise be run if full costs were being charged. It should be noted that the optimum balance between efficiency and level of service cannot be achieved if user costs are significantly lower than real costs (as in this case). We therefore consider there is far greater confluence between economic and environmental objectives than is often assumed by policymakers.

¹ *Domestic Road Freight Statistics, United Kingdom 2016*, DfT July 2017

² This is due to exponential increase in damage with axle weight – the 4th power law. An HGV axle of 10 tonnes is 160,000 times more damaging than a car axle of .5 tonnes

³ *Mode Shift Benefit Technical Report*, DfT 2009, *Mode Shift Benefit Refresh*, DfT 2015

3 Principles for a revised Road User Levy

Static charges versus use

TPS members consistently choose national road user charging as their preferred option for transport taxation, and Lorry Road User Charging (LRUC) is also supported in its own right. In the 2017 survey report the 5 top priorities in ranked order were:

- Introduce national road user pricing
- Increase VED for the most polluting vehicles
- Introduce national Lorry Road User Charging
- Increase the scope and raise the level of tax on aviation
- Introduce a national parking space levy

One of the reasons for this is that transport impacts are closely related to use not vehicle ownership, or in the case of developments, site ownership. Both of these relate poorly to the actual transport impacts and yet annual vehicle duty (VED) and insurance are still a major charge to private users, and one off developer contributions are the main way of retrieving some of the ongoing transport costs from commercial developments. New ways have to be found to ensure optimum economic and environmental efficiency, and a revised Road User Levy could be an important part of this process. Finely tuned policies are also important, for example a VED incentive to buy less polluting vehicles has an ongoing impact, as does the idea of parking limits and charges to incentivise alternatives to driving a car, including greater car occupancy through car sharing.

Key objectives for a revised RUL

The TPS view is that revisions to the RUL should follow certain key objectives if it is to be successful. They do not seem to us to be controversial and are:

- i) Creating a better balance between efficiency and competitiveness – reducing empty running and part loading, and creating a better balance between local depots and deliveries
- ii) Reflecting the external costs of HGVs not represented in annual Vehicle Excise Duty (VED) or fuel duty, based on marginal external costs
- iii) Minimising the environmental and safety impacts not fully addressed in ii)
- iv) Encouraging greater efficiency in terms of fair competition between modes
- v) Limiting use of the largest HGVs with the greatest impacts in most urban, and some sensitive rural, areas

Basic elements of a revised RUL

What is likely to be the subject of debate is the best charging regime to achieve these objectives. Before discussing this in more detail, TPS considers that there are three key elements to achieving a better balance between external costs and HGV charges. These are:

- Charging for the external costs of different vehicle types, according to use, through a revised RUL
- Providing land for freight as well as passenger transport in places where environmental impact is low and multi-modal connections are available⁴
- Limiting the network where the vehicles with the highest external costs are permitted.

In terms of vehicle quality, the move to higher EU emission standards (Euro VI) for HGVs is already under way and a majority of vehicles will comply by the time a revised RUL comes in to force.

⁴ The national policy guidance on Significant Rail Freight Interchanges (SRFIs) in 2011 has been positive in this regard

Many impacts are related to size rather than exhaust emissions, for example carbon and non-exhaust particulates (which are not dealt with in the Euro VI standards). For this reason there is no major reason to charge by Euro standard, instead thought should be given to more innovative technical solutions to improving HGV environmental and safety impacts. This could include new zero emission engines and would be the subject of further work in which TPS would be happy to participate. The end result would be a reduction in the charge according to which impact was reduced and to what extent. Vehicle quality incentives at this level of detail have not been commonly used in the UK, one example is the “hush kit” developed for the London Night and Weekend Lorry Ban in the 1980s and 90s. This also included routing, driver training and other measures. In view of the seriousness of the impacts it is an approach TPS considers is well worth pursuing.

Current position

Before turning to what might be done to improve RUL, we summarise the problems with the current charging arrangements.

- i) Annual VED is a blunt instrument not well related to unmet costs and damage
- ii) Fuel duty poorly represents external costs of the most damaging vehicles
- iii) The current RUL scheme is time based and does not reflect costs per kilometre travelled
- iv) Freezing of both fuel duty and VED for HGVs has meant a growing problem in terms of failure to capture external costs.

We note that in many countries in Europe such as Germany, Switzerland and Austria there are already LRUC schemes in place with measurable benefits in terms of reduced vehicle kilometres.

3 Way forward for RUL

Key elements and preferred package

Before discussing the level of charges which might be appropriate TPS has further refined the detail of its approach to revising the RUL. We set out below the key elements as we see them.

- i) Striking a balance between complexity and effectiveness – this points to a weight distance charge such as already in place in many places in Europe. Possible variations could be charging by level of congestion or by type of road, but these are hard to implement outside full road user charging. Smaller HGVs used for local distribution would not be in the national scheme.
- ii) The need to be compatible across borders – weight distance charging is already in place in Switzerland, Germany, Austria and other countries and there are standards already in place.
- iii) The need for proven technology – this relates to ii) above. Because of the spread of such charging schemes there are now low cost on board units fitted to tens of thousands of vehicles which travel across Europe. This is a major move forward from the high initial development cost of the German MAUT system.
- iv) Reducing annual VED to a minimum level, or eliminating it altogether. This would not rule out a first year registration charge which would not be levied on units powered by zero emission means (such as electricity, hydrogen, fuel cell etc.). This could be separate, for example through a “feebate” scheme.
- v) Supporting trials for larger vehicles and convoys, but only with a view to use on motorways and lengths of zero impact road links to them. This for two main reasons:
 - to avoid the shortcomings of the Dykes Act to regulate HGVs where unsuitable roads were being suggested as part of a Lorry Route Network, this led to its virtual abandonment
 - to avoid the inefficient “buy the biggest vehicle possible” approach which the current system has encouraged and better match vehicle size and type to the task required.

- vi) Allowing greater freedom for local authorities to regulate where the heaviest HGVs are permitted to go, not just for air quality but for other impacts (severance, congestion, safety etc.).
- vii) Considering, once the new RUL is fully operational, reducing and removing the current complex Mode Shift subsidies to rail freight.
- viii) Following on from the Government's SRFI initiative, creating an investment plan for rail and water freight infrastructure in its own right and in light of the predicted attractiveness of alternatives to road should be given higher priority. The DfT's GB freight model consultants have done major work on such possibilities for Transport for the North⁵.

Thus the preferred package is for

- a weight distance charge for vehicles above a specified limit, using an on-board unit and cross checked using digital tachograph information;
- first year or ongoing incentives for innovation to reduce economic and environmental costs and improve skills (for example support for training for smaller hauliers);
- financial and planning encouragement for local authorities to implement targeted goods vehicle controls, especially major urban areas;
- guidance so that planning for transport land for freight in low impact sites with multi-modal connections is included in land use planning (building on the SRFI guidance);
- a strategy for bulk distribution by all modes especially rail and water.

4 Levels of charge and vehicle sizes

Vehicle size and weight

Many summary statistics produced for emissions and accidents cover all HGVs, and this creates a problem for the transport analyst. However the Continuing Survey of Road Goods Transport (CSRGT)⁶ provides a finer grained picture as well as traffic counts. For the purposes of this response we focus on the larger vehicles, including the heavier rigids: 12 to 32 tonnes maximum gross weight (2 to 4 axles) and articulated: 26 to 44 tonnes gw (3 to 6 axles). Even within this range there are major differences in impacts, although most articulated vehicles are 5 or 6 axles with a gw of 40-44 tonnes.

The current scheme includes HGVs down to 12 tonnes which are up to 11 metres long and usually have 2 axles. Current regulations mean that HGVs of 3 or more axles are required if they are between 18 and 26 tonnes gw. As can be seen, the smaller rigid HGVs are excluded from the scheme, it is assumed they will be dominantly used for distribution. It is also clear that over half the traffic from HGVs is from the largest category – emphasising the need to focus on their impacts in the national RUL.

Table 1: HGV traffic by axles and road category
Billion vehicle kilometres

Rigid (number of axles)				Articulated (number of axles)				All HGVs
2	3	4 or more	Total	3 or 4	5	6 or more	Total	
8.5	1.9	1.9	12.3	1.1	4.9	8.5	14.4	26.8

Source: Table TRA3105, DfT, National traffic surveys

⁵ Northern Freight and Logistics Report, MDS Transmodal for TfN, October 2016

⁶ For example see *Domestic Road Freight Statistics, United Kingdom 2016*, DfT July 2017

While this indicates the polarisation of weights at the extremes of the weight scale, the next step is to consider what evidence is available on the unmet costs of HGV use.

Level of external costs

There are various studies from the UK and Europe considering the external costs of HGVs. The DfT, to meet European regulations regarding unfair subsidy, has produced a “Mode Shift Benefit” (MSB report in 2015, updating the original 2009 version. DfT used to produce an annual road track costs report but this was discontinued in 1995. The MSB table of costs is reproduced below.

Table 2: External costs
Pence per articulated HGV mile

	Motorways (by level of congestion)		Roads		
	High	Low	A	Other	Weighted Average
Congestion	99	24	72	78	57
Accidents	0.5	0.5	5.6	5.5	2.7
Noise	9	7	8	14	8
Pollution	0	0	0.1	0.2	0.1
Greenhouse Gases	6	6	7	9	7
Infrastructure	7	7	24	171	18
Other (roads)⁷	6	6	6	6	6
Gross Total	127.5	50.5	122.7	283.7	98.8
Taxation	-31	-31	-32	-40	-32
Marginal cost gap	96.5	19.5	90.7	243.7	66.8

Source: MSB update report, final values 2015

Taxation includes VED but the majority is from fuel duty.

There are three key features from this table.

Some costs rise dramatically according to road type, such as accidents and infrastructure damage. There are also major differences between busy Motorways and less busy. Some costs rise more slowly with road type such as noise, and some do not change very much, such as greenhouse gases and the catch all “other” category. This is one of the justifications for using a combined limitation on which roads are used with an overall national RUL. Clearly, without the policies to provide relief

⁷ These include a range of effects including for the MSB report: up and downstream processes; soil and Water Pollution; nature and Landscape; driver frustration / stress; fear of accidents; community severance (including restrictions on cycling and walking); visual intrusion

to non-motorway roads, a higher charge might be required. As part of a package this could be started at a lower level and reviewed in the light of progress, or set to increase automatically unless sufficient progress is made. Taking the lower values in the table as a suitable benchmark, this would imply a charge on HGVs over 12 tonnes 0.4p per kilometre per tonne gvw. This would result in the following rates:

HGVs 12 -17 tonnes gvw	6.8p per km
HGVs 18 -26 tonnes gvw	10.4p per km
HGVs 27 -32 tonnes gvw	12.8p per km
HGVs 33 -44 tonnes gvw	17.6p per km

TPS does not suggest that these would be the final values but it is important to set out both a rational approach to the new structure and a clear indication of the levels which would be required. Higher values would have to be applied if the largest HGVs continued to use non-motorway roads to the current extent.

5 Possible outcomes

Further detailed analysis is required and TPS would be happy to engage in this with DfT and others and to support it through or events programme. However, any idea that RUL would be subject to minor modification would mean that key social or economic objectives would not be met.

The income from this charge would be of the order of £2.5billion from the heaviest articulated vehicles. These are the HGVs with the best documented impacts.

On the other hand the elasticity of demand for HGV vehicle kilometres is quite high – averaging at 0.6 in a European study. This suggests a reduction in the distance goods travel (i.e. vehicle kilometres). This would lead to a reduction in revenue but also a reduction in the disbenefits which is a key objective of this submission.

Further reductions would be achieved by

- locational policies for transport land for freight
- optimisation of depot locations in the supply chain led by external as well as internal costs
- local HGV control schemes (from towns to conurbations) which target specific impacts, for example cab visibility to improve safety, emission standards to improve air quality
- vehicle and logistics innovation which could be really incentivised if the RUL is revised as we suggest.

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