transportfiscal

New Transport Taxation Group

Working Paper 1: Reforming Road Vehicle Taxation

1 Context and Timescale

A new project starting in 2025 and supported by the Foundation for Integrated Transport (FIT) will create an ongoing panel of independent experts who will provide insights and proposals for transport tax reform: the New Transport Taxation Group (NTTG)[1]. The project is also supported by the Transport Planning Society, the professional body for transport planners, through their Policy Panel. A number of other organisations and individuals have been contacted. The overall aim is to support sustainable outcomes in the transport sector through specific and detailed tax reform. It is worth noting that the volume of transport taxation is high, some £40 billion a year from road users alone. Key elements are fuel duty, Vehicle Excise Duty (VED), the HGV Levy, and Air Passenger Duty (APD).

There was an initial call for topics to be considered and the issue of road vehicle taxation was the most mentioned, providing any paper did not focus entirely on congestion charging. This has already proved a popular subject for policy papers but also the subject of significant discussion and disagreement.

This paper is therefore the first in a series covering some of the more detailed aspects of transport taxation, with the overall purpose of encouraging more sustainable travel, both for people and goods. Work is ongoing on aspects of travel less well studied including the issue of how allowances in the tax system influence behaviour, the previous TTG undertook influential work on company car taxation for example. There is also the impact on the balance of payments, which has an impact on both road use, electrification and aviation[2].

Drafting the papers is being led by the Chair of the group (Keith Buchan), and published openly for comment on the web but also from a network of interested parties which is still growing. A meeting for the group as a whole is aimed for in 2026. While NTTG is still developing it was nevertheless felt there was an opportunity to provide useful input at this stage in the financial cycle and provide examples of what could be produced.

In terms of fiscal context, it is clear that the increases in public borrowing from the 2008 recession and Covid 19 and the impact of recent inflationary pressure have combined to make the current financial context extremely tight for both Government and public alike. The obvious point is that some charges to discourage unsustainable behaviours tend to generate Government income in the short to medium term. How this impacts families and individuals will depend on how that money is used: either to avoid regressive tax increases elsewhere or possibly to be returned more directly.

The overall approach for all the papers in this series will be to consider three basic timescales:

1 the annual fiscal event in the Autumn
2 the life of a parliament (say 4-5 years)
3 parliament plus – a longer term of over 5 years

2 Introduction and Summary

Overall the system is surprisingly complicated, especially for HGVs, out of date and in many cases poorly related to government policies. It is however a major source of income for the Government. While the achievement of sustainable transport outcomes is the focus of this report it has to be seen in the context of other priorities such as economic growth but also in the overall fiscal context. It is self evident that this is one of severe pressure on taxation, income and borrowing.

While the concept of balancing the books is easy to understand, the growth impacts of fiscal policies for transport are much more complex. They depend on a range of assumptions – for example whether user charging should reflect direct costs. If users do not pay their costs these will have to be met elsewhere. In this context the use of Heavy Goods Vehicles (HGVs) is a well known example. While road maintenance has traditionally been under funded and surface damage largely attributed to HGVs, charging for road use by these vehicles has been very poorly related to such costs. Other costs ranging from congestion to emissions from engines, brakes and tyres are not being met.

As regards passenger travel, the key question here is less about economic growth and more about tax income. Most responsible commentators from the Transport Planning Society to the Institute for Fiscal Studies have identified the fall in fuel duty revenue caused by the electrification of cars and vans as not just serious but at the scale of the pension impacts of an aging population. The sooner this is recognised by Government the better. Fears over public reaction to policies such as Low Emission Zones or the Manchester road user charge need to be addressed – and that means enabling a full discussion sufficiently early in the process of change to achieve genuine engagement – i.e. open to new ideas. That very debate should be a means of opening out the issues and the facts of the case.

In a sense that is the easiest recommendation of this report. The Chancellor should recognise publicly that the fall in fuel duty is a very significant loss which must be addressed. She should open up the debate on how to do this, starting by saying nothing is set in stone and separating out the arguments about congestion charging (the most efficient in terms of classical economics) from a simpler pay as you go system, for example based on distance alone. The fact that people are likely to react rather badly if they get caught in congestion unpredictably and are then charged for it is a good example of how classic economic theory can conflict with real life.

Meanwhile the long run reduction in fuel duty caused by cancelling the inflation linked rise, and the 5p Covid concession, should not be continued. This is sold as a political give away but has damaged transport policy as well as the Exchequer.

The social impact of road user charging has been studied for as long as this problem has been identified but the basics remain that better off people drive more and the least well off have low car ownership. This is clear from the data set out later in this report.

The report goes on to give more detail on individual proposals but the concluding recommendations can be summarised as follows:

Next fiscal event

1 A debate about how best to replace fuel duty in its entirety should begin as soon as possible
2 At the next fiscal event the fuel duty concession should be removed
3 The level of fuel duty should be inflation linked
4 Government policies to encourage EV car purchase need tax changes in the context of the reduced obligations on manufacturers: the first year VED should be adjusted to provide a smoother increase according to emissions
5 LGVs (including vans) should be brought into the first year VED system to encourage EV uptake and more efficient vehicles generally
6 Zero emission LGVs should have a concession on annual VED, other rates should rise to ensure an overall rise in income linked to inflation
7 HGV taxation needs to more realistically reflect their road costs, first by simplifying the system and increasing the HGV levy (paid by foreign as well as UK HGVs)
8 Finance secured for HGV owners to purchase the new generation of electric HGVs

Within this Parliament

9 Increasing the HGV levy would be a pre-cursor to implementing a weight/distance based system using existing technology and building on the work already done by DfT
10 Implementation of a new method of charging for road use would begin resulting from the national debate on the future of passenger vehicle taxation (including VED, fuel duty and cost of charging EVs)

Longer term

11 Full implementation of the new national road user charging framework

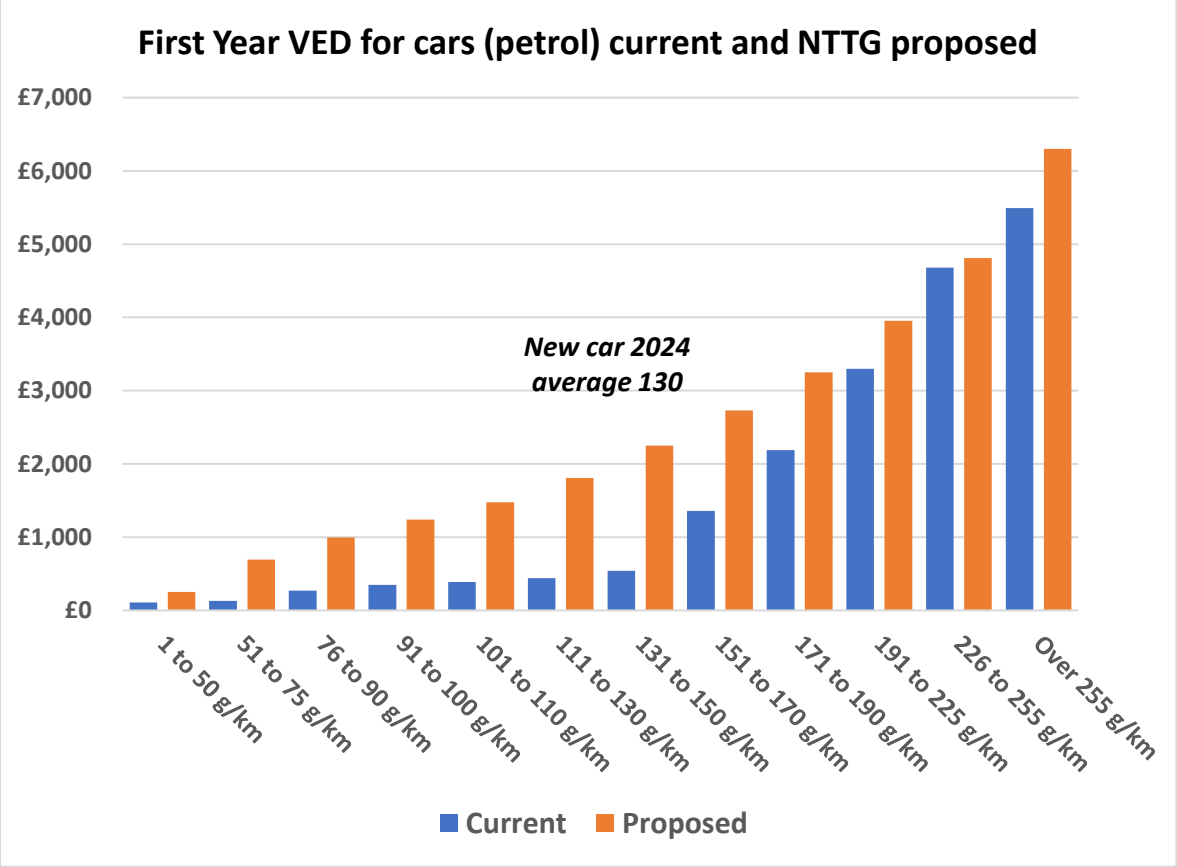
3 Passenger cars and VED

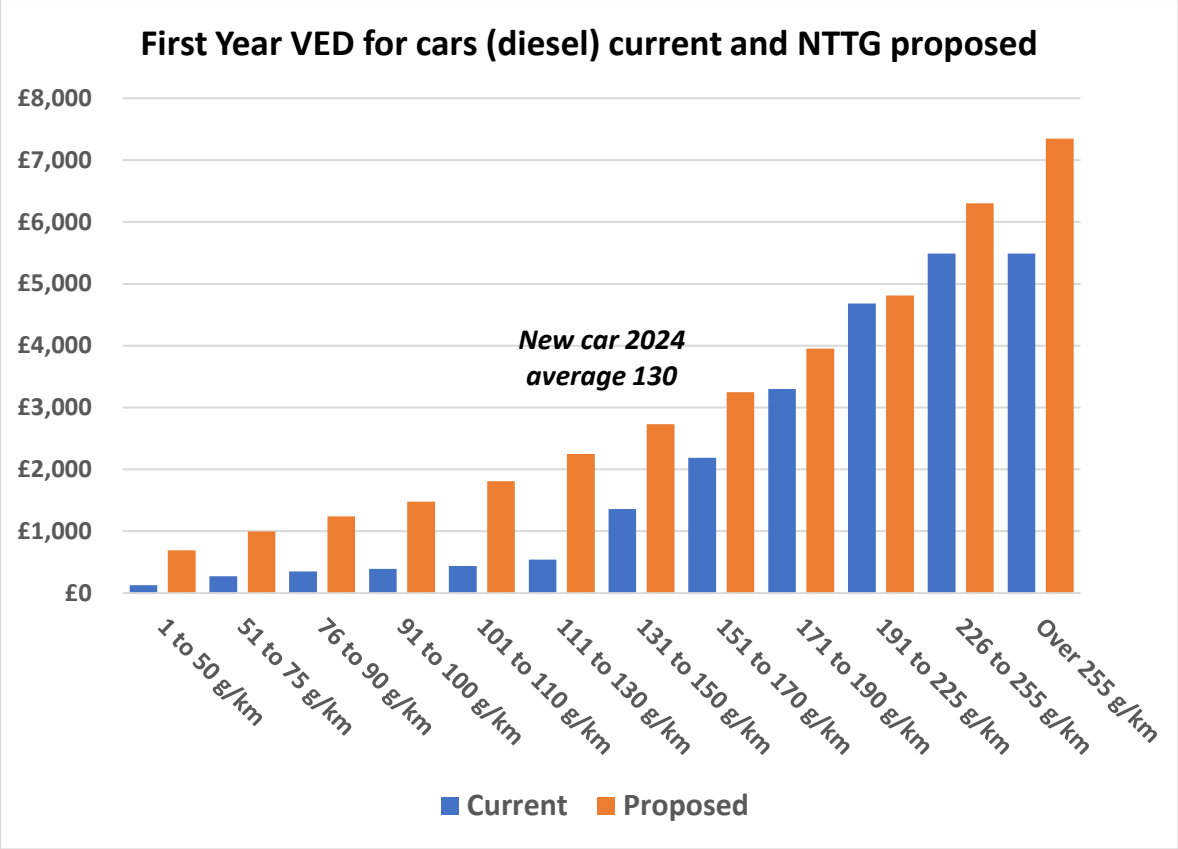
First year and annual Vehicle Excise Duty for cars

Cars are responsible for about 60% of road transport CO2 emissions[3] and a range of other pollutants. In the current system there are two types of VED: one for the first year and another for each subsequent year[4]. The latter has been subject to some variation so that vehicles registered between 2001 and 2017 have annual rates of £20 to £760 according to CO2 emissions. After that date the annual charge is fixed in two bands, a standard rate of £195 and a higher rate of £620 for years 2 to 6 for vehicles costing more than £40,000. It then falls back to the standard rate. The latter appears to be more revenue raising than policy driven.

On the other hand, first year VED is strongly related to CO2 emissions: ranging from £10 for zero emission cars to £5,490 for those consuming very high amounts (relatively small in number). However the increase in the charge only rises slowly in the middle range of emissions where many cars are bought: around 130gms/km. For context, about 1.95 million cars were sold in the UK in 2024.

The NTTG approach is designed to balance the April 2025 Government amendment to the Zero Emissions Vehicle (ZEV) mandate, which increases emissions to 2050 by 4.2 million tonnes CO2e[5] compared to the savings delivered by the ZEV Mandate as a whole. The proposal is to smooth the transition up the fuel consumption curve using a simple plus one formula[6]. This is shown in the chart below, first for petrol cars, then diesels.





It is not considered that there is any reliable elasticity information to predict how the exact impact would be spread between people acting without changing their purchases (inelastic) or changing so much that there was no extra income and instead a substantial reduction in emissions over the lifetime of the vehicles (i.e. in the crucial period up to 2025). In other words if tax income is low the CO2 reductions will be high (and vice versa).

One reason for the difficulty in assessing the impact is how new vehicles are purchased. About 60% of purchases are made by fleet buyers, 2% by other business users[7]. For these the cost will be transparent. For private buyers the first year charge is often rolled into a monthly finance package which is the dominant means of purchase (80-90%)[8] so may be less well perceived. These deals are becoming more transparent however and the proposed new 1st year VED could become more visible especially if contrasted with EVs as part of the Government's ongoing public information campaign.

To provide at least some parameters for the financial impact, a figure for new sales was derived by subtracting the total cars registered in 2024 from those in 2023. It was then assumed that purchasing patterns continued without change to create a maximum income. This resulted in a £2.3billion increase in revenue[9]. Data is being sought to refine this figure but given other uncertainties is a good base estimate. It would clearly decline increasingly over the next 10 years (to 2035) while manufacturers switch to EV production. This would be balanced by a longer term acceleration of the loss of fuel duty, compensated for by increasing and then reforming fuel duty.

4 Light Goods Vehicles VED

There are about 350,000 new LGVs registered in the UK each year. The latest data[10] shows average emissions for these is 85% higher than for cars, as might be expected given the greater weight. In terms of potential carbon emissions between now and 2050 they are significant at about 19% of road transport and will be rising given that cars are electrifying faster. At the moment battery powered LGVs are just over 8% of new sales while the equivalent for cars is 21%. Given this there seems to be no clear justification to keep LGVs outside the 1st year VED carbon based system.

The inclusion of LGVs in the 1st year system would, as with cars, generate extra income or move companies towards more efficient vehicles. Given e-LGV manufacturing capacity this does not mean an immediate large scale move to new zero emission vehicles. However any improvement in average efficiency of all new purchases will have significant ongoing carbon benefits. Data for sales of LGVs by emissions is being sought to provide a similar estimate for revenue for that from cars. However, using average emissions rather than the detailed categories gives an approximate figure of £0.7billion. This would be balanced by a longer term acceleration of the loss of fuel duty. As with cars this is intended to be compensated for by increasing and then reforming fuel duty.

There remain some oddities in the LGV tax rates, in particular the concessionary rate for Euro 4 and Euro 5 emission standard vehicles registered at various dates up to 2010 (£140 compared to the standard £345). Both of these standards are well out of date and the number of vehicles must now be small. This creates the illogicality that LGVs with worse pollution standards than currently in force (Euro 6 since 2015 and Euro 7 about to be introduced) pay lower annual VED. Providing there is no legal obstacle these concessions should be removed and instead this concession for early adopters transferred to zero emission LGVs registered between now and 2030. In order to compensate and achieve an increase in overall revenue, the non-zero emission LGVs VED would rise by £50 a year.

There remains the category of private/light goods which is both cars and LGVs registered before March 2001[11]. No change is proposed.

All of these figures are based on existing rates (April 2025 to April 2026). It is proposed that these are raised in line with inflation from April 2026.

5 Fuel duty and VAT

Revenue from fuel duty in 2024 was about £25billion, plus VAT, amounting to £30billion. There is about another £6 billion of VAT collected on the fuel itself. While it is hard to predict exact take up rates for electric vehicles, NTTG calculations based on the ZEV mandate suggest this will fall by about £5billion by 2030 and even more rapidly thereafter. RAC Foundation modelling based on slightly earlier data but with more variation in the assumptions used produced a central forecast close to this figure (£5billion by 2028)[12]. It is already lower than it would have been in this financial year by about £900million.

In addition, the “temporary” reduction in fuel duty of 5p per litre has been continued as a Budget give away every year since it was introduced. The OBR estimated a loss of £65billion between 2011 and 2022 of the 5p concession alone[13].

Various sources have drawn attention to both of these issues, including the Transport Select Committee in its 2022 report[14], which estimated a fuel duty loss of £35billion by 2050, and a wide range of independent bodies such as the OBR, IFS, RAC Foundation and TPS. The seriousness of this issue is not matched by any proposed Government action to date.

The proposal in this report is for the Chancellor and the Secretary of State for Transport to start a national discussion on a replacement for fuel duty as soon as possible and certainly at the next fiscal event this year. There are many detailed proposals in existence, for example reports from the bodies listed above, and the Wolfson Economics prize winner as far back as 2017[15]. As well as an open minded approach in line with the Gunning principles it must address the differences between simpler distance based schemes which are very similar in impact to fuel duty and the more complex congestion based variants. The key commitment must be that a package of measures must be settled and implemented as a result. Transition will be a major issue and it is unlikely that a new system could be fully in place by the end of this Parliament. However it could be agreed and begun. Charging for HGV road use is considered separately later in this report and could be implemented far more quickly and within the Parliamentary timescale.

In the mean time the 5p concession must be removed, and the fact that fuel duty has not been raised in line with inflation addressed. The failure to do this has meant a restoration of [16]value would probably require a 25p increase but this would be disruptive if applied in a single Budget. Phasing it in could take beyond the life time of a Parliament and, more importantly, interact with proposals for its replacement. A rise of inflation + 1% per year is proposed, based on 2024/25 rates plus the 5p. This would be reviewed in light of the proposals arising from the national discussion on paying for road use.

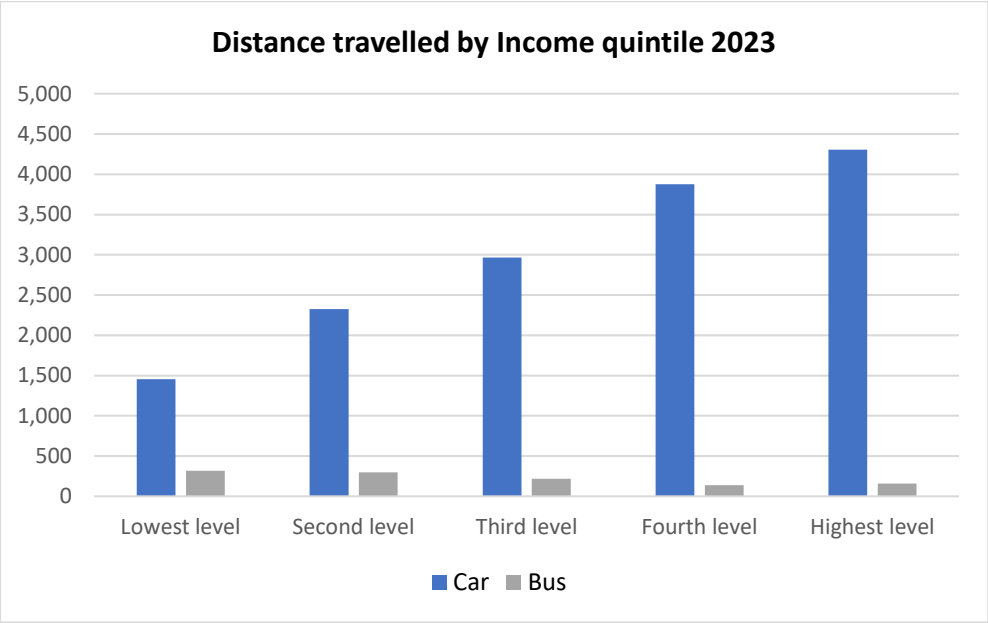
Thus the proposal for fuel duty from April 2026 is 60.85p per litre. This would raise about £4.5billion more than in the financial year 2025/26. This of course would have negative impacts on people who use cars. However the facts are that better off people drive more and high number of the less well off don’t have a car. The two following charts illustrate this point[17].

The only problem with this is the impact on inflation which could rise by about 0.3% in 2026 if cars, LGVs and HGVs are included. This is based on the OBR estimate for continuing the concession in 2024/25[18].

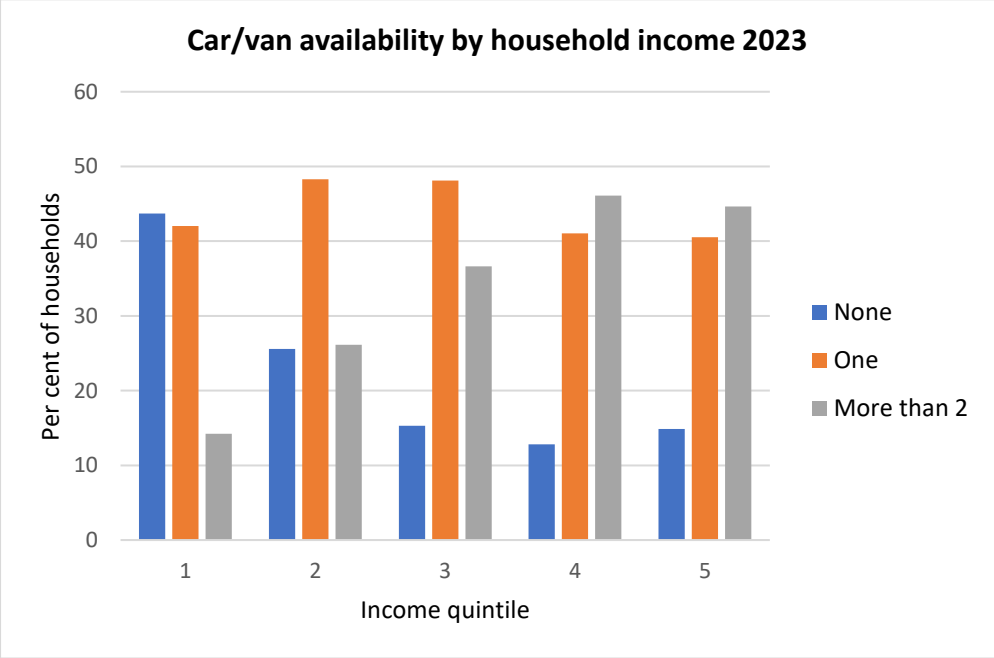
This reflects the Government’s commitment not to raise non-consumer taxes on basic income. However, any alternative tax which impacts consumer prices will have an inflationary impact. This includes taxes such as VAT but also employer national insurance which has a less direct impact. One way round this effect is to balance the inflationary impact by reducing another consumption tax but with a clearly beneficial social impact. An

obvious way of doing this would be through the VAT system, targeting items which will benefit the less well off or as part of strategy such as child poverty. Other options in transport would include maintaining lower bus fares.

The first chart illustrates how distance travelled increases with income. Bus use is shown to illustrate that reducing bus fares has social benefits as well as encouraging less polluting ways of travelling. The second shows how many lower income households do not have access to a car.



Source: NTS Table 0705



Source NTS Table 0703

6 Heavy Goods Vehicles (HGVs) VED and the HGV Levy

The current system for HGVs is complex and does not reflect a number of factors which have been discussed extensively since the 1970s debate on road track costs[19]. It has two main parts (there are a lot of individual categories)[20]:

- Traditional VED (paid by UK owners)
- The HGV Levy (paid by all users including those from abroad)

HGVs are obviously larger than cars and LGVs but have a disproportionate impact on third party costs such as congestion and road maintenance – the damage caused by their very heavy axles increases exponentially with the 4th power law. This makes them responsible for most of the maintenance costs from this source. Other pollutants such as particulates also rise with weight. Overall CO2 emissions from HGVs are about 19% of road transport emissions and this proportion will rise as cars and vans are electrified.

There have been discussions over how to improve this situation for some time and many countries in Europe have successfully implanted a weight distance charge which is now going EU wide[21]. It was actively considered by DfT in the early noughties with a Lorry Road User Charge (LRUC) scheme due for implementation in 2008. This was abandoned as part of the decision not to proceed with wider road user charging. After this a simpler scheme was proposed and this is the origin of the current HGV Levy, introduced in 2014.

One fact which reflects a lack of charging on use is how much empty running and part loading is carried out by HGVs. They run empty for 30% of their time[22] and this has if anything got slightly worse over the years. Encouraging improved load efficiency, on economic and environmental grounds, is one aim of any LRUC scheme.

At the moment VED and the Levy variously reflect weight, number of axles and engine pollution (through the Euro standards) and whether the HGV is rigid or articulated. The two are added together to provide the total to be paid by UK owners. Non-UK users pay only the Levy, based on 3 weight categories and two emission standards (Euro 5 and 6)[23]. It can be paid annually or shorter periods. The day rate is 2% of the annual but the heaviest HGVs are capped. This is probably a hangover from EU rules limiting the daily rate at the time.

The Levy was suspended for 3 years (2020-2023) as a result of Covid, and when it was reintroduced was drastically simplified. Originally, to reflect road damage, there were 132 weight and axle categories, although only 7 charging rates (plus some for specialised units). The new system had only 3 categories, plus a discount for less polluting engines. While not quite directly comparable, it is now less in cash terms than it was in 2014[24] and less reflective of road costs due to the limited categories.

The VED element is by contrast still very complex and combined with the Levy has hundreds of potential categories. This reflects the DVLA registration data[25] which also has hundreds of categories often with single vehicles in them. Fortunately many of the VED categories have the same rates and some are for specialised vehicles with low numbers actually registered.

This brings the main combinations to less than a hundred: 18 for VED combining with 6 for the Levy.

This report proposes major simplification and rationalisation: moving the revenue emphasis towards the Levy, reforming it in preparation for a use based charge, and drastically simplifying the VED element.

The key mid term (single Parliament) proposal is to replace the HGV Levy and VED with a distance based charge varied by gross vehicle (plated) weight (GVW)[26]. This would apply to all HGVs over 12 tonnes GVW. A discount for the old Euro 6 standard is no longer appropriate and should be replaced by one for adopters of Euro 7 which is about to come into force (2027). The LRUC could be implemented within a Parliament but would have to undergo consultation and technical definition so the timetable is tight. However there is much established 2nd generation technology, work undertaken by DfT for the 2008 proposal and subsequent reports[27].

In the mean time the Levy should be reformed at the next fiscal event. The aim is to make it provide a greater proportion of revenue from both UK and non-UK users and to better reflect road damage and environmental impact. It would also pave the way to a weight distance charge. The reform would allow for some catch up in terms of inflation to better meet HGV road costs. The target would be around £2billion.

In terms of the reforms three options emerged from the TTG inputs:

1 to simplify rates and increase by inflation;
2 as option 1 but improve rationale: i.e. relate charges to costs;
3 take option 2 but raise revenue based on use (distance driven) not ownership.

The first would update the Levy by inflation, drastically simplify VED and move some of it to the Levy. On reflection this doesn't address the issue that the Levy is intended to capture the higher costs of road use more directly.

For option 2, using some of the data in Appendix 2 new rates were constructed, one using a multiplier on standard car based VED reflecting size, area and a safety component, the other related to average damage based on axle weights.

Quite clearly option 3, a distance based charge, would best relate charges to costs.

As with any HGV taxation approach using average figures is problematic. Goods vehicle operation is very diverse, subject to commercial and security issues with distances varying hugely. Nowadays technical changes such as raising or lowering axles so the weight distribution changes create further complexity. The proposals here only claim to make significant improvement on the current confused and ineffective system and to better reflect true marginal cost.

For this report simple comparisons have been made of road space occupied, in terms of length, height and width for the largest rigid and articulated vehicles. The thinking here is

that road space relates to area (Width X Length), visual intrusion relates to the face on view (Height X Length), and severance relates to overall size (W x L x W). These provide upper bounds. However, registrations are actually quite concentrated at the upper limits.

It is also possible to compare involvement in road casualties for all HGVs over 3.5 tonnes with passenger cars using available data but not in greater detail. The Table and chart below set out the result of those comparisons.

Table 1: Options 2 and 3 Factors comparing HGVs to cars

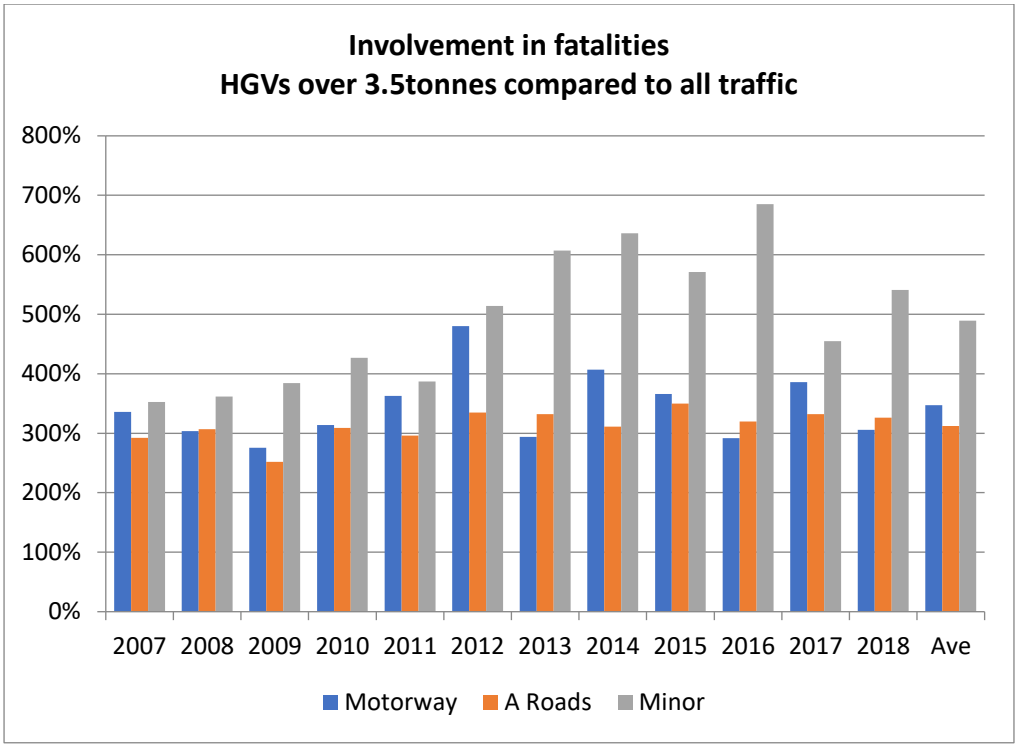
Type of impact	Level of impact relative to cars	
	Articulated	Rigid
Fatal casualties (all >3.5 tonnes)	3.1 to 4.9 (across road types)	
Visual (Height X Length)	5.6	4.1
Static road space (Width X Length)	4.9	3.5
Volume (W x L x W)	7.3	5.3
Average (visual, road space, volume)	5.9	4.3
HGVs moving in traffic stream *As well as methodological issues the definition of an HGV is usually very wide and includes much smaller vehicles than those in this report*	Diverse values of 2.3 to 7 passenger car units (pcu) have been suggested depending on methodology and road type, level of flow and weather[28]	

Source: MTRU using car data from Autocar[29] and Nimblefins[30] and HGV from DfT[31]

Table 1 reveals the relative costs on a per mile basis. This illustrates again the greater fairness and effectiveness of a distance based system rather than ownership. It is particularly pertinent for HGVs where different functions can lead to wide variations in annual mileage.

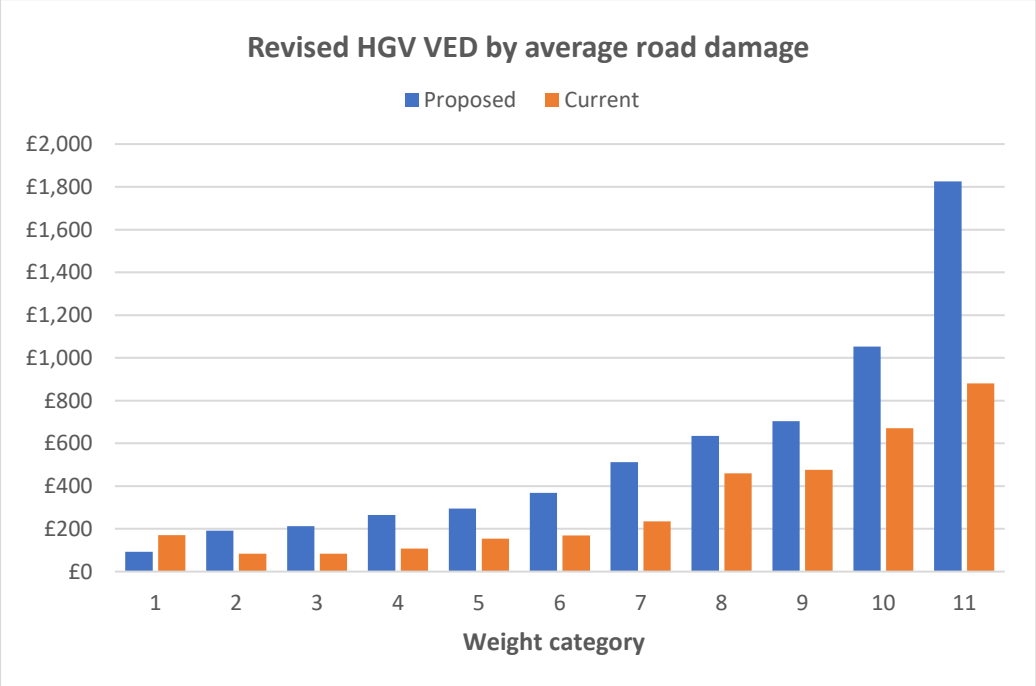
While the results for road space demand in terms of car equivalents (passenger car units: pcus) is very variable, average results from the table without them can be calculated. These suggest a multiplier of 4.3 for rigid HGVs over 12 tonnes and 5.9 for artics.

In relation to the impact of road casualties, the following chart shows a 12 year average for fatal involvement rates for HGVs. These data have some limitations in respect of detailed vehicle size but the multi year analysis helps to make the overall conclusions robust.

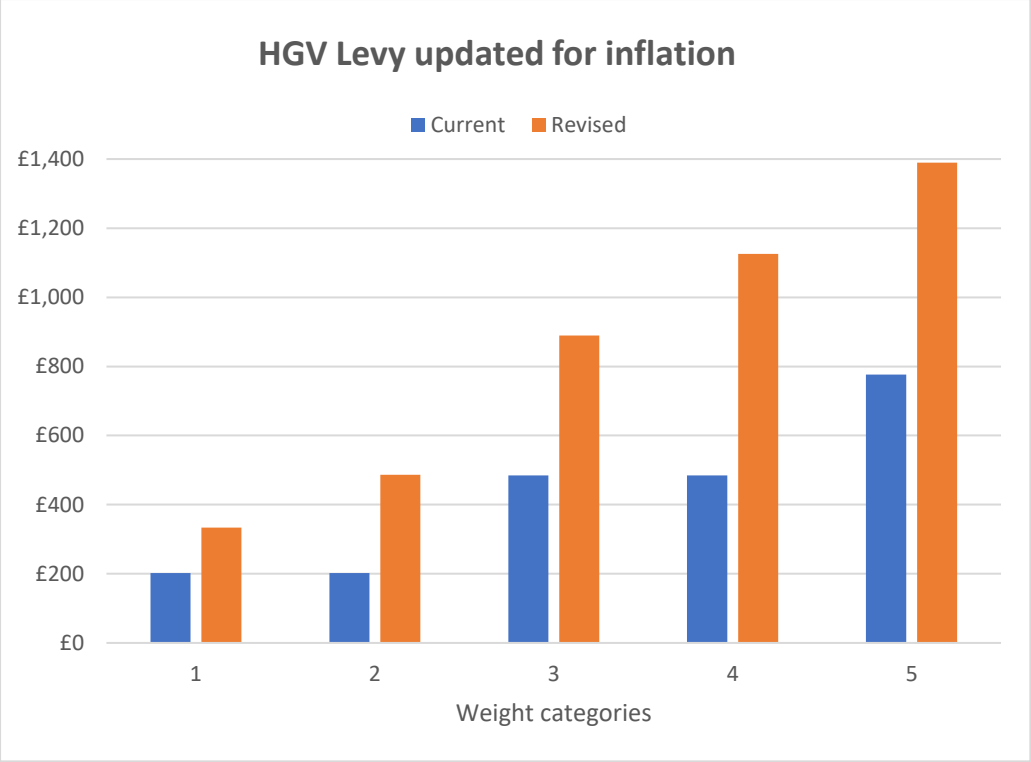


Source: Traffic statistics table TRA0104, Accident statistics Table RAS 30017, both DfT

The next chart shows the impact of adjusting the current annual VED to better reflect road damage (Option 2). The second shows a calculation based on restoring the Levy to 3 categories and updating in line with inflation.



Source: MTRU calculation based on V149/1, HGV maximum weights and average number of axles[32] and the 4th power law



Source: MTRU calculation based on 2014 Levy Rates[16] and BoE inflation calculator (CPI)

Proposed way forward

Given that the Levy is targeted towards road damage and pollution it seems odd to make it so simplified while making the basic VED so complex and often lacking clarity in how the categories have evolved. On option is to base VED on how much more the larger HGVs impact on a range of factors compared to a car. This could have four categories only as below.

Vehicle type	Average factor basis	Previous Levy for Euro 5
Rigids 3.5-12 tonnes	£364	N/A
Rigids over 12 tonnes	£729	£202-486
Artics	£1,003	£202-776
Discount	50% (EV)	20% (Euro 6)

This sum would be added to the Levy but derived from the average road damage chart. The categories and Levy rates for artics are shown below. The old equivalent for VED is shown to show the impact of the methodology.

Gross Weight tonnes	New Levy	Previous VED (average in category)
3.5 to 12	£195	£171
12 to 22	£195	£83
22 to 23	£213	£84
23 to 25	£265	£108
22 to 26	£295	£154
26 to 28	£369	£170
28 to 31	£512	£235
31 to 33	£634	£459
33 to 34	£704	£476
34 to 38	£1,052	£670
38 to 44	£1,825	£881

As at present Day rates would be 2% of annual. Weekly rate 5%, Monthly rate 10%. Instead of a maximum there would be a minimum £5 day rate.

Both of these charges would be rolled into the weight distance charge which would also allow for discounts for the lower Euro7 pollution standards and electrification.

Additional proposal: support for HGV owners to electrify

While undertaking research for this report new work on electric traction for HGVs has been published by OECD[33]. This takes a wide picture of the challenges for the transition to electric HGVs but suggest a twin track approach: tax incentives and securing finance. The latter is important because both availability of private funding and interest rates depend on factors such as uncertainty in new technology and accounting items such as residual values. The latter are an area of uncertainty, even if they are likely to be equal to or exceed existing values, at least for the vehicle itself.

The practicality of such vehicles is now proven with models available up to maximum weight limits such as the Volvo 44 tonner and HGVs from manufacturers like DAF, MAN, Renault and Mercedes Benz. Electric traction specialists are also available who have a range of HGV options such as Magtec[34] who are based in the UK. Range is improving constantly already reaching 300 miles.

Government is already supportive including through funds for charging points but there may be an opportunity at low or zero cost in underwriting the finance for such vehicles even without direct support. This would enable owners to buy HGVs with lower operating costs which would otherwise be eclipsed by high finance and purchase costs. There is a complication around how this might be treated for the Public Sector Borrowing (PSBR) but a

good case could be made that the finance, unlike student loans, would be almost entirely repaid. It is also an area where working with the banking sector to avoid any PSBR issues altogether would be valuable. The launch of any such scheme would provide a useful opportunity to encourage the sector and provide outreach, for example to smaller hauliers.

Clearly the proposed rise in charges on the more polluting vehicles provides the other part of this stick and carrot approach to EHGV investment.

Driver & Vehicle Licensing Agency

Rates of vehicle tax

for heavy goods vehicles, special vehicles, private heavy goods vehicles, small island vehicles, buses, combined transport, recovery vehicles and general haulage vehicles

V149/1

Use the tables below to determine the total VED and levy payable for your vehicle based on the revenue weight, axle configuration and Euro status (if applicable).
Note – Where a vehicle exceeds 44,000kgs the VED paid is equal to that for special types vehicles (£1,643 annual/£821.50 six months), levy rate Euro VI or later – £597, Euro V or earlier – £776 applies.
The following rates are applicable from 1 April 2025.

Rigid goods vehicles

Revenue weight of vehicle, kgs		Two axles	Three axles	Four or more axles
Over	Not over			
3,500	7,500	A0	A0	A0
7,500	11,999	B0	B0	B0
11,999	14,000	B1	B1	B1
14,000	15,000	B2	B1	B1
15,000	19,000	D1	B1	B1
19,000	21,000	D1	B3	B1
21,000	23,000	D1	C1	B1
23,000	25,000	D1	D1	C1
25,000	27,000	D1	D1	D1
27,000	44,000	D1	D1	E1

Tractive unit with two axles

Revenue weight of vehicle, kgs		One or more semi-trailer axles	Two or more semi-trailer axles	Three or more semi-trailer axles
Over	Not over			
3,500	11,999	A0	A0	A0
11,999	22,000	A1	A1	A1
22,000	23,000	A2	A1	A1
23,000	25,000	A5	A1	A1
25,000	26,000	C2	A3	A1
26,000	28,000	C2	A4	A1
28,000	31,000	D1	D1	A1
31,000	33,000	E1	E1	C1
33,000	34,000	E1	E2	C1
34,000	38,000	F	F	E1
38,000	44,000	G	G	G

Tractive unit with three or more axles

Revenue weight of vehicle, kgs		One or more semi-trailer axles	Two or more semi-trailer axles	Three or more semi-trailer axles
Over	Not over			
3,500	11,999	A0	A0	A0
11,999	25,000	A1	A1	A1
25,000	26,000	A3	A1	A1
26,000	28,000	A4	A1	A1
28,000	29,000	C1	A1	A1
29,000	31,000	C3	A1	A1
31,000	33,000	E1	C1	A1
33,000	34,000	E2	D1	A1
34,000	36,000	E2	D1	C1
36,000	38,000	F	E1	D1
38,000	44,000	G	G	E1

Vehicle Excise Duty (VED) rates for articulated vehicles and rigid vehicles without trailers

	Non Direct Debit		Direct Debit		
VED band	12 months	6 months	Single 12 month payment	Total payable by 12 monthly installments	Single 6 month payment
A0	£171	£94.05	£171	£179.55	£89.78
B0	£207	£113.85	£207	£217.35	£108.68

VED band and rate	12 months	6 months
A1	£83	£41.50
A2	£87	£43.50
A3	£104	£52
A4	£151	£75.50
A5	£157	£78.50
B1	£98	£49
B2	£109	£54.50
B3	£130	£65
C1	£218	£109
C2	£275	£137.50
C3	£300	£150
D1	£311	£155.50
E1	£580	£290
E2	£631	£315.50
F	£715	£357.50
G	£881	£440.50

HGV levy rates

	Euro VI or later		Euro V or earlier	
Weight category	12 months	6 months	12 months	6 months
12,000kgs - 31,000kgs	£155	£93	£202	£121.20
31,001kgs - 38,000kgs	£373	£223.80	£485	£291
Over 38,000kgs	£597	£358.20	£776	£465.60

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Annex: Example of the complexity of current HGV tax rates (pages 1-2 of 4)

Rigid vehicles pulling trailers over 4,000kg – Tax Class 02 (trailer)

A rigid HGV of 12,000kgs and over pulling a trailer **over** 4,000kgs must pay a higher rate of tax.

To calculate the amount, **you should combine the levy rate for the vehicle in table T1 with the VED rate payable in table T2 or T3**. To do so, you need to know whether the vehicle has **road friendly suspension**, the **number of axles on the HGV** (not on the trailer), **the levy rate, the trailer weight category, and the total weight of the HGV and the trailer.**

(**Please note:** If pulling a trailer of **4,000kgs and under** please use the tables on page 1).

Note – Where a table does not specify a VED rate for a particular vehicle combination, the maximum VED rate (£631 annual/£315.50 six months) and appropriate levy rate for the weight combination will apply. To calculate the amount, first look up the **levy rate** for the combined vehicle and trailer weight in **table T1.**

Note – Where the total weight of the vehicle plus the trailer exceeds the maximum weights shown below, then the VED is based on the highest weight shown. This will be 40,000kgs for a vehicle without road friendly suspension, or when the rigid HGV has two axles, and 44,000kgs for other vehicle combinations.

T1 HGV levy rates

Weight category	Euro VI or later		Euro V or earlier	
	12 months	6 months	12 months	6 months
12,000kgs - 31,000kgs	£155	£93	£202	£121.20
31,001kgs - 38,000kgs	£373	£223.80	£485	£291
Over 38,000kgs	£597	£358.20	£776	£465.60

Examples of calculations

- **Two axles – HGV weight (not trailer)** – 15,000kg, **Trailer weight** – 12,000kg.
  Equates to a combined weight of 27,000kg.
  For a Euro VI HGV with road friendly suspension, it is the following:
  HGV Levy Rate = £155, VED Rate for 12 months = £238. Total = £393.
- **Three axles – HGV weight (not trailer)** - 23,000kg, **Trailer weight** - 7,000kg.
  Equates to a combined weight of 30,000kgs.
  For a Euro V HGV with road friendly suspension, it is the following:
  HGV Levy Rate = £202, VED Rate for 12 months = £316. Total = £518.
- **Four axles – HGV weight (not trailer)** – 27,000kg, **Trailer weight** – 13,000kg.
  Equates to a combined weight of 40,000kgs.
  For a Euro V HGV with road friendly suspension, it is the following:
  HGV Levy Rate = £776, VED Rate for 12 months = £446. Total = £1,222.

T2 VED rate payable for rigid vehicles with trailers WITH road friendly suspension

HGV axles (not trailer)	HGV weight (not trailer) (kgs)	Trailer weight (kgs)	HGV and trailer weight (kgs) (not over)	VED rates	
				12 months	6 months
Two	12,000-15,000	4,001-12,000kgs	27,000kgs	£238	£119
		Over 12,000kgs	33,000kgs	£306	£153
			36,000kgs	£416	£208
			38,000kgs	£331	£165.50
			40,000kgs	£460	£230
	15,001-21,000	4,001-12,000kgs	30,000kgs	£378	£189
		Over 12,000kgs	38,000kgs	£446	£223
			40,000kgs	£460	£230
Three	12,000-21,000	4,001-12,000kgs	33,000kgs	£238	£119
		Over 12,000kgs	38,000kgs	£306	£153
			40,000kgs	£406	£203
			44,000kgs	£306	£153
	21,001-23,000	4,001-12,000kgs	35,000kgs	£316	£158
		Over 12,000kgs	38,000kgs	£383	£191.50
			40,000kgs	£406	£203
			44,000kgs	£383	£191.50
	23,001-27,000	4,001-10,000kgs	33,000kgs	£378	£189
			36,000kgs	£416	£208
		10,001-12,000kgs	38,000kgs	£378	£189
		Over 12,000kgs	44,000kgs	£446	£223
Four	12,000-23,000	4,001-12,000kgs	35,000kgs	£238	£119
		Over 12,000kgs	44,000kgs	£306	£153
	23,001-25,000	4,001-12,000kgs	37,000kgs	£316	£158
		Over 12,000kgs	44,000kgs	£383	£191.50
	25,001-27,000	4,001-12,000kgs	39,000kgs	£378	£189
		Over 12,000kgs	44,000kgs	£446	£223
	27,001-44,000	4,001-12,000kgs	44,000kgs	£555	£277.50
		Over 12,000kgs	44,000kgs	£622	£311

References and notes

[1] Further background on: https://transportfiscal.org.uk/

[2] See the treasury Pink Book: https://www.ons.gov.uk/economy/nationalaccounts/balanceofpayments/bulletins/unitedkingdombalanceofpaymentsthepinkbook/latest

[3] For 2022: https://www.gov.uk/government/statistics/transport-and-environment-statistics-2024/greenhouse-gas-emissions-from-transport-in-2022

[4] See V149/1 "Rates of vehicle tax" *DVLA 2025* https://www.gov.uk/government/publications/rates-of-vehicle-tax-v149

[5] https://questions-statements.parliament.uk/written-questions/detail/2025-04-08/45359

[6] The average gm/km is taken from each category then a £10 per gram charge is applied rising by £1 for each successive category. £1 was chosen to replicate the current starting point and reach a compatible end point.

[7] https://www.smmt.co.uk/vehicle-data/car-registrations/

[8] According to Which research around 80% of private purchases are made using monthly finance, others quote 90%: https://pcpclaim-uk.co.uk/news/the-pcp-car-finance-market-how-popular-is-it/

[9] Supporting spreadsheet

[10] TSGB Table VEH0156 Q1 2025

[11] For details on vehicle classification see: "Notes about tax classes" *DVLA undated* https://www.gov.uk/government/publications/v3551-notes-about-tax-classes

[12] https://www.racfoundation.org/research/economy/fuel-duty-decline-a-technical-note

[13] See https://obr.uk/forecasts-in-depth/tax-by-tax-spend-by-spend/fuel-duties/

[14] Road pricing: Fourth Report of Session 2021–22, Report, together with formal minutes relating to the report. *Ordered by the House of Commons to be printed 25 January 2022*

[15] https://www.newcivilengineer.com/archive/amey-graduate-wins-250000-wolfson-prize-14-07-2017/ There were several alternative proposals as part of the competition.

[16] NTTG calculations very close to OBR

[17] The Social Market Foundation has also explored this issue with the same conclusions. https://www.smf.co.uk/commentary_podcasts/the-chancellor-can-save-15-billion-by-allowing-fuel-duty-cuts-to-expire/

[18] https://www.gov.uk/government/publications/fuel-duty-extending-the-temporary-cut-in-rates-to-march-2025/extension-to-the-cut-in-fuel-duty-rates-to-march-2025

[19] For example see "Mode shift benefit values: update" *DfT 2022* *https://www.gov.uk/government/publications/freight-mode-shift-benefit-values-technical-report-an-update/mode-shift-benefit-values-update#updated*

[20] See V149/1 "Rates of vehicle tax" *DVLA 2025*

[21] By 2030 several existing schemes will be brought under an EU wide system for HGV road user charging https://transport.ec.europa.eu/news-events/news/greening-road-transport-eu-adopts-new-road-charging-rules-2022-02-18_en

[22] 30% empty running https://www.gov.uk/government/statistics/road-freight-statistics-2023/domestic-road-freight-statistics-united-kingdom-2023

[23] See https://www.gov.uk/guidance/how-to-use-the-hgv-levy-service#:~:text=You%20have%20to%20pay%20the,Northern%20Ireland%2C%20Scotland%20and%20Wales.

[24] See HGV Levy Bands and Rates Tables 2014, *DfT 2014*

[25] See Table VEH0520

[26] Plating is set out in https://www.gov.uk/vehicle-weights-explained

[27] For example see "Lorry Road User Charging – A way forward for the UK" *MTRU for CfBT 2010*

[28] For an overview of the many methods available for dynamic road conditions see “Review of Methods for Estimation of Passenger Car Unit Values of Vehicles” *Article in Transportation Engineering Journal of ASCE · June 2019*

[29] See https://www.autocar.co.uk/car-news/new-cars/average-weight-new-cars-rises-nearly-400kg-seven-years

[30] See https://www.nimblefins.co.uk/cheap-car-insurance/average-car-dimensions

[31] For example as quoted in https://hgvlgvtraining.co.uk/truck-dimensions-uk

[32] DfT and DVLA February 2010.

[33] “Financing the Electrification of Heavy-Duty Vehicles”, *OECD August 2025*

[34] See https://magtec.co.uk/applications/ev-trucks/