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Inspiring Futures for Zero Carbon Mobility (INFUZE)

How Should We Pay for Driving

Script from talk given to the Manchester Literary and Philosophical Society

Professor Greg Marsden

14 October 2024

Citation:

Marsden, G. 2024. How Should We Pay for Driving: Script from talk given to the Manchester Literary and Philosophical Society. Manchester, UK. DOI: https://doi.org/10.48785/100/294.

The INFUZE project is supported by the Engineering and Physical Sciences Research Council (grant number: EP/Z531273/1).

How Should We Pay for Driving

*Script from talk given to the **Manchester Literary and Philosophical Society***

Professor Greg Marsden

14 October 2024, 6:30pm
International Anthony Burgess Foundation, Manchester UK

Link: manlitphil.ac.uk/events/how-should-we-pay-for-driving

[start]

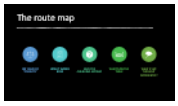
[slide 1]

Thank you for those kind words of introduction and for the honour of inviting me to talk to the Manchester Lit and Phil Society.

It's now almost 16 years since 79% of the fine people of Greater Manchester who voted rejected the idea of a congestion charge.

I've done a risk assessment and feel it should be reasonably safe to as "How should we pay for driving" without the need for a hard hat or flak jacket.

[slide 2]



So – in order to answer this thorny question, we are going to go on a journey – beginning with a very brief review of how we got to 2024 and how we pay for driving today. We then move to why this is such an important time to be having this discussion. How we pay for driving is on the move as a result of the response, internationally, to climate change which is the switch to electric vehicles. This changes everything, although so far has changed almost nothing.

If there is, as I will make the case, a need for change and an imperative then we also need to consider what is on the table today and ask why we have not moved already and whether there is the appetite to change.

Finally however, I will also challenge you to rethink how we pay for driving and will share a bit of the work I am leading out of Leeds University to think quite differently about travel – and with that, how we pay for it.

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So, let's start with a very brief history. The first form of national road user charging was introduced in 1663 – with the advent of the first of the Turnpike trusts – these were essentially gates where you had to pay a passage fee which went to the upkeep of the roads. Interestingly, it was the advent of the railways which made the turnpikes unprofitable and most closed in the mid to late 1800s. From 1888 maintenance became the duty of local authorities.

Fuel duty was first introduced in 1908 at a price, in today's money of 1.3p per gallon (which for anyone of the decimal era is just over 4.5 litres. It was abolished in 1919 due to rising fuel prices and replaced with vehicle taxation. The funds from vehicle taxation were set aside in a hypothecated road fund – on the basis that no other calling would be made on the Treasury for road improvement. In 1927 Winston Churchill successfully removed a third of the hypothecation for general tax and by 1936 this was a general tax. In 1928 fuel duty was again introduced as the cost of gallon of petrol had fallen.

So – as we begin our look at where things are today, we can reflect that two broad forms of duty – one for the vehicle and one for fuel have been in place for around 100 years. Even back when they were introduced, there were tensions about the amount of duty and the price of fuel. And also arguments about what the money was raised for. Almost exclusively over the 100 years in between, the money has not been set aside to spend on Transport, despite what many motorists might think.

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The two main categories of expenditure on paying for driving today are:

1 Vehicle Excise Duty – which is an annual tax – previously a paper disc displayed on your window – now an on-line form, which is related to the carbon dioxide emissions rating of your vehicle.

2 Fuel duty – this is a simple system, which is important in tax terms. You pay it at the pump, it is invisible to you in the price. We fuel up relatively infrequently and typically as part of another journey in a matter of a couple of minutes.

What we pay per litre is broadly standard – there are differences between urban and rural areas and periodic supermarket price wars – but broadly speaking we pay the same per litre.

We also pay 20% VAT on the price after duty is added.

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Fuel duties also represent a significant source of revenue for government. In 2023-24, we expect fuel duties to raise £24.7 billion. That would represent 2.3 per cent of all receipts and is equivalent to £850 per household and 0.9 per cent of national income.

It is the 9th largest source of tax income.

Vehicle excise duty is somewhat less important but still significant at £8.1bn and 0.8% of all tax or the 15th largest source of tax income.

The comparators show that Council Tax is nearly double fuel duty – and that is quite a contentious tax to adjust.

Alcohol duty and Inheritance Tax are not dissimilar to Vehicle Excise Duty.

[slide 6]

There was a time where the UK had the highest fuel duty in Europe. We currently stand at 9th with 55% of the pump price, approximately as fuel duty and VAT. Not only has our rank changed but so has our position in Europe – but that's a separate debate – more sensitive indeed than how we pay to drive….

I include the image of the recent Gilets Jaune protests in France on this slide as a reminder that road fuel prices can be a catalyst to unlocking wider unrest in society to prices or pension changes or whatever – the straw that broke the camel's back. Some of you may remember we had our own social unrest back in the year 2000 when farmers and hauliers blocked oil refineries to stop fuel deliveries causing a wave of panic buying and social disruption.

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The fuel duty protests in 2000 in the UK followed a period from 1993 where the duty on fuel was increased at a rate of 3% per annum above inflation year on year – the so called fuel duty escalator. This continued through the Conservative administration to Gordon Brown, who increased duty by 6p per litre from 1997.

The fuel duty escalator resulted in the fuel duty protests in 2000 which caused the Blair Government to cancel the increases and, what followed was essentially a decade of silence and only very small changes. Interestingly, in 2005 there was a big national study to look at the feasibility of a national road user charging scheme – a scheme where motorists might pay per mile driven, paying more in congested times and less off peak. A petition on the Downing Street website against the ideas gathered 1.7m signatories and that was the end of that.

It has also foreshadowed the period following the global financial crisis where consecutive conservative chancellors have indicated that they will increase fuel duty only to freeze it in absolute terms for 14 consecutive years, with the exception of a 5p reduction during the crisis following the invasion of Ukraine. Increasing fuel duty. Something that was normal if not always annual has now become distinctly not normal.

[slide 8]

We need to recognise the importance of this 14 year freeze.

The 5p cut introduced during the Ukraine war was extended – that extension has already cost £4.8bn The income is now £14bn per annum lower in real terms than it would have been if duty had increased in line with inflation since 2010.

The total amount of tax income foregone is £80bn.

To put this in context – the cost of the NHS Maintenance Backlog is estimated to be £10.2bn, the Schools Maintenance Backlog £11bn and the Potholes Maintenance Backlog £14bn.

These are choices about whether to tax in the economy and where to tax in the economy.

[slide 9]

However, the freeze on duty has very significant impacts beyond just tax income. This chart shows the rise in the cost of living (blue) and average wages (purple) since 2015. You can see that with the

exception of the peak in winter 2021/2022 the total price of petrol and oil has tracked well below living costs and wages. It is getting cheaper to drive per mile.

It is perhaps also no coincidence that over the same period, bus services have atrophied. In the past 15 years (when duty has been frozen) urban bus services have fallen by 48% and those in rural areas by 52%.

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The news is that this decline in fuel duty is destined to continue, and this continuation is now to large degree unable to be corrected for by fuel duty increases. This is due to two forces.

The first is the electrification of the vehicle fleet – which as we will come on to discuss, means no duty is paid per mile travelled.

The second is an ancillary impact of electrification which is the continued improvement to the fuel economy of the remaining petrol and diesel vehicles that are sold as they become increasingly hybridised with electric motors. For every mile driven less fuel is needed and less duty is collected.

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I Chair an expert group called the Greener Transport Council and we recently ran a session which explored the impacts of doing nothing about fuel duty as we move forward. Whilst the aim of the report is to provoke discussion and action we asked whether doing nothing is really an option. Given that we have not been able to increase existing rates of duty for 14 years, we see the prospects of significant change as being rather unlikely. Doing nothing is in fact the most likely outcome right now, particularly at a time where there is a battle going on about winter fuel allowance – why add more pain right now.

Anyway, the expert group explored what the implications of doing nothing would be. The news is not good. The freezing of fuel duty has already and will continue to have the following impacts. It will:

- Encourage people to buy bigger and less efficient cars
- Make public transport relatively more expensive
- Result in more driving, more congestion and more road damage
- Impact on tax receipts
- Reduce the willingness of the population to recognise the need to pay government for how we travel.

- On the upside, motoring becomes cheaper which, from an individual perspective of a driver is a benefit. However, the long-term conditions for drivers will get worse as will the alternatives for those who can't drive. This is short-term gain for long-term pain. If you wonder why transport has not been getting better then this has played a major part in that. Yet not increasing fuel duty is greeted with appreciative "hear hears" at the dispatch box.

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So, I alluded to the advent of electrification. Why is this a problem?

I think the first thing to say is that we are in a climate crisis and we do have to urgently stop burning fossil fuels. The electrification of the car fleet is one key element of that.

Simply replacing fossil fuel cars with electric cars will not solve congestion or road safety or tyre pollution etc. Despite there never being another car in sight on an EV advert they really are just a car. So, there are arguments about how we electrify our mobility which I will circle back to later but for now, the Business as Usual Government strategy is to go electric.

The UK Government has set a phase out date of the sale of fossil fuel cars. By 2030 80% of new cars sold will be zero emissions (At tailpipe) – i.e. electric. By 2035 all new cars sold will be.

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Electrification changes everything – in terms of how we pay for travel – disrupting a system that has been in place for 100 years.

So, if we set the characteristics of an electric vehicle payment system against the petrol/diesel vehicle I showed earlier.

There is no duty on the fuel, so its not only invisible in the price – it is non-existent.

The frequency of refuelling is higher (a car has a typical range of 400-600 miles compared with an electric car of 180 to 350). But one of the key changes is that you can, if you have off-street parking, charge from home. If you charge from home then you pay the same VAT as on domestic energy – i.e. just 5%.

It is also worth saying that electric cars are far more efficient than petrol cars per mile driven. Most of the energy in fossil fuels burned in cars is lost in heat. So, driving an EV uses around half of the energy per mile of a fossil fuel car and incurs almost no taxes per mile.

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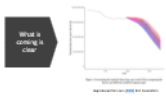

Because we have legislated the phase out of fossil fuel cars we can see what this means to total fuel duty. This is a graph from a report by the RAC Foundation which explored all sorts of scenarios of different numbers of vehicles, different rates of change etc. – the story is clear. By 2030, fuel duty from cars will be around half of what it was in 2020.

But I think what is more important even than this is what this means to how we pay for driving during this transition. It will creates what might be one of the most inexplicable fee regimes in UK policy.

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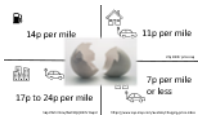

We end up with the following situation – the pence per mile estimates are based on current fuel or electricity and public charge point prices. The EV charge averages come from ZapMap which assumes a mix of home and public charging.

So – fossil fuel cars would be the benchmark – 14p per mile.

Moving to the bottom left – IF you had no-off street parking and had to rely entirely on public charge points then you would be paying more per mile – around 46% more than a fossil fuel car.

This is a choice – the Government has decided that for those people who do not have off-street parking, then the network will be 'publicly available charge point infrastructure' which is largely provided by the private sector and which will be paid for by the user. We are not socialising the costs of public charge provision to any great extent. So, those who don't have their own drive – which is strongly (but not perfectly) correlated with lower income will have to pay more than today, whilst also paying less tax.

If you can charge at home and just use standard electricity rates then it is 11p per mile, around 20% cheaper than petrol and half the cost of public charging.

If you have solar and use night time charging you can be operating at 7p per mile, half of the fossil fuel price and a third of the public charge price.

There are further ways to bring the cost down which is where you allow your vehicle to feed back electricity into the grid during peak periods when you might be able to achieve an average rate of closer to 3p per mile.

The system is broken. It seems impossible to me to explain or justify this disparity to the general public and, if you were designing a fair system for how we pay to travel then you would never come up with something where some people are paying 3 times what others are for the same service. We have been able to tolerate this because there have not been many EVs, but this is changing rapidly.

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So –how might this be fixed?

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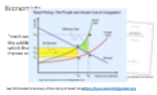

I'm going to turn now to the orthodox solution to how we fix how we pay for driving which comes from the field of economics.

It is the 60th anniversary of the publication of the Smeed report on road pricing. This report looked at the rise in congestion and concluded that in order to limit congestion, it was necessary to make users face the additional costs which they impose on other road users. What does this mean. Well, if I set off to drive to work, I have an idea how long it will take me to get there and I decide if driving is better than getting the bus. However, what I ignore is that my decision to drive means there is another car on the road and so this slows other people down. Maybe you are the person behind me who had to wait on red because I was the last car through on green.

This chart here shows how it works. So, on the X axis at the bottom we have the volume of road vehicles – how busy the road is. On the Y axis we have cost – which is both the journey time and the financial cost.

When I make my decision to drive I consider my private cost – the red line.

The social cost curve – the black line shows the cost to the individual driver PLUS the delays caused to other drivers.

To the left hand side of the graph, the impact of an additional car (e.g. at 5am) has little impact whereas as the flows increase (e.g. at 8am) quite a lot.

The Straight line is what is known as the demand curve. It shows how many people would be willing to travel at different prices. When the cost is very high no-one travels. When the cost is very low, lots of people travel.

The principle of road pricing is this. If we do not charge for congestion costs then we are at point A on the curve. Our flow is Q2 and the costs drivers face would be C2. If, however, we make drivers see the cost of congestion then we would want to be at point D. We would set the price drivers face as C3 and be at the point where demand = marginal social cost. The resultant flow would fall to Q1.

The net impact of this is we avoid the congestion highlighted in green and we collect the toll revenue shown in yellow. This is a net tax income and it is an improvement to welfare because the people who don't drive are the ones for whom the toll wasn't really worth the journey.

It is worth noting that MOST journeys would be cheaper than today with the arrangements we have for fuel duty. But peak hour journeys and journeys in cities would be more expensive.

[slide 18]

The Smeed report has defined 60 years of thinking on the efficiency of the transport network. It also cost him his next job as the director of the Roads Research Laboratory because the Prime Minister hated the idea so much.

The following statement also bears reflection from that report. Quite the statement. It is understandable that these issues might have been out of remit – but far from being cumbersome and boring, it is the question of how this could be implemented and who would be affected that define the lack of adoption of road pricing in the UK (outside of London) and around the globe.

Just to illustrate this, here are some photos of the no to Manchester congestion charging, without wishing to reopen those wounds.

There have been periodic reports into the benefits of and feasibility of road pricing every few years. Here are some of the more recent ones. The advent of electric vehicles and the decline in fuel duty is the latest potential spark to action – given that it will take us further and further away from efficient pricing. Cheaper driving (for the majority) will result in more traffic and more congestion. So why is this so difficult?

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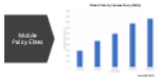

My argument is that road pricing and economics more generally is not very good at dealing with social inequalities. Economics is really about the net social welfare gain.

The social question is who are the, in economic terms “marginal users” who are priced off the network when the charges are introduced?

This chart shows the distances driven per person by income quintile. So, the highest two income quintiles drive just under and just over 4000 miles per year whilst the lowest two quintiles around 1500 and 2200 per year – so around half of the higher income groups. It is these groups who already drive very little who worry about impacts of additional fees, and the higher income groups who would be more able and more willing to pay.

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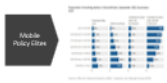

Coupled with a starting point of very different incomes we can now layer on a new layer of inequality which is based on the potential people have to avoid travelling in the peak hour – which is also income related and which the pandemic has laid bare.

In research we did studying travel behaviours during the Covid pandemic, we found that 50% of households never worked from home. More of these households drove to work, were comparatively lower income and lived in areas not well served by public transport on the edges of cities.

The ONS data here shows the gradient of homeworking “homeworking only” on the left and “No homeworking” on the right.

If we introduce peak hour pricing now then we will essentially be taxing the need to go into work. I sometimes think my colleagues in the transport policy domain do not understand that this is a wider question of social equity in society and not a transport policy consideration alone.

So – for me, road user charging is not a solution which takes us forward at the current point in time. It works in central London because – well the people who drive or drove in central London are not typical of the UK population and the alternatives were better than the car. But for the rest of the UK, congestion based charges will be a tax on the inflexibility of work and on particular parts of the workforce where co-presence is not negotiable.

[slide 21]

So – what could the Government do.

I think there is a need for a pragmatic approach. First, I think it is dangerous to allow there to be zero tax paid on driving as a principal. We already have an established means of, essentially, paying per mile in fuel duty. This should be extended to EVs.

In New Zealand they have done this will a per mile fee which is collected annually. This impacts only EV users and grows through the population over time. It avoids the big bang headlines in the Daily Garbage.

Other ideas are to introduce that for all vehicles but, at the same time, reduce fuel duty by an equivalent amount for fossil fuel cars so that drivers are not worse off in the new system – the question then is one about trust in Government. Lets park that.

A further idea is to set up a system where people can opt in to a new system over time and once enough people do so then you transition the remainder on a mandatory basis. They have trialled this in Oregon in the US – where per mile fees replace duty at the pump - but it has not really mainstreamed as yet.

None of these are perfect but they are at least implementable.

However, none of what I have talked about so far essentially acknowledge that the per mile costs of motoring will get cheaper in the more motorised electric transport future. It will not address the inequalities of different home or public charge point costs. This will make it harder for public transport to compete and so, whilst it might address some of the tax hole I wonder really what problem is solved with this line of thinking.

[slide 22]

So, to bring my talk to a conclusion I am going to talk about widening our thinking about how we pay for driving and share some thoughts from a new 5 year project we are running in Leeds, INFUZE (Inspiring Futures for Zero Carbon Mobility).

The emphasis on how we pay for driving so far tonight and in the media debate has been on fuel duty and road pricing. That is, in fact a small part of the story. This is how we really pay for driving.

Let us look at ownership. First, we spend £79bn on just owning, maintaining and insuring cars – not moving them. That is a staggering amount of money.

This is almost 3x the near £30bn we spend on moving them. It is 14x what we spend on public transport – which explains why even free fares doesn't cut it. Once we buy a car the incentives are for us to use it. It is partly also why attempts to change how much we pay for moving cars are so challenging – people have invested up front.

One we move electric the equation becomes even more skewed towards ownership over driving costs.

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So, in surveys people will often say what they need is better public transport before they would give up the car.

But really, this is fuzzy thinking because for most car users the odds are stacked so heavily against public transport by mere fact of the investment in ownership.

When you own a car, the owning costs are sunk. Our comparison – journey to journey is on time, fuel and parking cost compared with alternative modes. It is not a level playing field and the resultant answer is the billions of vehicle miles we see on the roads. The better transport people say they would like is often 'better for other people' but not something they would intend to use. Or it works for some journeys – but only at the margins.

[slide 24]

Our transport policies are equally beset by a desire to improve the alternatives to the car – without really addressing the car as an object. Yes, of course, we should make non-car alternatives better. But the scale of funding available is not transformational and nor is it likely to be. Better alternatives has been the mantra in the 30 years I have worked in transport. What have we seen – a growth in car ownership and use, congestion and overparking of our towns, cities and residential streets. Improving public transport and cycling is not the same as making them better alternatives – given the relative fall in cost of per mile fees, the rise in vehicle volumes, the parking on pavements etc. So, what changes?

[slide 25]

Undoubtedly the car has been a massive force in shaping the evolution of our towns, cities and ways of life. But the past two decades has seen sustained declines in miles driven by wealthy people and a

slowing and reversal of the uptake of driving licenses among younger people. Perhaps we should rethink role of the car in our everyday mobility, rather than getting bogged down in trying to replace it and false car/non-car divides.

Cars are actually used an astonishingly small amount of the day or week.

They are stationary 96% of the day.

Work by my colleague Jillian Anable showed that a third of cars don't move on any given day and only around 20% have a typical commute pattern.

The average occupancy of a car is 1.6 people, and that is 1.2 in the peak.

And, during the peak hour, the maximum proportion of our cars that is on the move at the same time is 14%.

Operationally, we could provide the mobility we see out there today with far fewer vehicle.

Could we provide people the mobility they need without people feeling that they need access to their own individual vehicle?

[slide 26]

There are now a range of different mobility options becoming available which could offer a package of mobility which goes beyond the simple car or non-car binary divide which I see in policy. There are opportunities for community peer to peer ownership and car access models (where people might share ownership and access/use), demand responsive transport services (which fill gaps in service provision which buses don't do well), new services for aggregating journeys to access employers… the list goes on. The same accessibility which is afforded by the private car could be provided by a more shared and on-demand system.

When you buy a car the choice is then to use it or not for a journey. It is like the old saying "If all you have is a hammer then everything is a nail" – well, if we move beyond private car ownership then it would be possible to choose different modes for different journeys on a more rational basis and, when you needed a car, to choose the right kind of vehicle for your journey. 96% of our journeys by car are less than 35 miles in length. Why are they increasingly being driven in massive SUVs - a process which Christian Brand describes as Mobesity.

[slide 27]

So – in INFUZE we are asking not “can you live without a car” but “what would a city where you didn’t need to own a car look like” – how would it work?

We want this to be a positive exercise. In transport planning we often talk about traffic reduction, road closures, unnecessary journeys. All very negative language – it is about what will be taken away, not what people will get. Our task is to help people imagine a world where they did not need to own their own car and where things were better. This might be about their local street, their city, their workplace, how school travel works, home deliveries, tax regulations. What would a world or a city where you did not need to own your car look like?

In it we will be reimagining how we pay for travel too. It could be about the bundle of services we buy into and the balance between pay as you go and up front subscriptions. Would we pay per journey or per mile or some combination. Either way, our relationship with government tax policy would change radically as we would be buying access to a service of some sort. Who would operate such a system – can we think of community interest organisations, social housing providers, energy companies. Instead of the £79bn all going to car companies and international financing firms, some of this would stay within the community and more would be spent on alternatives – in a way the state cannot and will not unlock by itself.

[slide 28]

We are working with the Royal College of Art and the Institute for Social Futures at Lancaster University to bring communities together and businesses to co-design what these futures might look like and then to test them in practice with a few hundred households. We don’t know what the answers will be – that is the beauty and challenge of co-design – but this is one example of the kind of opportunity we might put to communities to inspire them. What could be different. What would be better than what we have today.

[slide 29]

So, I hope this has got you thinking about alternative futures and changes to the places where you live. I shared that project because I believe that in order to answer the question how should we pay for driving, we need to first think about the types of places we want to live in. We need to think ahead to the kinds of transport systems we will have in the next two to three decades that will meet those

needs. And think about what role we want the state, providers, communities and individuals to play in this. Only then can we really design a tax system which encourages or supports that. This is not just fiddling with one tax.

It has been 100 years since we have really rethought the way we tax mobility. We need to look ahead and ask whether we want to continue down a path of individual private ownership. Is that really fit for the future? Can our towns and cities take another 10 or 20% more cars? What will that all look like with all of the electric charging infrastructure? If we think we need a different mobility future then we will need to rethink the payment arrangements and tax system that sits around that.

Whilst we might need a short term fix for electric vehicles, my fear is that if this is all we adjust then we will be consigning ourselves to a further lock in of car dependency and a deepening of the inequalities and wider social harm that many aspects of this bring.

Thank you.

[end]

How should we pay for driving?

Professor Greg Marsden

Institute for Transport Studies

Manchester Literary and Philosophical Society

Monday 14th October 2024

The route map

https://www.tringlocalhistory.org.uk/Tring/c_chapter%2002.htm

https://commons.wikimedia.org/wiki/File:Si Winston_Churchill_%2819086236948%29.jpg

How do we pay for driving?

- VED - online

CC licence Leo Reynolds https://www.flickr.com/photos/lwr/515863200/

- Fuel Duty - at the pump
- Simple to collect
- Duty is invisible in price
- Infrequent
- En-route
- Broadly standard price
- VAT 20%

CC licence Jaggery https://www.geograph.org.uk/photo/7621953

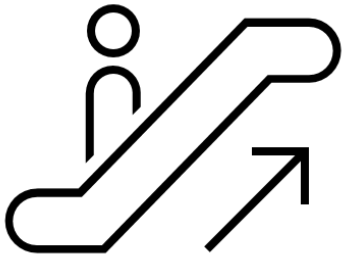
What do we pay for driving?

- Fuel Duty 2.3% of Tax Receipts
  - £24bn out of £950.5bn
  - 9th largest source of tax income
- Vehicle Excise Duty 0.8%
  - £8.1bn
  - 15th largest source of tax income
- Comparators:
  - Council Tax £44.4bn
  - Alcohol Duty £13.1bn
  - Inheritance Tax £7.2bn

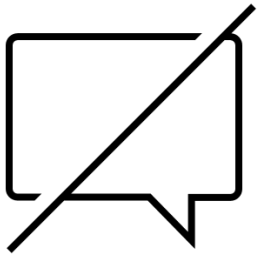
How do we compare?

- 55% of pump price is fuel duty and VAT
- 9th Highest in Europe

A Volatile Changing Environment



1990s Fuel Duty
Escalator



2000s Silence

2010 ->
The Big Freeze

DAIL GARBA

MAN STUCK IN CAR OVERNIGHT BECAUSE CAR PARK SPACES TOO SMALL FOR SUVs.

MORE OUTRAGE ON P21

MAGIC MONEY TREE TURNS OUT TO BE A HOAX

MORE ON P14

BIG FREEZE CHAOS TO GET WORSE

Government sleight of hand continues

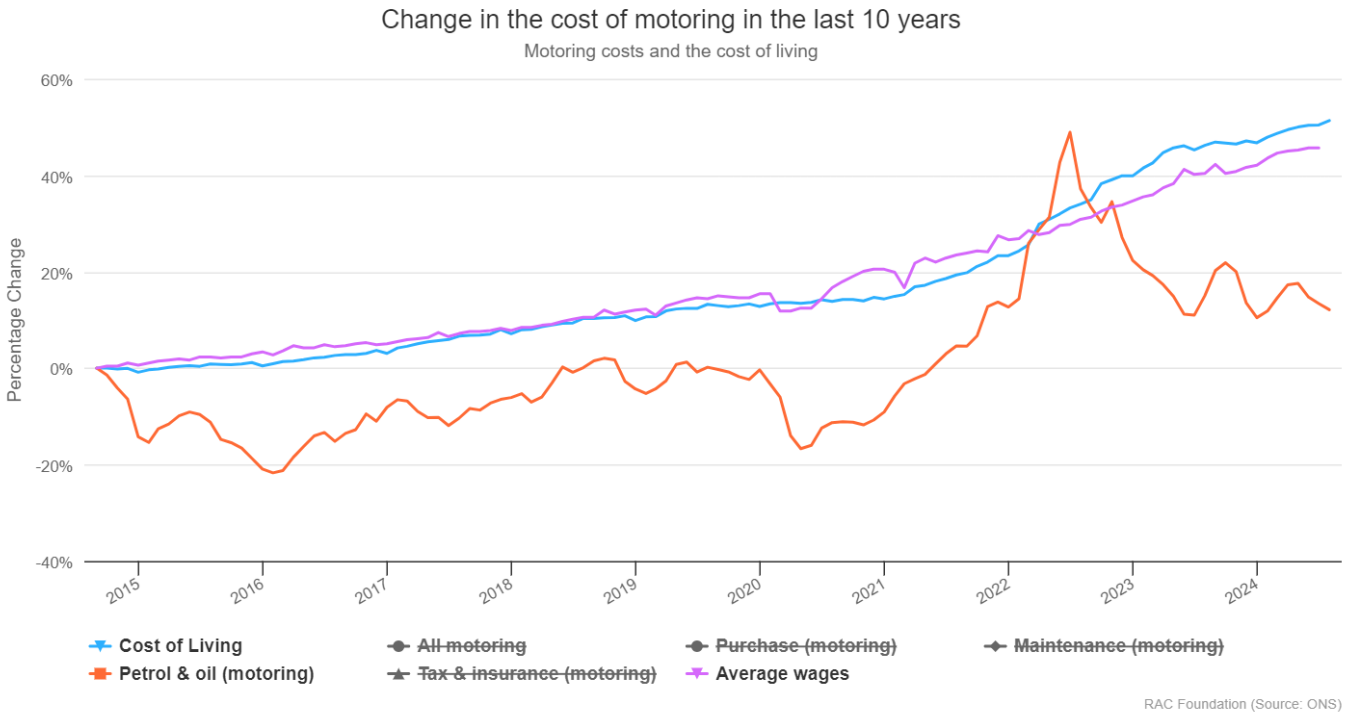
BRITAIN blah blah blah blah blah blah blah Short termism Blah blah. Blah

Chancellor blah blah blah blah Hard working families blah blah blah blah.

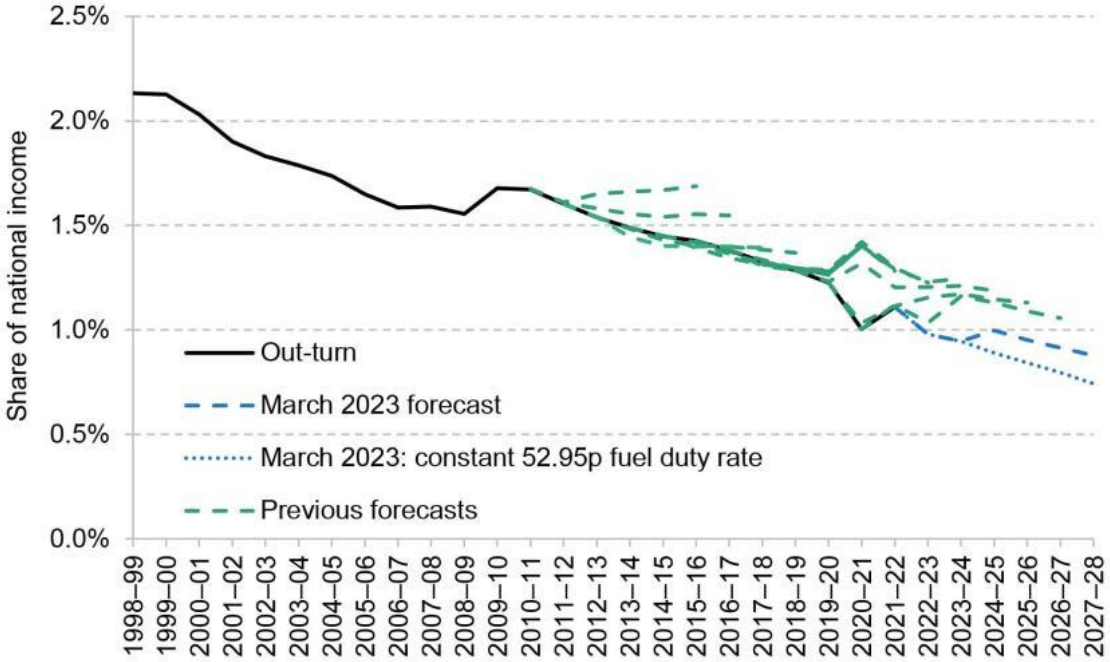
blah end war on motorist blah blah blah blah Blah blah blah Blah blah. Blah

- 14 Years
- 5p = £4.8bn
- £14bn per annum
- £80bn

With significant impacts



Fuel Duty Decline will continue



The futures wheel of doing nothing how we pay for travel

Greener Transport Council


A New Dilemma

Electrification Changes Everything

Petrol/Diesel	Electric
• Fuel Duty - at the pump	• n/a
• Simple to collect	• n/a
• Duty is invisible in price	• n/a
• Infrequent	• Frequent (?)
• En-route	• At home or en-route
• Broadly standard price	• Discussion to follow..
• VAT 20%	• VAT 5% domestic

What is coming is clear

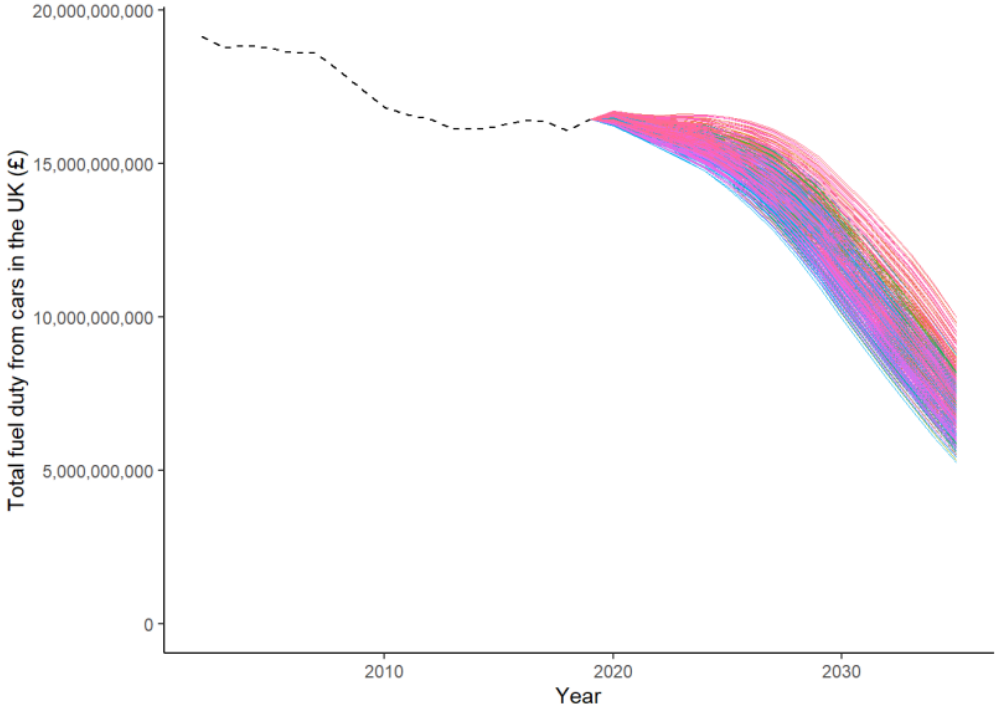


Figure 1: Forecasting the total fuel duty from cars in the UK by comparing the known and different modelled outputs (432)

Reproduced from Lam (2022) RAC Foundation

14p per mile

11p per mile

22p kWhr price cap

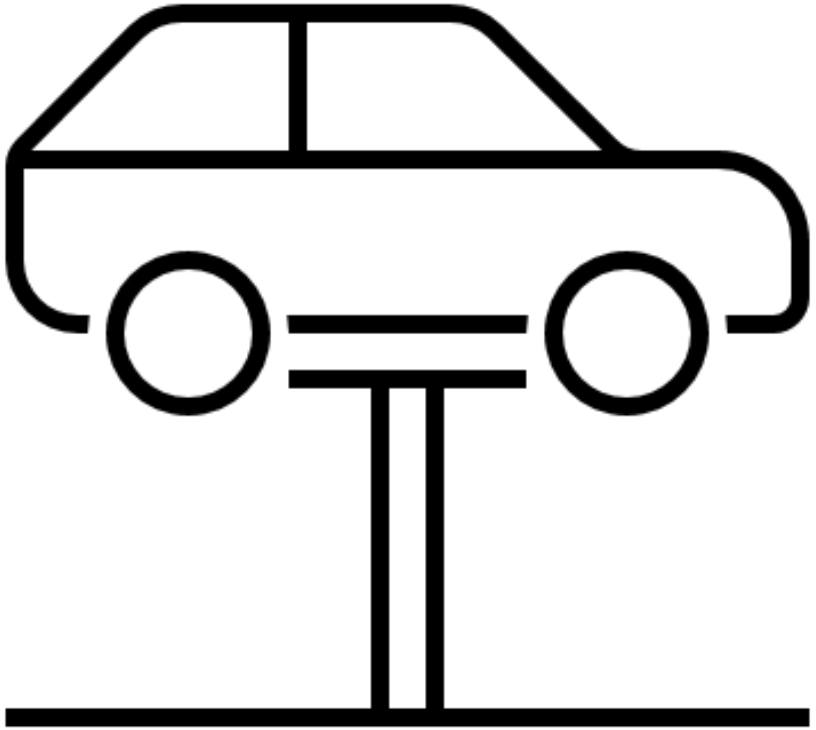
17p to 24p per mile

56p kWhr Slow/fast 80p/kWhr

7p per mile or less

https://www.zap-map.com/ev-stats/charging-price-index

So how might this be fixed?



Economists

“road use
pay the a
costs whi
journeys
others”

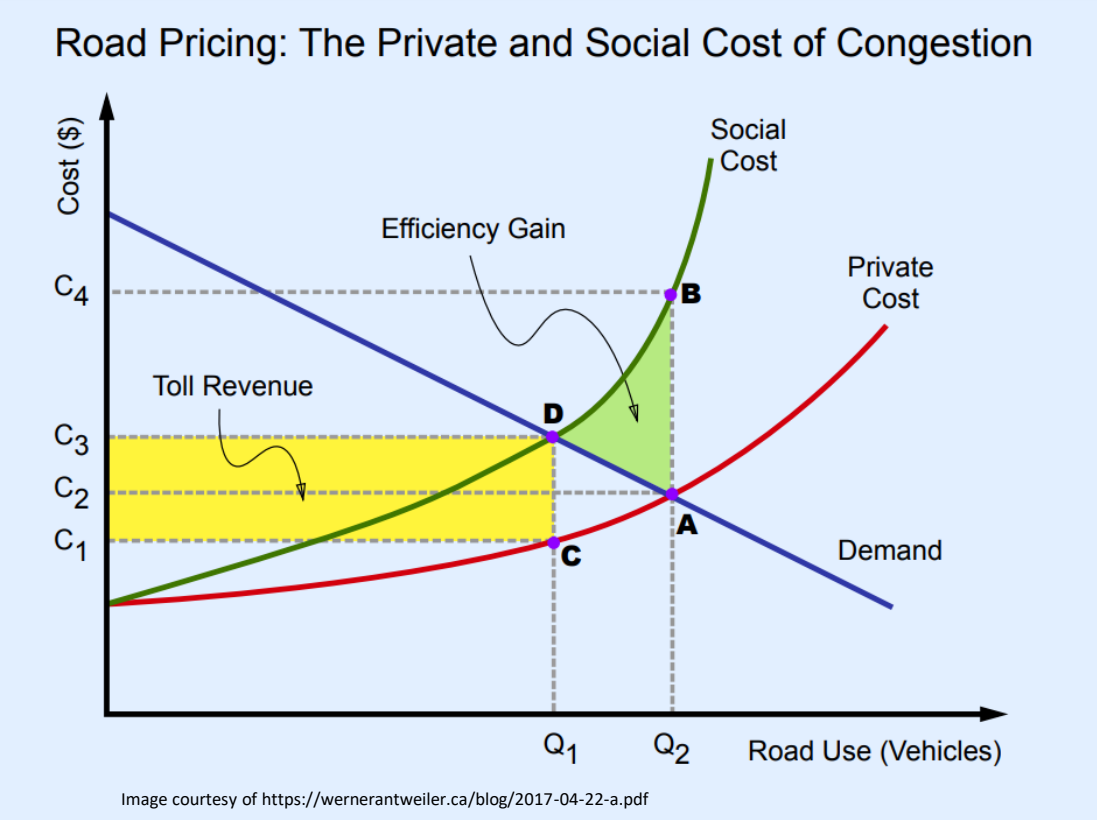
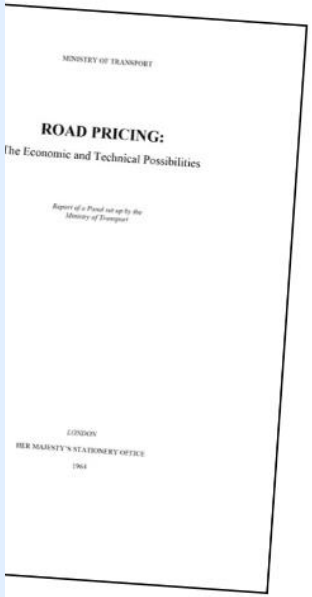


Image courtesy of https://wernerantweiler.ca/blog/2017-04-22-a.pdf


MINISTRY OF TRANSPORT

ROAD PRICING:

The Economic and Technical Possibilities

LONDON
HER MAJESTY'S STATIONERY OFFICE
1964

rt was published for the Ministry of

See Phil Goodwin’s Summary of the History of Road Pricing https://tapas.network/64/goodwin.php

Economists

Department for Transport

Feasibility study of road pricing in th

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House of Commons
Transport Committee

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

CIHT

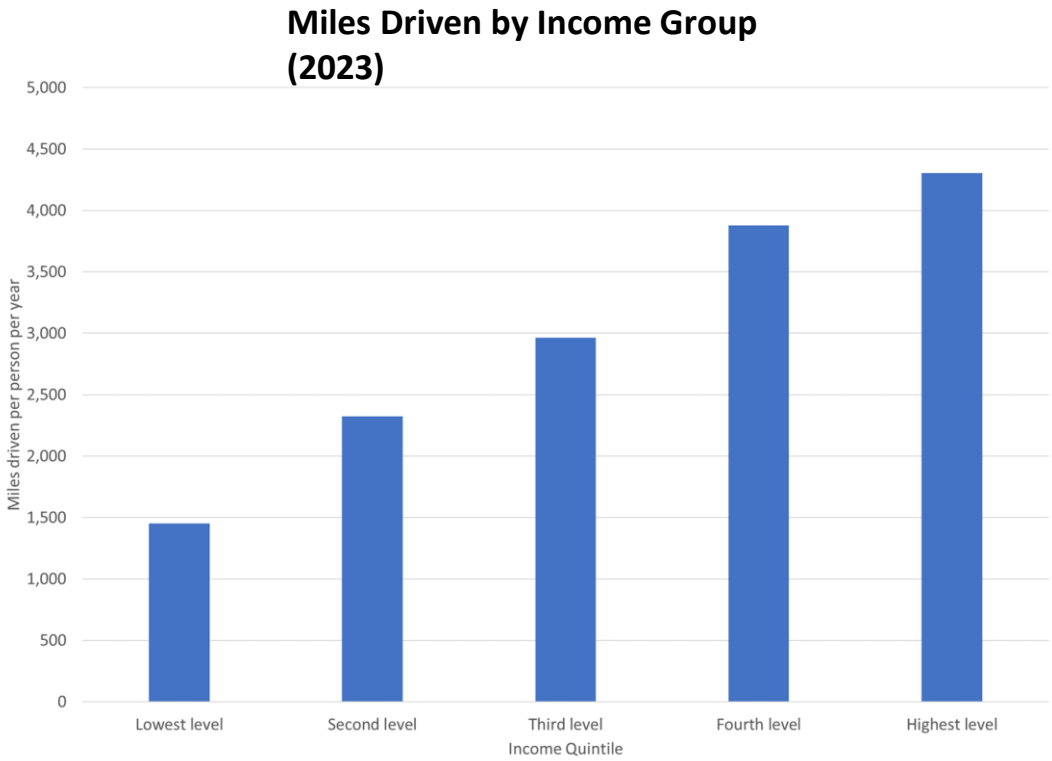
Charging for Road Use White Paper

What is the future of mobility pricing?

May 2024

http://www.notolls.org.uk/mannews.htm

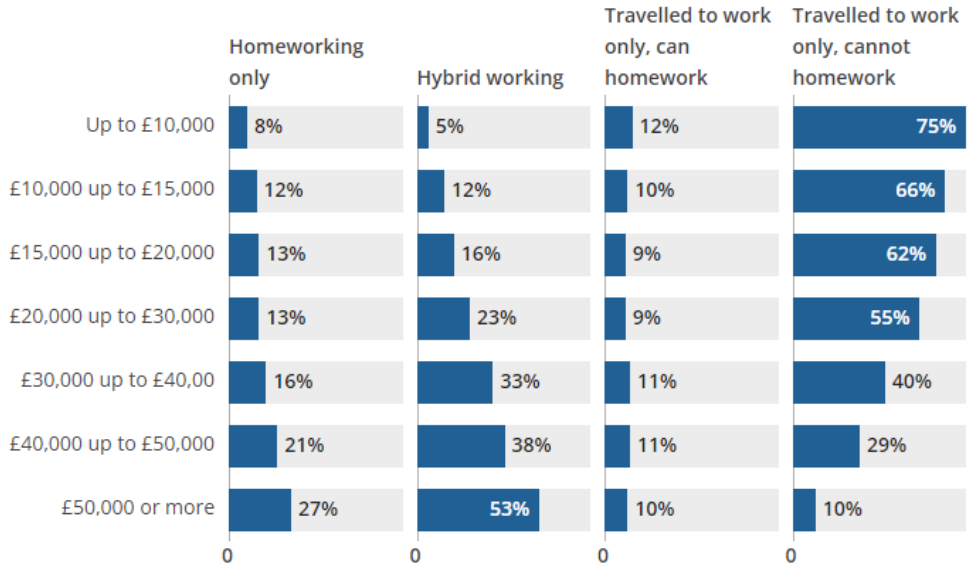
Mobile Policy Elites



Source: NTS

Mobile Policy Elites

Proportion of working adults in Great Britain, September 2022 to January 2023



Source: Office for National Statistics (ONS) – Opinions and Lifestyle Survey (OPN)

Pragmatism

Introduce a per mile fee just for EVs (annual payment) – New Zealand

Introduce a per mile fee for all vehicles (and equivalent reduction in fuel duty)

Run an opt-in scheme where you pay per mile instead of at pump - Oregon

infuze

How do we really pay for driving?

In 2023/24 UK Households Spent

- £79bn on just owning cars
- 3 x what we spend on moving cars
- 14 x what we spend on p.t. fares

- Purchase:use ratio even more skewed with electric cars

infuze

And so…

Better alternative fallacy

infuze

Does it have to be like this?

Cars

- 96% time stationary
- 33% don’t move on any given day
- Average occupancy 1.6
- 14% is max % of cars on the move in peak

Vending Machine of Mobility: Royal College of

The question is not ‘can you live without your car?’ but ‘**what would a world where people did not need to own their own cars look like?**’


Reimagine our streets?
Source: Royal College of

How should we pay for driving?

- Think about the types of places we want to live
- Imagine the kinds of transport systems which will meet our needs
- Decide what role of state, providers, communities, individuals are
- Design system to meet those needs
- 100 years since this has really been addressed
- If we fiddle at the margins then we will be consigned to a deepening crisis of automobility

Contact & Readings

- Greg Marsden – tragrm@leeds.ac.uk and LinkedIn
- The INFUZE project https://in-fuze.org.uk/ and infuze@leeds.ac.uk

- Phil Goodwin (2024) The Smeed Report on Road Pricing: Still influential after 60 years, but the difficult issues still remain, https://tapas.network/64/goodwin.php
- Haines-Doran, T. (2024) The financialisation of car consumption, New Political Economy, 29(3), https://doi.org/10.1080/13563467.2023.2254727
- Mattioli, G., Anable, J. and Goodwin, P. (2019) A week in the life of a car: a nuanced view of possible EV charging regimes, In: Proceedings of the eceee 2019 Summer Study on energy efficiency, Paper 6-272-19. Hyères, France, 03–07 June
- Stephen Glaister (2014) The Smeed Report at Fifty: Will road pricing always be ten years way? https://www.ucl.ac.uk/transport/sites/transport/files/UCL-smeed-memorial.pdf
- Chatterjee, K. and Lyons, G. (2001) Transport Lessons from the Fuel Tax Protests of 2000, Routledge