

How to Pay for Better Bus Services

By Edward Leigh

Talk by Zoom on 10 May 2021

Edward began the talk by outlining why we need better bus services:

1. They provide affordable mobility for people who cannot drive, or do not have access to a car
2. They make car-free living viable for more people
3. They reduce congestion: one bus travelling at 20mph can replace 1km of car traffic (as car space includes the safe distance between each car)
4. Modern Euro VI buses emit less air pollution than a typical diesel car
5. Buses emit less CO₂ per passenger-mile than cars.

Edward explained that whilst many of these important points have been valid and debated for a long time, a new urgency has arisen due to our need to reach 'net zero'. Whilst the UK has committed to decarbonise by 2050, electrification of vehicles will not decarbonise transport alone. This is because in the UK 84% of energy is currently sourced from oil, gas and coal. Zero-carbon energy sources will have to grow at an astonishing rate to keep up with demand for zero-carbon electricity for transport, heating and everything else that currently uses fossil fuels.

Even making optimistic assumptions about the rate of installation of zero-carbon energy generation and assuming petrol/diesel vehicle sales stop well before 2030 (the current date set by the government), we would still exhaust the carbon budget for road transport before 2030 if we continue to use cars as now, i.e. with usage increasing in line with population and economic growth. This takes into account the embodied carbon of manufacturing vehicles as well as emissions from using them.

To meet necessary 'net zero' targets we need to reduce total vehicle-mileage; increase per-vehicle mileage, i.e. use the (electric) vehicles we do have much more efficiently; and remove petrol/diesel vehicles from the roads using a scrappage scheme incentive.

This is one possible scenario in which emissions are contained within the carbon budget: the BEV-for-ICEV¹ scrappage rate is 6% per year, on top of the 8.7% rate at which ICEVs are retired normally. Total vehicle-mileage in private vehicles is reduced by 40%, and average per-vehicle mileage rises from 13,750 km/year to 20,000. For commercial vehicles, the reduction in total vehicle-mileage is 20%, and average per-vehicle mileage increases from 16,350 km/year to 25,000. In that scenario, there are no petrol/diesel vehicles left on the road after 2032. The changes take place over a number of years, but start now.

To achieve a reduction in private vehicle-mileage, we need to switch from making solo trips by car to walking, cycling, public transport and ride-sharing.

¹ BEV = Battery Electric Vehicle; ICEV = Internal Combustion Engine Vehicle

If you have a car sitting outside your front door, it automatically becomes your default mode of choice. It's important therefore to make sure the alternatives are sufficiently practical and available to make owning a car unnecessary. One of those alternatives is club/rental cars and vans for the occasional trip that isn't practical any other way.

Vehicle electrification is necessary but not sufficient to decarbonise road transport. We must also reduce total vehicle-miles and use vehicles more efficiently.

To enable these necessary changes to happen Edward proposed a new system of road pricing that would replace the current fuel tax duty, and provide additional funding for the public transport services required.

Firstly, Edward proposed that bus services should be fit for purpose to ensure maximum usage and revenue. A new road pricing system could be used to fund a 'Swiss style' model where buses run 6am-midnight, 7 days a week; run at least hourly in off-peak hours, and more frequently at other times.

To reach a wide range of destinations, it will be necessary to interchange at bus and rail stations, so these must be comfortable and safe, with wait times reduced to a minimum. This mostly works in London, where interchanging, especially on the Tube, is second-nature.

Express or priority lanes should make bus journeys as quick, or (with bus priority measures) quicker than, cars. There should be demand-response services, such as minibus taxis, to provide a complete door-to-door service that is safe and convenient.

Journey pricing should be simple, as it is in London where you 'tap in and out' with a credit card and charges are automatically capped. Service level agreements should ensure back-up transport is provided or paid for when services are cancelled or severely delayed.

If investment were made in better quality services, more people would use them, and many would be prepared to pay more money to use them.

Road pricing could provide a funding stream to subsidise loss-making services and reduce the cost of fares – at least for those who need financial assistance. Importantly, it can also be used to dis-incentivise car journeys that could otherwise be made by active or public transport, and reduce the attractiveness of owning a car.

The public health costs of car accidents, air pollution and carbon costs are not currently paid for through fuel prices, they are picked up by the public purse. Road pricing can take this into account, reducing the difference in cost between public and private transport, making the former relatively more attractive.

Road pricing could also be used to incentivise companies to move freight more efficiently – especially last-mile deliveries –, and to use rail for more bulk-movements.

It can also be used to ensure that car usage does not perversely increase with the switch to electric vehicles. Fuel duty and VAT add 150% to the cost of petrol, but taxes on electricity add just 9%. That makes electric cars much cheaper to run. This may lead people to drive more, which would increase congestion and the demand for electricity, which at the moment can only be met by increasing output from fossil-fuel power stations.

Currently the UK government receives approximately £32 billion from fuel tax (5% of total tax revenues). As more people make the switch to electric cars this will reduce. Road pricing could replace this tax income in a fair way.

Edward suggested a three-step approach to introducing a Road Pricing system based on principles of 'keeping it simple' and ensuring motorists don't in the first instance pay more than current fuel costs. A National Road User Charge (NRUC) could be based on distance travelled and vehicle weight. Both electric and traditional car users would pay the same per-km charge for a given weight of vehicle.

One way in which additional revenues could be raised without increasing costs to private individuals would be to set the NRUC rates to generate a revenue equal to fuel duty and gross VAT revenues. Businesses currently reclaim £3.7 billion/year in VAT paid on fuel.

A study by the Transport for Quality of Life for CPRE (Campaign for the Protection of Rural England) calculated that a comprehensive 'Swiss style' bus network in England would cost £2.7 billion/year. The VAT currently returned to businesses would most likely cover the costs of better bus services in the whole of the UK. Businesses would benefit directly from this redirection of public money: they would be able to reach more potential employees, more customers, and they could reduce the carbon emissions from their staff commuting to work.

What would start out as a fixed-rate road user charge would evolve into a variable-rate charge, based on time and place as well as the type of vehicle and distance driven. The technology already exists to make this possible, and could easily be piloted with HGVs and taxis.

However, it will need involvement of the public to design this development of the road pricing system: how to ensure charging rates are fair; how to protect people's privacy; how to introduce it; and how to communicate it clearly. This could be done through citizens' juries or assemblies. As with court juries, the participants are randomly selected to be representative of the wider community. They hear impartial evidence from a range of experts to inform the discussion and debate amongst themselves.

Key Takeaways:

1. The carbon budget for road transport requires large and rapid reductions in vehicle-mileage
2. Vehicle electrification alone is not sufficient
3. A National Road User Charge (NRUC) can:
 - Replace fuel taxes
 - Raise additional funding for sustainable transport
 - Incentivise modal shift and efficient use of vehicles
4. Deliberative democracy has a crucial role in smoothing the way to introduce an NRUC

Q&A Discussion:

Several interesting points were raised through the subsequent discussion summarised as follows:

- **How do we enable structural change to increase communal use of vehicles and move away from private ownership?** Companies such as Liftshare already provide technology to help match people to ride-share. It just needs to be promoted actively by employers. An Ebay/Uber type rating system could help people feel comfortable about who they are sharing with. In a deregulated world lots of competition can make it confusing to the user; we need to be able to go to just one platform to find a lift. Government may need to get involved to make this happen.
- **Do we need to make solo car driving stigmatised like smoking is now?** We need first to ensure there are appropriate alternatives (cycling infrastructure, bus services, etc) for people, especially in rural areas, which requires investment; then we need to incentivise people to use them rather than drive.
- **When renewable energy is available can it not go to heating homes as a priority rather than transport?** Most people don't understand how subsidized road transport is currently, it consumes many more resources than people realize. If there was a citizen assembly they would have all the information to help them make informed decisions on external costs, and be able to find the most appropriate and fair way forward.
- **Does free parking provide perverse incentives?** If you have a free parking space you are more likely to use it. A Workplace Parking Levy (as in Nottingham), for instance, could help fund better bus services and incentivise employees to use them.
- **Will we be able to recruit enough bus drivers given the cost of living in Cambridge?** Many services start and terminate in off peak hours at depots outside of Cambridge, which should help.
- **How can we fund repair of potholes?** Road pricing could be based on the weight of vehicles. HGVs do not currently pay for the external costs of road-wear. They and double decker buses do the most damage to roads. Road-pricing could dis-incentivise HGVs driving into urban areas and instead make more use of depots at the edge of cities.
- **How do we overcome the chicken/egg dilemma of changes to pricing structures and the need to invest in better services?** Recent changes

in Cambridge since the local elections may give rise to new opportunities. Viewing issues through a public health lens, compared to a growth lens, may give different decision outcomes when the social/equity impacts of transport are considered. The GCP and Combined Authority have resources to invest, and the County Council has the powers to introduce a congestion charge in Cambridge. However, a local scheme would have high admin costs. If the local authority could 'piggy back' on a national scheme, it would be much less costly to run, and charges wouldn't need to be so high.

- **What is happening with bus franchising?** The National Bus Strategy gave a push for franchising and 'enhanced partnerships' in the short term. In the aftermath of COVID we now need guidance from the government on how Local Authorities can take things forward. This is especially important right now because nearly all bus services are losing money, and it is unclear how quickly patronage will rebound. The government may need to guarantee funds as a backstop for business cases to be able to progress.
- **How does the Bus Strategy fit with the Conservatives views on privatization?** In London buses are franchised and companies bid for concessions to run services. At one point Stagecoach was making approximately 5% profit in London and 15% in Cambridgeshire and Bedfordshire. Gradual declines in bus usage was already shrinking profits, before COVID put all bus operators on life-support funding from government. The National Bus Strategy says reregulation is possible, but does not mention public ownership. A local authority could in theory buy a local bus operator.
- **How can private coaches be integrated into the public system, e.g. company buses that go to the genome campus?** It is currently more cost effective for them to own their own bus than purchase bus passes for their staff. More than £1million a year is spent by private companies on private buses in South Cambridgeshire. We need to restructure tax incentives to make companies invest in public services that also serve their employees needs.
- **There is currently a focus on park & rides. Do they encourage more people to get in their cars for the first part of their journey and reduce viability for rural bus services?** They promote car use as the only practical way to access them. There is good evidence that they cause an abstraction from rural bus services as the frequency is high, they are cheaper and there is free parking. They were an appropriate solution in the 1990s, but not now. We need public transport from much closer to home, local travel hubs, easy to cycle/walk/scooter to with parking for disabled people.
- **How do we incentivise the decrease in use of SUVs, in particular by CEOs?** SUVs are a disaster from a climate perspective; they are much heavier than other cars and consume more fuel, negating years of gradual increasing fuel efficiency. France has a more punitive scale of vehicle licence charges; as does Norway, where vehicles cost £tens of thousands more than in the UK. However, many of those buying SUVs are not price sensitive, and in fact treat the high price as a status signal. Rationally we

should ban SUVs and regulate manufacturers more tightly. The EU already sets average emissions targets for manufacturers, which should be a mechanism to reduce the numbers of SUVs produced. We need to publicise the lifestyles of CEOs who set a positive role-model of sustainable behavior.