

Road User Charging



The cost of running a car falls heavily on the ownership rather than the use of the vehicle. This means that the marginal cost of a journey, confined to the use of fuel, appears to be much cheaper than public transport alternatives.

If we are to make serious inroads into the use of cars the true cost of car journeys has to be revealed.

The aim would be that the overall tax take should be the same as now so, if such a scheme was rolled out nationally, it would replace Vehicle Excise Duty (VED) and fuel tax. But London has no control over these taxes so, if it were to introduce such a scheme locally, would have to look to other revenue sources. Green Light, a report from Centre for London, 'the capital's dedicated think tank', looks into the concept of road uscharging (paying as you

drive)¹. It proposes that the Inner London Congestion Charge and the Ultra Low Emission Zone should be replaced by this new method. The ULEZ, currently covers the same area as the congestion charge but in 2021 to be extended to the North and South Circular Roads.

The major hurdle to overcome is political opposition to any attempt to charge motorists for driving. Whilst Ken Livingstone was able to introduce the congestion charge to Central London, attempts to introduce similar charges in Edinburgh and Manchester were turned down in referendums. In 2007 a suggested scheme for national road tolling excited a petition against with two million signatures and the scheme was dropped. But one of the chief benefits of such a scheme is the expected reduction in traffic which, apart from easing congestion,

would result in much cleaner air, and air quality is an issue which is beginning to move up the political agenda. On a longer time scale, Extinction Rebellion is beginning to bring the issue of global warming into the public domain and this too is closely linked to vehicle emissions.

The principles of the proposed scheme are that it

would be distance based but varied according to any number of factors including vehicle characteristics (particularly its emission standard) and recently observed local congestion and pollution levels. This would be calculated through a web platform and a smartphone app. The journey would be tracked by GPS on the phone or in the vehicle. It would be possible for a journey tracker to suggest a route in advance, quote a price and compare it with public transport alternatives to enable users to make a choice of mode.

Centre for London recommends that the Mayor should prepare to introduce a distance-based road user charging scheme to replace all existing schemes by the end of the next mayoral term in 2024. It's a big ask but the present state of our roads and our air require nothing less.

Chris Barker

¹ <https://www.centreforlondon.org/publication/road-user-charging/>

Our Newsletter is sent out to our London members and other contacts. The group exists to campaign for sustainable transport solutions in London and to support the work of the Campaign nationally. If you have not already done so we would be pleased if you would also join our group and take part in our London based activities.

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Regular meetings of the group are held in central London. The Newsletter is edited by Chris Barker.

Contributors are welcomed. Opinions expressed are those of the authors and not necessarily those of the Campaign for Better Transport. Previous issues of the newsletter can be found at <http://bettertransport-london.org.uk>.



Simon's wake took place appropriately on a Routemaster bus

Simon Norton We were shocked to hear of the untimely death of Simon Norton. He first came to prominence as a brilliant mathematician at Cambridge but his career there broke down in 1985 and he spent the rest of his life campaigning for public transport. He was the convener of the Cambridge group of the Campaign for Better Transport and was the founder of the Foundation for Integrated Transport, working for 'a world with a human right to travel without reliance on a car' and with 'minimum environmental and human impact'. He showed by his detailed analysis and on the ground travels just how bus and rail could be combined to create a comprehensive mobility facility - something that is immediately needed given that we have only about 12 years to find ways to avoid a global climate catastrophe.

Why driverless cars need 5G transmission technology.

What about London's buses?

The ongoing controversy over 5G communications equipment made by the Chinese company Huawei made me curious about why autonomous vehicles on London's roads will need 5G.

I found the answer in this paper by H.G.Seif and X.Hu of the Massachusetts Institute of technology (MIT): "Autonomous driving in the iCity—HD maps as a key challenge of the automotive industry".

It seems that, whereas the Global Positioning System (GPS) gives vehicle locations with an accuracy of about 5 metres, autonomous vehicles need their location 100 times more accurately: to about 5cm for navigation and lateral position in the roadway and for monitoring necessary information about other road users- "what lies ahead". (Another paper suggested that the extraordinarily good lane discipline of autonomous vehicles will call for special treatment of the narrow strips of roadway receiving exceptionally heavy wear!).

An autonomous vehicle can achieve this necessary accuracy by using a LIDAR (Light Detection & Ranging) camera to reference a High Definition (HD) 3-dimensional map, stored in the Cloud, of its current neighbourhood. The camera, rotating through 360 degrees, is mounted on the vehicle's roof to monitor the environment. This information is used by a SLAM (Simultaneous Location & Mapping Algorithm) to reconcile the LIDAR real-time gathered data with the cloud-based HD map.

This reconciliation gives the vehicle's location accurately, but the price is paid in terms of a lot of computing power, stored in the

vehicle, and a lot of data transmission- how much depending on the vehicle's speed. For example, the vehicle might be collecting real-time data at 2Gbyte per sec, but 4G communication only allows 100Mbps (a factor 20x too low)- whereas 5G allows 5Gbps.

The whole process struck me as, on the one hand a prodigious

technical achievement - so much data collection, so much processing and so much communication to manage for every vehicle - and on the other hand so worryingly complex as to be inviting trouble. Evidently, if the 5G system was insecure, and were to be compromised, the autonomous vehicles relying on it would be paralysed,

or worse. If London's buses were among them our city's surface transport system would be knocked out and public transport would be reduced to rail only.

Elsewhere I also read a report of autonomous buses in China following a white line in the roadway - this scale of system complexity more in scale with the complexity of bus management - buses, in contrast with the generality of road vehicles, make repeated, scheduled, journeys along fixed routes, with fixed stopping places, for which the general autonomous vehicle management and control system is vastly overdetermined.

With a much simpler management and control system, which treated buses as virtual trams, following a virtual tramway in the road surface, we could surely have autonomous buses sooner, without the security risks.

Peter Osmon FIET



One of the last of the diesels

More trouble for the Goblin

When the long delayed electrification of the Barking-Gospel Oak line was finally finished there were good hopes that the new electric trains would bring its troubles to a close but unfortunately this was not to be. The new trains are still not ready for service although there are indications that they will be soon. Meanwhile the diesel trains were gradually spirited away to the West Midlands and by mid-March they were all gone.

To keep the service going three of Overground's class 378 trains were reduced in length to four cars and were introduced to fill the gaps but now, with all the diesels gone, this is not enough and the service has been reduced from four to two trains an hour. When will this misery end?

... and for Great Northern electrics

The oldest trains on the network are still running on the Great Northern line out of Moorgate. The new trains are ready but, like with the class 710 trains on the Goblin, there are last minute glitches. The problem here seems to be that the driver's seat is set too far back to enable the driver to see the signals when the train is in an underground station, surely something which should have been discovered before the train went into production. The problem now seems to have been resolved and the new trains are being introduced into service.

WHY WE NEED A RIGHT TO PUBLIC TRANSPORT

Road vehicles produce 87% of all transport generated greenhouse gases (passenger cars 53%) which are leading to catastrophic climate change, so this is the time to press for better public transport.

The majority of people do not have their own car - that is 60 per cent of the population are dependent on public transport. Those who are less likely to have their own car are women, members of BAME groups, disabled people, older people and young people and those with low incomes. All except the last group are protected categories under the Equality Act and many on low incomes will also be members of one or more of the protected categories.

This dependence on public transport matters, because too often in many places, public transport disappears after about 6pm and is lacking on Sundays. Those without their own car may find difficulty socialising and might not be able to get to jobs, to further education and training, to health and other public and private services. Many jobs involve shift working, Sunday work or staying late on some occasions, but the majority may be excluded from normal activities by not being able to get to them – and public transport, buses in particular, are becoming even less available. But everyone needs public transport at some time and the majority all the time.

But there are many more reasons why we need more public transport – buses, coaches, trains, taxis, hired cars, ferries. These include climate change, air pollution, noise pollution, road congestion, road accidents; all these have costs which would be reduced with fewer road vehicles.

Transport produces 30 per cent of all greenhouse gases and particulates in Britain of which road vehicles produce 87 per cent. Of this 87 per cent, more than half, 53 per cent, is produced by passenger cars alone, 20.5 per cent by HGVs and 13.3 per cent by light vehicles, (Dept. of the Environment and Climate Change).

Greenhouse gases and particulates contribute to climate change, endangering human and almost certainly all other forms of life on the planet since the oceans are also warming as well as the air, but estimates of these costs for the UK are not available. Air pollution causing damage to physical health and costs to the NHS are estimated at £20bn per year, so, at 30 per cent, £6bn is attributable to transport. Health damage from noise pollution, which does not attract attention, costs some £7-£10bn per year to the NHS, so £2.1- £3bn is attributable to transport. Road congestion is estimated to cost at least £37.7bn per year and road accidents £36bn. This makes some £82bn per year attributable to transport. The Department for Transport estimates the cost of preventing a fatal accident at £1,841,315 per casualty and at £2,053.814 per accident. By distance travelled, it is far more dangerous to be a pedal cyclist or a pedestrian than to be in a car.

Yes, it is very convenient to be able to jump in a car and go, but in doing so, drivers are risking the lives of others and causing very heavy costs to the environment, to the NHS, public services and other people. Perhaps drivers should ask themselves: 'Is my journey by car really necessary?'

Margherita Rendel

Travelcard extensions

It can be difficult for holders of London Travelcards or freedom passes who want to travel to a point outside the zones they have on their ticket to find a way to pay for the extension. If you want to go from a staffed station to another station within the area covered by the Oyster system it is easy. The clerk will sell you an extension ticket. But TfL stations and many National Rail stations are not staffed and most ticket machines do not offer you the opportunity to buy a ticket from a different station. It appears that this has resulted in many passengers paying the full fare even though some of the journey is incorporated on their Travelcard or freedom pass.

A legal firm has now launched proceedings against South Western and Southeastern rail franchise companies on behalf of millions of passengers who have double-paid for fares in and around London. The claim is worth up to £93 million.

Anyone who feels they might be a victim could contact the firm instituting the proceedings - Elise Martin-Davies at elise.martin-davies@portland-communications.com.

Two way on Baker Street and Tottenham Court Road



New two way traffic system on Tottenham Court Road

Two of Central London's one-way systems have been abolished in recent weeks to calm traffic and ease the passage for buses. Baker Street and Gloucester Place have both become two-way roads. Most traffic is now using Gloucester Place in both directions with buses finding far

less congestion on Baker Street. A similar scheme is planned for Tottenham Court Road. A south-bound lane for buses has been installed. When finished in 2020 Tottenham Court Road will be restricted to buses and taxis and Gower Street will become two-way for other traffic.

New forms of public transport

There is at present a strict division between taxis, which can go anywhere at any time, and buses, which are restricted to fixed routes, schedules and service frequency. New technology is making this distinction hard to sustain and the Law Commission is looking into changing the law to allow more flexible services.

The impetus for this change is being pushed by several operators who are using existing legislation to offer services which are more flexible, something like a taxi, but are available to numbers of unconnected passengers like a bus. None so far have been successful. Citymapper used a private hire licence to offer 'smart ride' services in London last year. Ford started their 'Chariot' fixed route service connecting transport interchanges with nearby residential areas in south east London under London Service Permits, permits to run special services issued by TfL, but this has not been successful and is now closed.

Meanwhile there are a number of initiatives which aim to take the hassle out of paying for travel dubbed 'Movement as a service'. Citymapper are the latest to launch a new way of paying for your bus and train travel. For £30 a week you can get an app on your phone which will give you unlimited travel within zones 1 and 2. Why do it?

It's certainly cheaper than a travelcard which costs £35.10. But a travelcard is only useful if you know you are going to make journeys up to the maximum of each day's cap seven days a week. An Oyster pay-as-you-go card or a bank contactless card will only charge for the journeys you make and will never exceed the travelcard rate. Citymapper are directing their app to those people who might otherwise use a bank card but who 'don't want to get out their bank card every time and also don't want those little charges on their bank statement'.

Also available from Citymapper is a £40 a week version which adds free cycle hire and £12 towards trips with Citymapper Ride cab shares.

Introducing ULEZ

The Central London ULEZ scheme came into effect on 8th April charg-

ing drivers of non-compliant vehicles £12.50 a day. Those who have opposed the policy have argued that the additional costs will disproportionately impact those less able to pay, namely small businesses, charities and the poorest Londoners, although it has been pointed out that the poorest Londoners don't drive any vehicle. Despite this, reporting has been overwhelmingly positive. Support for moves to protect children's health has outweighed complaints about the cost.

The aim of the policy of course is to reduce the number of non-compliant vehicles in London and not to raise revenue and it is to be hoped that this will be kept in mind and that TfL will not come to be relented on the money raised.

The Mayor has set aside £23 million for a scheme to assist drivers of polluting trade vehicles to buy a non-polluting vehicle. He is urging the Environment Secretary to match this fund. Many small businesses which depend on having vehicles to operate are only able to afford old second-hand vehicles. This will enable them to comply with the regulations and play their part in restricting emissions.

TfL counts the cost

TfL's financial troubles have led to a raft of projects being cancelled or postponed and a number have been delayed. Amongst the delayed are the Silvertown Tunnel (by five months) and the Northern Line Battersea extension by nine months, although in both cases it is said finance is not the problem.

Postponed are the Piccadilly Line signalling upgrade and the Sutton tram extension. The Bakerloo Line extension is described as a project which can only proceed with government funding.

A proactive road maintenance project has been cancelled for the second year and TfL will only do the minimum to ensure safety and the Camden Town tube rebuilding scheme has also been cancelled.

TfL were counting on revenue from Crossrail to ease their financial woes but it now seems unlikely that the line will open during 2019. There was much criticism that assurances that opening was on schedule for December 2018 continued up to the eleventh hour. It is now revealed that neither the trains nor the signalling are ready, nor are any of the central London stations.

New look for Aldwych

Although Westminster City Council have opposed the pedestrianisation of Oxford Street they are not wholly against closing streets to traffic and a new scheme for Aldwych has been published. The scheme will close the Strand from Waterloo Bridge to Arundel Street in order to create a traffic free area around St Mary Le Strand church. All traffic will be diverted around Aldwych in both directions. Westminster says they will be 'creating a cultural and learning quarter by joining up the world-renowned organisations and institutions in the area and supporting them to showcase their amazing offer'.

They say the scheme will also tackle air quality issues as well as improving facilities for walking and cycling although Simon Munk, from the London Cycling Campaign, said that there 'will be hundreds of cyclists in the peak hours cutting across toucan crossings and through the lovely Strand plaza. Cue loads of pedestrian-cycle conflict and that "promenade" won't be anywhere near as nice to walk around as it should be. We all want to avoid that, I hope.' It is also the case that the area will not be entirely traffic free as access has to be maintained for residences and a hotel in Montreal Place.

London Living Streets is concerned 'that the City of Westminster is being hamstrung by apparent TfL requirements to maintain traffic capacity and hence create two lanes of motor traffic eastbound and westbound through the Aldwych.' They say that TfL's requirements to maintain traffic capacity and hence create two lanes of motor traffic eastbound and westbound prevents proper space being made for cycle lanes and footways. The point out that, by encouraging traffic, this contravenes the Mayor's Healthy Streets agenda.

Air pollution on the tube

Concerns about air quality on the tube are growing. A 2017 report by the Committee on the Medical Effect of Air Pollutants (COMEAP) recorded high levels of particulate concentrations on the London tube system. The Northern Line was one of the worst affected – at Hampstead 492 micrograms per cubic metre ($\mu\text{g}/\text{m}^3$) of $\text{PM}_{2.5}$ were recorded over a ten day period.

This compares with a maximum recommended by the EU of $25 \mu\text{g}/\text{m}^3$. The London Assembly Environment Committee has sought more information from TfL on this issue.

The situation is likely to be worse in London compared with metro systems in other cities because of the age of the system and the depth of the tunnels. TfL is responding to the problem by introducing new cleaning systems including industrial vacuum cleaners and 'magnetic wands' but it is unclear how successful these measures have been. Meanwhile Professor Frank Kelly, Chair of COMEAP, said he saw no reason why people should not continue to use the tube given the relatively short time spent underground and lack of evidence of harmful effects.

Dispersal of passengers from Euston

Rob Adamson writes:

The redesign of Euston needs to take account of two increases - first the number of passengers arriving and second our increased expectations of less road congestion and pollution. It is surely no longer appropriate that all suburban or 'slow' trains discharge all their passengers there, placing heavy demands on other lines. Passenger interchange at Euston would be reduced if those trains (supplemented by shuttle trains) continued towards either the City (at least as far as Farringdon) or towards Waterloo (via Holborn with Chancery Lane). As the trains currently terminate at Euston the capacity would be entirely extra.

Taking these trains south east toward Waterloo would fill a major gap in the existing dispersal directions. The Piccadilly and Central lines and both branches of the Northern line would be relieved.

An intermediate stop would serve both Chancery Lane and Holborn - the platforms of these two stations are relatively close. Someone wanting St Paul's or Bank could walk through to the Chancery Lane eastbound platform, someone wanting the Piccadilly lines or the Central line to the west would head to Holborn's platforms.

Current thinking diverts Crossrail 2 through Euston. This plan obviates this need and gives an opportunity for the route of Crossrail 2 through central London to be rethought.