

Beware the driverless Trojan Horse



We've been Ubered!

Driverless vehicles are presented in very simplistic terms, as futuristic saviours, solving congestion, making streets safer and even saving the planet. Like Uber, they claim to work for the good of the community but in reality such companies are not actually interested in genuine environmental change, for all their claims of 'radical disruption'. Self-driving cars are a sticking plaster over existing conditions.

My year-long research reveals a complex, darker and more disturbing picture that mirrors the uncertain times we are living in. I believe that if we accept this Trojan Horse through our city gates, we will be more vulnerable to cyber-attack. We also become easier prey to a dystopian world where our public space can be controlled by outside forces.

What's in the code?

What does the dieselgate software 'cheat' tell us about the algorithmic transparency of driverless vehicles? That it's very difficult to trace unethical or unlawful code.

Many experts believe that corporations and governments are taking advantage of conceptual control gaps or lack of computer literacy which means communities in London become unable to understand and thereby scrutinise new technologies like automated vehicles. Some believe that the complexity of artificial intelligence makes it impossible.

There are, for instance, so-called 'algorithms of death'. Would some commercial operators prefer to save their valued paying customer over a non-paying pedestrian or cyclist? Would that algorithm be transparent and accountable? And are there facial recognition algorithms that can even identify targets?

Unlike many technology bosses, Elon Musk has been a vocal AI sceptic, warning that the potential consequences of 'killer robots' could outweigh benefits of self-driving cars. The crossover between corporations working for military and commercial operations makes this scenario even more worrying.

I have asked for clarification on the cyber security,

algorithmic transparency and accountability of autonomous vehicles at public meetings in London and have been quickly closed down on grounds of 'sensitivity'. A democracy like London must be aware of what it is unleashing onto its streets.

When is an accident really an attack?

Under the radar hacking means that a driverless 'accident' could actually be a cyber attack.

Dr Lisa Collingwood of Kingston University believes that driverless vehicles are not 'safer' but 'just dangerous in different ways'. At a recent meeting at London Cycling Campaign she told the audience that autonomous vehicles could be used as 'weapons of mass destruction'.

I understand Transport for London are looking into automated brakes for buses. Whilst I support greater bus safety measures, they may take caution from a recent episode, where a team of Chinese hackers took remote control of Tesla Model S brakes from 12 miles away.

Charlie Miller who remotely hacked a Jeep Cherokee via its internet connection sparking a 1.4 million recall says 'Securing autonomous cars from hackers is a very difficult problem'.

'Autonomous vehicles are at the apex of all the terrible things that can go wrong,' says Miller, an elite hacker. 'Cars are already insecure, and you're adding a bunch of sensors and computers that are controlling them...If a bad guy gets control of that, it's going to be even worse.'

Human streets not Robot streets

The Mayor's draft Transport Strategy sets out a direction of travel where London's streets become more liveable and healthy. Prioritising active travel like walking and cycling seeks to address the urgent public health crises of obesity, inactivity, air pollution, diabetes type2 and climate change.

Wellbeing, health, social cohesion and equality are at the heart of a liveable city. It is very concerning then that some driverless advocates are suggesting all citizens carry 'beacons' or are radio-tagged to stop them being victims of driverless technology. Maybe they would like children to be micro-chipped at birth too?

The reason for this is that 'pesky cyclists' are difficult for self-driving cars to detect. Or pedestrians might get smart to the driverless algorithms and override their physical advantage. Tom Cohen of University College London has warned that we must be wary of attempts by autonomous vehicle lobbyists to alter the Healthy Streets hierarchy of pedestrians and cyclists first.

Driverless 'mobile couch potatoes' is no way to address the inactivity crisis. Claims to solve congestion have been roundly debunked. 'Safety' is no longer a selling point. Replacing the current dangerous motor vehicle technology with an equally or potentially more dangerous tech does not make logical sense. Blowing our limited carbon budget on tech that does not provide real solutions is dangerous and reckless.

Rosalind Readhead

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://bettertransportlondon.org.uk>.

Moving in the right direction

Mayor's Transport Strategy

After a period under Boris Johnson when the car was given equal status to other road users, priority is now firmly back with pedestrians and cyclists.

Mayor Sadiq Khan's transport strategy is to prioritise healthy streets, discourage car use and encourage walking, cycling and public transport. This means tackling air pollution, congestion and danger from too many road vehicles. The ambition is to reduce the proportion of trips made by cars, taxis and private hire vehicles from 36 per cent in 2015 to 20 per cent in 2041, to achieve zero emission from all vehicles by 2050 and to eliminate all traffic related deaths and serious injuries by 2041.

There are many issues to cover to achieve this goal. One is to make streets safer and more attractive for pedestrians and cyclists. An

extension of 20 mph streets and better enforcement will help in this. Much more could be done in Central London to increase areas available to pedestrians including pedestrianised streets in places such as Soho. The mayor planned to pedestrianise Oxford Street although the promise now is to enhance the street by transforming the quality and quantity of space for pedestrians. Perhaps the difficulties of full pedestrianisation are proving too much.

Continuing development of cycle routes is promised and the London Cycling Campaign finds the strategy 'amazingly positive'. But the test will be in the implementation. It would also be good to see emphasis on cycling for all sections of the population including children and the elderly.

Easy access to public transport is an essential part of the strategy. Bus travel should be regular, fast, predictable and affordable. To

help in this the mayor promises to extend bus lane hours although a default 24/7 operational hours would help. The strategy recognises the need to consider the whole journey, including walking to and from the bus stop and changing but there insufficient emphasis on the importance of good interchange facilities important both to speed journeys and to help people with mobility difficulties or with heavy luggage or children.

The mayor aspires to control all London suburban rail routes in the expectation that this would result in a service as good as the present London Overground network. This is a worthwhile aim although congested junctions in south London might make the achievement difficult. Rail extensions are mentioned including extending the Elizabeth Line beyond Abbey Wood. Missing though is any ambition to extend

the line in the other direction towards the West Coast Main Line or the Chilterns line. Also mentioned is the extension of Tramlink to Sutton although no other tram or light rail links are suggested.

Air quality and congestion are pressing problems. The mayor will impose the ultra low emission zone earlier than was otherwise planned and promises that buses will be zero emission by 2040 and that this will apply to all transport by 2050. The rate of increase in the development of battery technology could well make it possible to shorten this time scale.

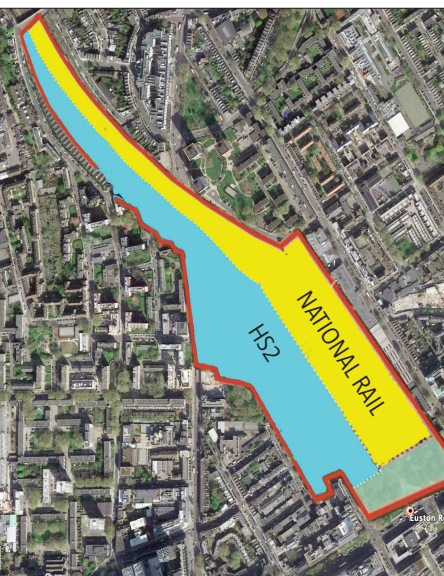
Apart from modal shift, congestion is to be tackled by updating and extending the congestion charge area. The aim should be to establish a road user charge for the whole of London, differentiated by time and distance travelled. Drivers will then be able to see instantly the cost of their journey.

CBT London discussed the strategy at its July meeting and will continue the discussion in September. The strategy can be downloaded. Google 'mayor's transport strategy'. The deadline for response is 2nd October. We would welcome your contribution.

Chris Barker

HS2 and Euston

Royal Assent and the letting of contracts for HS2 have not diminished the clamour of critical comment about the project as a whole and the terminus of Euston in particular.



Criticism from various experts and Parliamentary Committees – those with a financial bent, the Transport Select Committee was more lenient – continues to go unanswered. Michael Byng's estimate of the cost of the total project, in excess of £100bn, and of the cost of building Old Oak Common to Euston alone at a staggering £8.45bn are not refuted by Grayling or HS2. The owner of the Bree Louise pub has been given notice to quit his home and his business by 20th November although rumours of an extension to this date persist.

Grayling's response continues to be that we need more rail capacity, which few people dispute. HS2 is like a bigger bath with the plug missing – he simply says it is a bigger bath!

Within a few days in July the government made three announcements. First, the HS2 route through Yorkshire would be the spur into the existing Sheffield Midland station, in the city centre, rather than the Meadowhall option. Second, Midland Mainline electrification, including some of

the track on to which HS2 would now travel, was abandoned in favour of bi-mode trains. Third, all cars would be zero emission by 2041 so that private vehicles would be electrified even though the railways would not.

None of the political parties larger than the Green Party is opposed to HS2 although individual councillors, Mayors and MPs are on record as opposing it. The new leader of the Liberal Democrats spoke in Swansea of the foolhardiness of prioritising HS2 over electrification, but then wrote in the Yorkshire Post of the need to hasten HS2 phase 2. Camden Council has a difficult hand to play, opposing the disruption at Euston and the loss of so much social housing but wanting to influence anything that takes its place. HS2 Limited has a consultation forum for community groups but is wary of them bringing experts along who might see through any attempt to pull the wool over people's eyes.

One difficulty facing HS2 is that they do not have a clear plan for how they reach Euston. They are confident they can do it within the

geographical limits prescribed by the Act. They have abandoned the 'birdcage' which would have undermined swathes of million pound housing on either side of the cutting, but not yet found anything safer to construct. This is presumably why they are not talking to Network Rail about integrating their work with that needed by NR to make Euston station fit for purpose. Built with two platforms serving long distance trains, its largest footfall comes now from commuter services. One argument for HS2 over improving existing lines was that it would avoid disruption to existing services during construction, but Euston faces nineteen years of disruption. The first of these was over the Bank Holiday weekend at the end of August.

There is some doubt as to whether Cobourg Street, which includes the iconic Bree Louise pub, is really needed for HS2 or whether it is just needed to increase the development potential of the site once HS2 is built, and hence reduce the call on the public purse.

Andrew Bosi

People parking bay

'Most households in Hackney - 65% - do not have a car, yet all our kerbside space is given over to car parking.' So says Brenda Puech, a member of Living Streets. To redress the balance she wants to see parking spaces on every street provided for use by walkers and cyclists. To demonstrate what a people parking bay may look like she commandeered a parking bay near her home on which she placed a bench and two PlantLocks for people to park themselves. The bay was formally opened by Caroline Russell, Green Party GLA member, on 26th May.



Bridging the gap between platform and train

Passengers on London Underground's subsurface lines (Metropolitan, District, etc.) will have noticed that the new S-stock trains have a floor which is level with many station platforms, while the old trains required passengers to step up into them.

Where the platform edges are straight, the new trains are more convenient, providing step-free, gap-free access. Everyone can get on and off faster. Wheelchair users, those with other mobility impairments and those with rolling luggage find the new arrangement much easier (passengers on

the Docklands Light Railway and Tramlink have had level access since those systems opened in 1987 and 2000 respectively).

Step-free, gap-free access requires very tight train and track tolerances to be created and maintained.

The S-stock trains are less convenient at places like Baker Street, where some of the old platforms are tightly curved and there is now a larger horizontal gap between the train doorway and the platform edge, with an increased risk of someone falling between them (the article on page 16 of Modern Railways, February 2014, refers).

In an ideal world all platform edges would be straight, all platforms would be the same height and all train floors would match that height. Unfortunately, the railway world is far from ideal. While the British standard platform is 915 mm (3 feet) above the top of rail level, and the British railway industry now generally works to this standard, most of the older platforms in Britain are

of varying heights.

It is not just the older platforms: the Heathrow Express platforms (at Paddington and Heathrow itself) are 1100 mm above rail level so as to provide step-free, gap-free boarding of those trains. However there is a 6 cm step just inside the Heathrow Express doorways so they are not really step-free.

The Crossrail tunnel platforms have also been built 1100 mm high (and with platform screen doors, as on the Jubilee line extension) to match the Crossrail train floors. Different arrangements apply west of Paddington and east of Liverpool Street. This is because only Crossrail trains will operate through the tunnel sections. Conversely, the open sections of Crossrail will be shared with other trains (including freight trains) so greater clearances are required at the expense of level access: the relevant stations will have staff on duty to deploy boarding aids.

Until very recently HS2 was stating that their trains would need a platform height of 'circa 1200 mm' in order to achieve step-free gap-free access which, in addition to the passenger benefits stated above, was considered essential to minimise dwell times at intermediate stations and achieve the shorter end-to-end journey times on which the business case depends.

The floors of very high-speed trains, apparently, need to be higher to allow for larger wheels (to dissipate heat generated in braking) and to accommodate powerful motors underneath the floor (rather than at both ends of the train) as this enables the

whole length of the train to be used for passenger seating. The new Eurostar trains now seen at St Pancras use a similar distributed traction concept but have internal steps and built-in equipment to give wheelchair users access to and from Eurostar's 760 mm high platforms (a European standard).

HS2 could have achieved step-free, gap-free boarding at its own handful of purpose-built stations (including Euston and Old Oak Common here in London). However, access problems would have arisen elsewhere on the route, where 'classic compatible' HS2 trains are planned to serve numerous existing stations on the National Rail network. The vertical distance between a 1200 mm train floor and a British Standard 915 mm platform would have been 285 mm (nearly one foot). Dwell times would have suffered at all those stations. HS2 Ltd were proposing unspecified modifications to various old platforms, which would somehow have enabled non-HS2 trains to continue to call: HS2 Ltd abandoned this idea in April 2017.

Vertical distances would be even worse if HS1 and HS2 are ever linked and HS2 trains with 1200 mm floors are required to serve 760 mm Eurostar platforms and vice versa.

In a presentation HS2 Ltd gave to DfT in January 2017, platform height had been reduced to 1150 mm but 1115 mm is mentioned in the rolling stock Pre-Qualification Technical Summary "...to allow closer integration with the existing rail network....."

Where will this all lead?

Neil Roth and John Cartledge





Save the 250 and 251

On 3rd July the Epping Forest Transport Action Group held a demonstration in Waltham Abbey Market Square to protest against proposals to withdraw two local bus services after 19.30 leaving the town bereft of any public transport service after this time. In stark contrast to areas served by TfL buses, destinations accessible from Waltham Forest are gradually being whittled away following Essex County's decision to end support for these two services. Spokesman Dave Plummer pointed out that Essex County Council has a lot of money being made available for road building and that some of this be redirected to support bus services.

Keeping private cars out of Central London

TfL data shows a surge of cars entering Central London after the 6pm deadline when the congestion charge no longer applies, doubling the car traffic facing commuters as they make their way home. This inevitably impacts on road danger at junctions and crossings for commuting pedestrians and cyclists. It results in slower journey times for pedestrians and cyclists who are held at controlled signals as TfL prioritises 'traffic flow'. It increases exposure to air pollution at a time when many people are out on the streets and increases bus journey times for commuting Londoners, stuck in toxic traffic. The figures for cars entering Central London on Saturday and Sunday are even more shocking. On Sunday 137,461 cars are belching out pollution and creating congestion. If ever there was data to support car-free Sundays, this is it.

More gyratories to go

Three central London gyratories are scheduled to be removed mainly with the aim of improving safety for cyclists.

Two are at the ends of Lambeth Bridge where the roundabouts are being replaced by light controlled crossings. The third is the large roundabout which has the Imex cinema in the middle at Waterloo. The proposal here is to make a public square of the south-west arm of the roundabout, relocating the bus station onto Waterloo Road.

Bus changes on Oxford Street

The plan to drastically reduce the number of buses on Oxford Street is proceeding apace. 17th June saw a number of changes and 15th July several more. Two routes, 73 and 137, are removed from Oxford Street west of Oxford Circus reducing, with the earlier removal of route 13, the number of routes on this section from 13 to ten.

The mayor's plan is to completely pedestrianise Oxford Street but it seems unlikely that this will come about, partly because of the need to retain north-south movement across it.

Crossing the Thames

Whilst the Silvertown Tunnel is the only tunnel proposed for motor vehicles a number of more sustainable crossings are in the pipe line. In east London the DLR is slated to cross the river to reach Thamesmead and the Barkingside extension of Overground should in due course be further extended to Abbey Wood. Another bridge for cyclists and pedestrians is planned to link Rotherhithe with Canary Wharf.

A new crossing is now proposed for west London between Vauxhall and Lambeth Bridges, again for pedestrians and cyclists. This would link the development area of Nine Elms with Pimlico. All these are public bridges, unlike the proposed Garden Bridge between Waterloo and Temple the use of which would have been subject to the whims of its private owners, notwithstanding the substantial public funds which had already been sunk in it.

Campaign against idling

Since 2002 it has been illegal to remain stationary in a vehicle with its engine running although, until recently, the law has not been enforced. In 2014 Ealing introduced a £20 fine if a driver is approached and refuses to switch off. For over a year, Westminster and Islington councils have employed more than 100 'traffic marshals' across its boroughs to clampdown on drivers who don't turn off their ignition as the capital scrambles to meet strict European environmental targets. A similar scheme is also running in Kensington and Chelsea. According to Westminster City Council, a car idling produces enough exhaust emissions containing harmful chemicals every minute to fill 150 balloons. The fine in Westminster has been increased to £80.

Driven to distraction

In July the London Assembly Transport Committee reported, under this title, on measures to make London's buses safer. The report revealed that 25 people have been killed by London buses in the last two years and 12,000 injured. The aim as to get to the root causes of these incidents and identify how TfL can prevent them in the future.

One of the issues identified in the report was drivers' working conditions. Long shifts and inadequate breaks lead to driver fatigue. Toilets for drivers are not always provided at suitable places and the report recommended that there should be a commitment to ensure that a toilet is available to drivers on all routes by 2018. There should be sufficient garage maintenance staff to ensure that all buses are fully fit for service. It is reported that relatively minor matters like faulty wipers or wing mirrors are often not attended to before the bus is taken out on service.

TfL should take responsibility for driver training instead of leaving it to operators. This should include information about CIRAS, the system through which drivers can report problems confidentially and anonymously.

At the corporate level safety targets should be set and staff bonuses should be directly related to safety levels. TfL should carry out a review of how bus incidents are

investigated and it was also suggested that there should be an independent investigatory body as is in the rail industry.

The report recognises the cost of these recommendations. It could result in slower journey times or increased costs to operators. But, it concludes, 'the bus service is the backbone of London's transport system, carrying millions of Londoners every day. These journeys must be safe, above all else'.

Rethinking the bus network

After a decade of growth bus usage in London has started to fall and the London Assembly Transport Committee has looked into the reasons. It's not that journeys by sustainable means are falling: there is a massive increase in cycling and use of the tube is also growing. The most obvious answer is that congestion is causing bus speeds to fall to an unacceptably low level and it is interesting that the largest falls are on routes which are the worst affected by congestion. Whilst there is a general increase in the number of vehicles congestion appears to be made worse by the number of private hire (PHV) and local delivery vehicles and the reallocation of road space to cyclists and pedestrians. Suggested remedies include control of PHV numbers and of times when deliveries can be made. A more comprehensive system of road charging, as suggested in the draft Mayor's Transport Strategy, is also advocated to limit the number of cars on the road.

The report goes further than this and suggests some radical changes in the bus network. Over half of all trips in outer London are made by car whilst the figure for the central area is about a quarter. Reallocating buses from central London would help to reduce the outer London dependency on cars but, to be effective, route patterns would have to change. One suggestion is that there should be a network of short feeder routes connecting, at attractive and easy interchange points, with high capacity and rapid trunk routes. Articulated buses might make a comeback on these trunk routes. Although people prefer not to have to change the introduction of the hopper ticket at least means that they would not have to pay again.