

THE BOTTOM RUNG

Noise: the challenges, trends, technologies, politics and opportunities

Looking forward; seeking solutions

Autumn 2019

Are Quieter Streets Finally Within Our Reach?

New technology, fresh innovation, lower speed limits, more acceptance of road pricing and a greater willingness to invest in alternatives to the car give us the chance to tame traffic.

Traffic noise is ubiquitous. It is a particular problem for many low-income communities who live in disproportionately large numbers on busy roads. But there are signs that this generation – our generation – has the chance to tame the traffic and cut the noise.

Electric vehicles will play a role but are not the complete answer as tyre-road interaction – not engines - is the main source of noise above 25 - 35mph for cars and above about 40 - 43mph for lorries. But there are also exciting new technologies bringing us anything from electric scooters to delivery bikes. Car-sharing is in on the increase. Affordable cabs like Uber (well-managed!) have a role to play. 20mph speed limits are becoming common-place.

Investment in public transport, walking and cycling is back in vogue. Cities like Le Havre, Tallinn and next year, Luxembourg, are experimenting with free public transport. And, perhaps most critically of all, road pricing is very much on the cards. It has to be as fuel duty is set to fall dramatically with the move to electric cars.



New innovations like delivery bicycles are one of the many measures which can enable this generation - our generation - to tame traffic and cut noise.

A Golden Opportunity

Ten years ago English football paraded its 'golden generation' of footballers. Players who had the potential to beat the world. But it never quite happened. The golden generation failed to seize its opportunity. We need to make sure we seize *our* golden opportunity to cut noise from traffic. The perfect storm is brewing as a number of factors come together in a way they haven't done for decades. Disruptive new technologies are breaking through. Apps on phones have put Uber on our streets. Electric cars will become the norm. In turn, they will power the move towards road pricing as fuel duty needs to be replaced. And, as outlined on the inside pages, technology will make it easier to implement road pricing as more vehicles become connected to the internet using mobile-phone networks.

This generation – our generation – has a golden opportunity to revolutionise the way we use our streets.

But, if we are to seize our golden opportunity to revolutionise the way we use our streets, we must also embrace new innovations like delivery bicycles and the exciting car-sharing schemes which are coming on-stream. But all this will be in vain until we see real modal shift. Pedestrians given top priority. Cycle-friendly towns and cities. Real investment in buses, trains and trams – possibly paid for by revenue from road pricing. And always affordable public transport. In a later issue we will explore the creative thinking behind free public transport schemes. This issue features road pricing – perhaps the key to our golden future.

John Stewart
Editor *The Bottom Rung*

How and Why Road Pricing Will Happen

Road Pricing – compelling; controversial – has its time arrived? We reprint an edited extract of an article that first appeared in the Economist

In 1868 the world's first traffic light was installed outside the Houses of Parliament. The gas-lit signal controlled the flow of London carriages—at least for a few weeks. For, soon enough, the gas ignited. The resulting explosion knocked the helmet off a policeman's head, and left him badly burned. Efforts to ease congestion no longer literally blow up in your face, but recent schemes have run into trouble, too. In 2003 Ken Livingstone, then London's mayor, introduced a congestion-charging zone (CCZ). Motorists pay up to £11.50 a day (\$15.20) to drive into the centre of the city. Since 2000 the number of cars entering central London has fallen by nearly a quarter. But congestion is rising again, a result

of vans and taxis clocking up more miles within the zone, as well as new lanes for buses and Lycra-clad commuters that have reduced the road space for cars. More minutes are lost to delays than before the CCZ. The average vehicle speed has fallen from 19.9 miles (32.0km) per hour in 2013 to 17.7mph (28.5kph) in 2016.

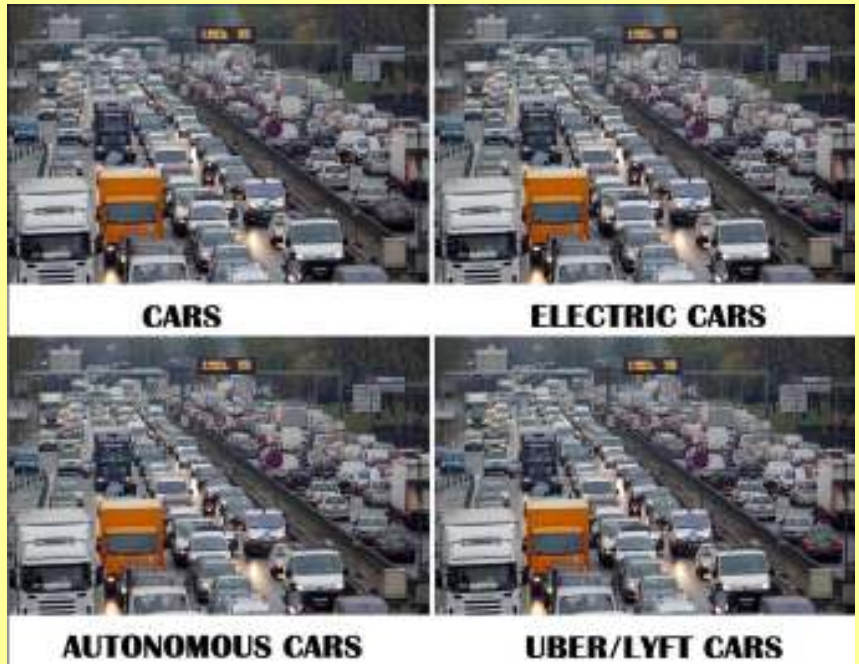
In response, London, like other heaving parts of the world, is looking at a more radical approach to reduce congestion. In January the London Assembly, the elected body that oversees the mayor, published a report calling for the city to develop a system of road-pricing that varies by when, how much and where drivers use the roads. Singapore, which already has the world's most comprehensive road-pricing system, is introducing a new one in 2020 that uses cars' global positioning systems (GPS) to charge motorists more precisely. Other schemes are being tried out in American states such as California and Oregon.

All of which pleases economists. Using prices to ration a scarce resource, such as space on busy roads at busy times, makes sense. Those who consume a good should pay for it. Road-pricing is also more efficient than the typical ways drivers are charged for imposing costs on others: taxes on fuel and on car ownership. Neither penalises driving in congested conditions, which causes extra pollution and crimps productivity by delaying workers and deliveries, and disrupting supply chains. And although congestion zones help, they are blunt instruments; ideally, road pricing would adjust to traffic flows in real time.

Yet economists are not normal people. Most voters hate taxes on driving. Even if they grudgingly accept existing ones, they squeal about any increases. In

Britain duties on fuel have been frozen since 2011 following pressure from drivers' groups. Nineteen American states have not raised their "gas taxes" in at least a decade. Many drivers would rather "pay" by queuing than through road-pricing. The Netherlands hoped to run a 60,000-vehicle trial of road-pricing in 2011, on the way to a nationwide scheme. But opposition politicians and motoring organisations fought so hard that the plans were dropped.

Governments will nevertheless soon have to find new ways of making drivers pay. That is not because congestion will worsen otherwise—though it will. Rather, tax revenue from motoring is drying up. One reason for this is the spread of ride-hailing and ride-sharing. In London drivers for firms like Uber can



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Tax revenue from motoring is drying up with the switch to electric vehicles. Road pricing may become essential.

circulate all day inside the CCZ, picking up fares, while being exempt from the charge. The number of private-hire vehicles that entered the zone at least once rose from 50,000 in March 2013 to 85,000 in November 2016. The number of licensed drivers rose from 67,000 to 115,500 over the same period. In total private-hire vehicles make up 38% of car traffic in central London, almost double the share of traditional black taxis.

The second reason for dwindling revenue—increasingly efficient cars—is even more

important. Cars' fuel efficiency has roughly doubled in the past 25 years. Partly as a result, the tax take from fuel and vehicle duties in Britain has declined by £812m per year in real terms

over the past five years, according to Gergely Raccuja, an economist who on July 13th won the Wolfson prize, an economics competition run by Policy Exchange, a think-tank, for a paper on road taxation. During the same period the total amount of miles driven increased.

Electric vehicles will further widen the gap between traffic and taxes. Paal Brevik Wangsness of the Institute of Transport Economics in Norway, the country where electric-car ownership is highest, points out that electric vehicles not only incur no fuel duty, but often attract government subsidies. British drivers, for example, can get £4,500 off the cost of electric cars such as a Nissan Leaf or a Tesla Model X. Even if these types of subsidies fall as cars become cheaper, they will require infrastructure such as charging points and cables.

For Mr Raccuja, a fair and radical way to pay for the costs of car use would be to scrap duties on fuel and ownership, and replace them with a "road tax". His new levy would be a per-mile charge that varied depending on a car's weight and emissions, thereby making drivers with road-crushing and air-polluting vehicles pay more. Mr Raccuja notes that the charge could also be higher in more congested places.

Such schemes will doubtless infuriate motorists. But there are reasons to believe that a shift toward road-pricing is not just increasingly urgent, but also more plausible. London's CCZ was brought in against stiff opposition. Today just one-fifth of Londoners oppose the idea of a more sophisticated road-pricing scheme, according to the London Assembly. After a seven-month trial in 2006, Stockholm residents voted narrowly by 53% to 47% to make the city's congestion zone permanent. But by 2011 polls showed that about 70% of residents backed the scheme.

Car owners may become less of a political force, at least in cities, as people opt against getting behind the wheel. In many rich countries the share of 20-somethings with driving licences is falling. The number of car-less households in America declined from 1960, when the US Census began tracking it, until 2010, since when the tally has begun to tick up. McKinsey, a consultancy, estimates that one in ten vehicles sold by 2030 will be for ride-sharing.

Technology will also make it easier to try road-pricing, including in poorer cities like Jakarta and Bangkok, where traffic is horrific. In the past, schemes might have relied on cameras to recognise number plates. Today transponders can ping a radio signal used to track a car's movement. But even

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that gizmo will soon be obsolete. Many premium vehicles are already connected to the internet using mobile-phone networks. By 2020 most new cars will come with these connections as standard. Together with GPS technology that means it will become easier to track the use of vehicles wherever they are.

Singapore is the model others will try to follow. The world's first CCZ was introduced there in 1975. It used paper permits to control access to a central zone until switching to electronic sensors in 2008. If average speeds are deemed too slow over a three-month period, then the city raises the cost of entrance. According to Woo Sian Boon of Singapore's Land Transport Authority, congestion has fallen as motorists have switched to less busy routes or to the city-state's public transport, or travelled at off-peak times when charges are low.

From 2020 Singapore will take an even more sophisticated approach. It will use GPS to vary the amount drivers pay based on distance, time, location and vehicle. The scheme will reduce the need for the unsightly gantries that log drivers in and out. Drivers will receive real-time information about the cost

and busyness of roads, encouraging them to consider other routes. Although less ambitious than Singapore's plans, several American states are using technology to experiment, too. The likes of California and Colorado have accepted federal grants for trials of various pay-to-drive schemes. The biggest, OReGO in Oregon, started in 2015. Around 1,500 people have signed up. Drivers have devices fitted in their cars that take data from the engines' computers. The gadgets record the amount of fuel used and distance driven, and transmit the data via mobile networks. Motorists are charged based on how far they drive, with each mile costing 1.5 cents, whatever the location or time. Any state fuel tax they have paid (30 cents a gallon) is refunded. Once motorists have become used to the idea of paying for the road space they take up, rates could be tweaked to account for the noise, pollution and the risk of collisions in each location. For the time being governments, national and metropolitan, are proceeding cautiously. But as fuel-tax revenues dry up, that is sure to change. They are an example of innovative technology once again helping us deal with real problems.

- [A longer version of this article appeared in the Economist \(3/8/17\).](#)

A Flight Path Revolution

The worldwide move from ground-based to satellite technology to guide aircraft will radically change the sort of flight paths used. But will it cut noise for communities?



The new system, known as Performance Based Navigation (PBN) will mean narrower, more concentrated, dedicated routes. PBN will reduce fuel bills for airlines, cut CO2 emissions per plane and improve the resilience of airports while allowing more planes to use them. But these concentrated routes have proved very unpopular with many communities where they have been introduced and, particularly in America, have resulted in court cases. However, PBN routes could bring benefit to communities if multiple routes were developed at an airport to enable them to be rotated during the course of a day to give people periods of predictable respite from the noise. This is what the owners of Heathrow Airport are promising. They have pledged that there will be no all-day flying over any community if a third runway is built. Heathrow is in the process of working up its respite programme in more detail.

A Chance to Shut Down Noisy Wind Turbines

Many have argued wind turbines which cause noise problems should be shut down. We report on one English Council which may be about to do so



Noise Bulletin (Aug/Sept 2019), reporting on the recent wind turbine conference in Lisbon, said that the industry had given up attacking those who complain about wind turbine noise and instead was trying to come up with devices which dealt with the noise from large turbines.

Such is the mistrust of the industry, though, that noise experts and local communities will want to see hard evidence of this before they will be convinced and will need to be assured about existing noisy turbines. Many, such as in the photograph of a German village above, have been built far too close to people's homes.

In the UK this was partly the result of the generous subsidies which were paid in the dying years of the last Labour Government in its efforts to develop renewable energy. There were inadequate restrictions on where turbines could be sited or on the maximum noise levels to be permitted. Wind farms are subject to much laxer rules than fracking sites.

There is now a virtual moratorium on the building of new onshore turbines in England (though not in Scotland). But the question of existing ones causing problems for local communities has yet to be settled. Opportunities will arise if planning permission needs to be renewed (as in the Barrow case) or if the turbines come to the end of their lives.

These opportunities need to be seized. As one resident said to us: "It would be the ultimate cruelty not to get rid of it just as we thought we were about to get our lives back after years of torment." Shutting down the offending turbines would not damage future energy supplies as there are many other energy sources which don't cause the same noise problems.

"It would be the ultimately cruelty not to get rid of it just as we thought we were about to get our lives back after years of torment."

'Noisy' wind farm extension paused after Barrow residents object

Residents claiming a nearby wind farm has been noisy for 20 years have convinced councillors to pause plans to keep it open for another decade. They said noise from the Askam and Ireleth wind farm, near Barrow, Cumbria, was "unbearable". A decision on an application to extend its life has been deferred while Barrow Council seeks independent evidence. Operator Cannock Wind Farm Services said the farm had never been found to cause a statutory noise nuisance. Managing director Mike Tracey said the company took complaints seriously. It had invested in noise management systems to provide "greater control and understanding" of what was happening



he said. Councillors were told the site was "recognised as the noisiest site in the UK judged by the huge number of complaints compared to similar other sites". There had been 152 complaints, compared with "single digits" for other similar farms, the planning committee heard. Marton resident Gillian Haythornthwaite said it caused an "unbearable, horrendous, noise nuisance". A noise reduction service installed by the operators had cut complaints but not stopped the noise, she said. Ireleth resident Les Nicholls told councillors: "No action has ever been taken by the council against the developer to my knowledge. When repeatedly questioned why, the response has always been that the developer has got deep pockets and the council is skint."

Listen Out!

- the chance for you to sound off!

Paris: a long way to go for a cup of coffee!

Paris: romantic; atmospheric; chic; a little bit naughty - it's all these things but what grabs me is the peace and quiet of its cafes. Why do I need to cross the Channel to linger over a coffee without the noise of music blaring out? Yes, I can get coffee minus the music in London but only because I know where to find the places. In Paris, it tends to be the norm. In Brussels too and, from my fairly limited experience, in Germany as well. I can't be sure about this but I wonder if it is something we have imported from America. As we have with the over-loud and over-long announcements

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on London Underground. They were introduced by the American Tim O'Toole when he was head of the Underground. And yet even American friends remarked on the barrage of announcements on London Underground. So perhaps I'm blaming the US unfairly. But, whatever the reason, London's cafes and trains are awash with noise in a way that is not the case in Paris or Brussels. My fear of course is that the rest of Europe will catch the British disease. I worry it is creeping in. I went to a Starbucks in Germany recently. There is was – the music. I hope these companies aren't bringing their bad habits with them. I can't believe the customers of the myriad of small cafes in Paris want their conversations interrupted by Kylie Minogue.

Sheila lives in London. Her one luxury: escaping to Paris for coffee!

- *Listen Out!* is an opportunity for people with a strong opinion on a noise matter to have their say. Have your say!

Help! I've got a noise problem!

You can contact:

The Noise Abatement Society

<http://noiseabatementociety.com/>

Helpline on 01273 823 850;

email info@noise-abatement.org

The Noise Abatement Society also carries out a range of activities including research and lobbying

Or contact **Noise Nuisance**

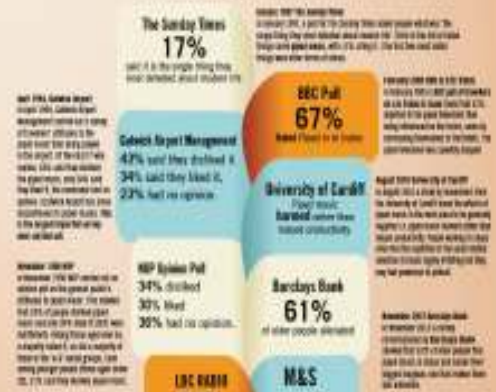
<https://noisenuisance.org/>

PIPED MUSIC THE FACTS

Amid the many claims and counter-claims made about piped music (also called music, raised music or elevator music), objectively researched facts about piped music's effects and its real popularity can be very hard to find. This sheet presents the facts about people's attitudes to piped music, and its effects on human health.

MORE PEOPLE HATE PIPED MUSIC THAN LIKE IT

Contrary to what is often believed, objectors to piped music outnumber those who like it, as the following survey shows:



To find a great list of venues free of background music check out <https://quietcorners.org.uk/> run by the admirable Pipedown.



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Overheard

'Silence is not the absence of something, but the presence of everything'
Gordon Hempton