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What will future transit look like?

Cooler, cleaner cityscapes, housing shortages, an ageing but active population and smart grids are trends we should keep an eye on

► Who knows for sure what the future holds? Reading Paul Mason's 'Post-capitalism - a guide to your future' on a recent break in Estonia (one way Estonia likes to see itself these days) he makes the case that capitalism is running out of options. For many reasons. But one of them is that information technology is reducing the cost of many goods and activities to a vanishing point; the information needed to do most things is, or could be, free and universally available; and that the labour needed to produce things is declining as fast as automation takes over.

On a brewery tour in Estonia - to test the hypothesis you understand - it was instructive to see that there was one person in the control room for a massive plant and you can imagine it won't be long before the distribution warehouse runs itself as well. Which leaves the tasting and the drinking to more human beings who have got to do something with all that free time. Happy days.

But let's be more conservative than Paul Mason in his conclusions and extrapolate in more of a straight line - or four straight lines - from where we are now to what kind of future public transport could be inhabiting not so long from now. Or future transit as I'm going to call public transport for the purposes of this piece.

Cities rule - but not as we know them

Although tech means lots of people can live anywhere it seems they still want to huddle together in cities. Urbanisation is accelerating.

But these are cities not as we know them.

Think of New York City and you think of concrete canyons with gigantic one way systems channelling mesmerising torrents of traffic. But that was then and now New York has 1,000 miles of bike lanes and is doubling its bike hire fleet from 6,000 bikes to 12,000 in the next two years. A city where transport officials are undertaking a form of guerrilla traffic calming where they implement lo-fi traffic neighbourhood traffic reduction measures with paint and planters - and if it works it becomes



New York is doubling the size of its bike hire fleet

permanent. A city that's adopted a 'vision zero' policy to eliminate fatalities and serious accidents from road traffic.

The move to quieter, cooler, cleaner cityscapes is happening all over the world.

Oslo, Hamburg and Madrid have grabbed attention recently by talking about banning cars in city centres. Whatever detail lies behind these headlines may not always be car free but what this demonstrates is much higher expectations of the urban realm. Future transit's face will need to fit with quieter, hipper, cleaner cities. It will need to be green, it will need to be 'simpatico' and it will need to be a bit, well, cooler than it is now. It should help define the image a city wants of itself - before it even knew it. Think London Transport in the thirties or the Paris Métro. I think that a defining future transit road vehicle is out there somewhere in someone's head - we just haven't seen it on the streets yet.

Housing is the new transport

The main focus for London politics used to be transport - and now it's housing. This is partly because transport in London has been transformed but it's also because housing has reached the 'something has to be done' stage that transport was at about 10 years ago. It's not the same outside London yet but it's going up the agenda - and it will start to exercise a growing gravitational pull on transport policy.

There is a lot of catching up to do on housing - not enough houses, not enough where they need to be, not enough in good nick and not enough that reflect changing lifestyles and households. Addressing the problem through the densification of existing urban areas can only work if those areas are well served by future transit. Spillover housing on green or brownfield land also needs enhanced or new mass transit routes to serve it. Stations and interchanges - and even the transit routes themselves - will not just be what links the housing A to the employment B, they will also be eyed up as potential residential development sites themselves. In places like Hong Kong it's been long established practice to drive transit expansion with the funding that comes from the developments that are built on top of it. And don't discount the prospect of decking over/tunnelling of new or existing road and rail links and building residential developments on top of them.

“Future transit’s face will need to fit with quieter, hipper, cleaner cities”

Older but not older

The population is ageing. In 2050 nearly a third of the population will be over 60 compared with less than a quarter in 2013. But that doesn't mean an ageing population should be seen as an homogeneous group that looks like the graphic of two hunched-over figures with walking sticks that we see on road signs.

People are living longer because they are healthier and many older people neither have anything much wrong with them nor wish their age to be perceived as a medical condition that requires suitably medicalised and ghettoised transport provision. Many baby boomers moved to the suburbs and bought a car and if they have to give it up - voluntarily or otherwise - they want future transit to fill the gap. This suggests a future transit system that offers good quality inside and outside the traditional peaks. And not only will older people want future transit to be there more of the time - so will their sons and daughters. This is because the slow fragmentation and fracturing of the 9-to-5 working day will continue. People will work when they, or their employers, want them to be online, or on the night shift (already 18% of the UK is engaged in some kind of night time work) so we can all get everything we want just in time.

On the grid

Information technology is not just having transformative effects on transport - it's also doing the same for power generation and provision through smart grids. And smart grid plus smart transport creates some exciting synergies.

So, a smart grid is an electricity network that can intelligently integrate the actions of all users connected to it - generators, consumers and those that do both - in order to efficiently deliver sustainable, economic and secure electricity supplies. Which means the one person sitting in the control room for a city can see on a screen how much is coming in from what sources, what it costs right now, forecasts of what it might cost at any point next week, how the weather could affect supply and demand and so on. Smart grids combined with smart future transit and cars means that electricity can be stored in cars, as well as electric future transit vehicles and systems, at times of over-supply and be fed back into the grid when needed. This is particularly useful



Electric buses are being operated on park and ride services in York

given the peaks and troughs that come with renewable energy sources of sun and wind. It also contributes to wider energy efficiency and the speed at which renewable and clean energy can make up a higher proportion of power generation for the grid. Thus helping save the planet (which is handy).

As you might expect the Germans are no slouches in this area. In 2010 Brandenburg (which includes Berlin) was already able to meet approximately 70% of its total electric energy demand using renewable energy sources. In Berlin this all comes together on the EUREF campus. Based on a former gas works the site brings together academia with small and large companies working on both smart grid and electric transport technologies. The campus uses on-site solar and turbine power managed by sophisticated IT to power the electric vehicles that are being developed. There is a long series of win-wins for Berlin from all of this - a greener, cleaner and more attractive city for residents and visitors and becoming a hub for new green technologies and industries both large and small.

Future transit can be a key part of these kinds of virtual circles through rapid electrification. And again exponential

technological change means the wireless electrification of bus services is moving from science fiction to science fact. Not so long ago electric single deckers were over the horizon and now they are running up and down the bottom of my street on park and ride services in York. Transport for London have gone one better with double decker electric buses from China due to start operating soon.

What does this all mean for present day public transport? Well as Paul Mason and many other futurologists would argue, the future rarely turns out to be a straight line extrapolation from the past. But of all the trends to keep an eye on, I would say the big one is that future transit's face needs to fit with changing expectations on the nature of both the urban realm and the quality of the air that cities breathe. ■

ABOUT THE AUTHOR

▶ Jonathan Bray is director of the PTEG Support Unit. Before joining PTEG in 2003, his background was a mix of transport policy and transport campaigning.