

# Driverless cars ‘will lead exodus to the suburbs’

**Graeme Paton, Transport Correspondent**

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Driverless cars like Google’s promise to take the discomfort out of commuting  
NOAH BERGER/GETTY IMAGES

Driverless cars will lead to the creation of huge urban sprawls as lengthy commutes become painless and workers flock to the suburbs, an academic has claimed.

Timothy Hodgetts, from Oxford University, said reduced travel times in vehicles that allowed passengers to work, combined with high property prices in city centres, would cause ever-spreading “suburbanisation”.

Writing on the website The Conversation, Dr Hodgetts said that planners had to prevent huge swathes of the countryside being covered by concrete. The solutions could include “rural highways” in which self-driving cars would be contained in tunnels.

The government is trying to make Britain a world leader for the development of autonomous vehicles.

Taxpayer-funded driverless car projects have been launched in cities such as London, Coventry, Milton Keynes and Bristol and ministers confirmed last week that autonomous lorries would be tested on motorways next year. The Department for Transport has estimated that fully autonomous cars will reach the market in five to ten years. Its research showed that, if all cars were driverless, delays could be cut by up to 40 per cent because they change lanes more efficiently, drive closer to the vehicle in front and travel at a consistent speed without repeatedly braking and accelerating, which is the main cause of congestion.

Dr Hodgetts, a research fellow in the geopolitics of wildlife conservation, said that driverless vehicles promised a future in which “passengers are free to use their time productively”, including working and spending time on the phone. However, he said that this was “likely to result in the mega-cities of the 20th century becoming the mega-sprawls of the 21st”.

“Coupled with faster journey times, the incentives to live further out of town will increase significantly,” he said. “There are both push and pull factors at work here: sky-high residential prices in most cities push people away from urban centres while healthy environments and green living pull people towards the hinterlands. The limiting factor in suburban spread is often travel time, either by public or private means. Driverless cars fundamentally alter the equation.”

Dr Hodgetts said that existing planning policies were based on transport systems that had remained fundamentally unchanged for decades. The green belt was developed to reduce urban sprawl and restrict city-style development within a confined area, he said, but it was in danger of “becoming a thin layer in a sandwich of ever-spreading suburbanisation” in coming decades.

Dr Hodgetts said that a number of engineering solutions may be called for to reduce the impact of urban sprawl, with planners learning lessons from innovations such as bear bridges in the Banff national park, Canada, where bridges were covered with grass, shrubs and trees to create a natural habitat. He also said that more roads could be

placed in tunnels, adding: “Retrofitting roads into tunnels won’t be cheap, but it becomes easier when human drivers are taken out of the equation. Software drivers are less bothered by artificial light and more efficient at mitigating the congestion impact during construction.”

203 comments

Alan Haile

'self-driving cars will be contained in tunnels'. Where are these tunnels? Where will they be? How many hundreds of miles of tunnels will have to be constructed? Who is going to plan where to put the tunnels? Who will pay the gigantic cost of construction? Why?

This article is complete and utter rubbish. What is this bloke on?

'The Conversation' is a left-wing online rag which only allows comments that agree with the author of whatever article is being commented on. Alternative views are not allowed and other comments are removed as being 'unhelpful'

hurler on the ditch Aug 31, 2017

@Alan Haile something to remember about this idea, is that these tunnels if they are built, we be built by autonomous systems, not people - the costs come down significantly.

it's interesting how you make this political. there are the most right wing of neo-liberals utterly in favour of these kinds of systems. its not a political thing, except your response demonstrates that you associate the independence of driving your vehicle as political.

personally i don't think we'll see underground road networks - i see no need. what will happen is that dedicated autonomous vehicle lanes and roads will be constructed henceforth. you will be free to use your self-driven car on older roads, much as you can drive low powered small cars on all roads except motorways.

Alan Haile Aug 31, 2017

@hurler on the ditch So the tunnels will be built by robots, I see. This just gets more and more stupid. Where did I bring politics into it? I merely related my opinion, based on my own experience, with that online journal or whatever it calls itself.

'Dedicated autonomous vehicle lanes will be constructed' - no they wont, and neither will tunnels. This is all just fantasy, it would happen if there was an economic case for it. But there isn't.

Edward Byrne Aug 30, 2017

The assumption in the article is that distance will become less of a factor because the chore of driving is removed. I commute 3 hours a day and while I often wish I could work on my laptop whilst driving, since its wasted time, a longer commute whether driven by me or driverless is more time out of my week at work. Faster commutes would negate distance. Otherwise this is baseless.

JournoList Aug 30, 2017

This thread officially marks the death of the conditional tense. Knocked down by a driverless car.

Ian Burns Aug 30, 2017

Pretty sure the opposite will be the case. City centre living will become much more viable without the need to accommodate a ton of steel and glass of your own.

JournoList Aug 30, 2017

@Ian Burns Like Manhattan?

Ian Burns Aug 31, 2017

@Journolist Only more so.

hurler on the ditch Aug 31, 2017

@Ian Burns i think you are wrong. why do people live in cities?  
they are expensive crowded polluted places.

they live in cities because cities provide access to opportunity, both in terms of culture and entertainment, and in terms of jobs and economic opportunity.

To access these things in the past, you had to be in the city. You had to live there and put up with the constraints to gain the benefits.

Because of the constraints, when personal vehicles emerged, people left the cities if they could afford to purchase these vehicles. The benefits of the cities could remain within reach literally, thanks to the motorcar. But the reach is limited by the constraint of the commute.

What autonomous vehicles change, especially in an age of knowledge work that need not be tied 9-5 to an office desk, is an extension of reach. It is no less productive or convenient to work in the office till 4pm, jump in the self-driving car, and continue working till you reach the home door, than it is to work in the office for another hour before leaving for home.

I understand and appreciate the potential attractiveness of living in the city, but history shows us that people prefer to spend their money in other ways if opportunity arises.

bob Aug 30, 2017

When this is reality, ie, only driverless cars, how would it work for instance, come football matchday at wembley, when 70,000 individuals want to get to the same place, at the same time, at once. How could 70,000 vehicles all converge on one spot ?

L J Barton Aug 30, 2017

"Dr Hodgetts, a research fellow in the geopolitics of wildlife conservation,"

Nice to see that Oxford, too, has its share of Mickey Mouse "disciplines".....

Londoner Aug 30, 2017

Productive time on the telephone is an oxymoron.

hurler on the ditch Aug 31, 2017

@Londoner consider this scenario then. You live in the country. You have an autonomous vehicle outside your front door that is laid out as an office, with desk, computer etc. You take this to work, and indeed you work at this desk as the vehicle brings you to work. Because it is yours, you leave your stuff in it when you arrive at the office, and take your laptop. It goes off and parks for you and returns to collect you as needed.

On a typical day in the office then, you may spend 3 hours commuting, but as far as you are concerned, that's three hours working in your own personal office.

LM\*BsO Aug 30, 2017

Get a driverless campervan, you wont even need a house then

hurler on the ditch Aug 31, 2017

@LM\*BsO you jest but, in my industry there are people who quite literally travel the world while working remotely for various companies. They would quite like the idea of being able to set off from Venice, do a full days work and finish the day in Paris in time for dinner.

Richard James Aug 30, 2017

Communities are not created by building endless rabbit hutches in the suburbs, devouring thousand so acres of Green Belt in the process. Communities are built by reviving inner City suburbs that have been left to rot and turn into virtual ghettos. Master planning cannot work within the framework of the present planning system; the whole system works in a negative way, stopping development rather than master planning whole urban areas and bringing them into play for the private sector to fund and build out. The US has managed to do that well in some of its run down, rust belt cities; we must look at how they did it and then do exactly the same.

Otherwise, there is no chance of proper integration of the huge numbers of migrants that have arrived over the last ten years and continue to arrive. Parts of inner Cities will become no-go areas like in France and civil unrest will soon follow.

But the Government is in the pocket of the big house builders that continue to speculate that if they lobby hard and long enough, they can continue building their rabbit hitches across the Green Belt and still sublime English countryside.

Bernadette Bowles Aug 30, 2017

There are different levels of autonomous vehicles; and, if battery technology delivers the expected improvements, we may well see

level 4 ones operating in UK cities in the next decade. These are fully autonomous, driverless vehicles which operate only in designated areas. This will lead to a situation where few people in those areas need own a car - they just call one up like a taxi when needed. It will lead to a great reduction in current types of public transport; but it will be some years further on to get to Level 5 - the truly autonomous car that will go anywhere. And it is not just the technology, but legal responsibilities which will need to be dealt with, and how driverless and non-driverless cars can all be accommodated. Earlier levels of automation all require drivers.

So, level 4, almost certain to arrive relatively soon, will make the areas covered very desirable for many people - but will start in the centres of major cities and work out. The further reaches of the current suburbs will not be getting them initially; and we can stop urban sprawl by not extending availability into the green belt.

When level 5 finally rolls out, that will indeed make it possible to sit in your pod and work just as one can on a train. Not much use if you're a nurse or a scaffolder, of course. But, just like a train, it will be more expensive to use if you go further. Plus, once it is available country-wide, if more people find they can live further from work, city centre house prices may well reduce. That's not to say this chap is wrong, and we do indeed need to make plans to deal with problems ahead of time - but a different form of transport may change the dynamics of the housing market - and homes will only sprawl across open country if we allow it. The fact that they are being allowed to do so right now is a more urgent issue.

JournoList Aug 30, 2017

@Bernadette Bowles Level 4 is cruise control with assisted parking. Level 5, fully autonomous will never happen. They would always



assume the defensive attitude, a bit like playing chess without wanting to lose a piece. The result, at best, would be stalemate.

Steve McClellan Aug 30, 2017

@Journolist @Bernadette Bowles Journolist, you can sit there like King Canute if you like, but Level 5 will be coming in the 2020s and there will be a rapid take-up by various cohorts of people.

Journolist Aug 30, 2017

@Steve McClellan @Journolist @Bernadette Bowles I would have preferred to hear where my assessment errs.

Steve McClellan Aug 30, 2017

@Journolist Happy to. "Fully autonomous will never happen" Why say never? Moore's Law continues such that processing power is doubling and prices halving about every 1-2 years. Cars will have sensors at all points of the vehicle, attentive at all times. Humans have two visual sensors three inches apart, and often not actually looking at the road. Each year we get a new set of inexperienced drivers that contribute to the 90+% of accidents due to human error; and we have elderly drivers reluctant to give up their freedom despite their failing faculties. Secondly, you seem to think that the vehicles will act independently, just trying to replicate human thought processes in isolation. In fact there will be networking between proximate vehicles, and protocols in place for manoeuvres to be planned ahead of arrival at junctions. Sure, there's lots of stuff to be sorted, but unlike humans we will be able to enjoy best practice learnt and duplicated rather than rely on the lowest common (human) denominator. @Steve McClellan @Bernadette Bowles

Journolist Aug 30, 2017

@Steve McClellan @Journolist @Bernadette Bowles

"Secondly, you seem to think that the vehicles will act independently, just trying to replicate human thought processes in isolation."

I don't think like that. The challenge, which is insurmountable, is to change the machine's behaviour from purely defensive, avoiding accidents, to deciding which action would give it an advantage when in motion. The jump from passive to active cannot be achieved.

hurler on the ditch Aug 31, 2017

@Steve McClellan @Journolist @Bernadette Bowles people always forget that part of the process of systems automation is always deconstructing and reconstituting the the process to simplify the challenge. They always underestimate the degree to which their own skills can be automated as a result, always underestimating the many ways in which their challenges can be worked around.

Bernadette Bowles Aug 30, 2017

@Journolist @Bernadette Bowles No, that is level 1.

Here are the standard definitions:

[https://www.sae.org/misc/pdfs/automated\\_driving.pdf](https://www.sae.org/misc/pdfs/automated_driving.pdf)

How they deal with obstructions, other drivers, and pedestrians, will depend on what priorities are programmed into them. And in turn, that will be determined by lawmakers and insurers. However, they do already exist - not for sale, but on test-tracks and, in one case, on the road (still legally has to have a driver on board). There is no insurmountable technical obstacle.

And I drive defensively, but get where I want to go without difficulty, and without accidents. That would only even be an issue if they share space with non-autonomous vehicles; they can

communicate with one another and, in Level 4, with the road. If they have dedicated spaces, there would be no conflict; merging and demerging in turn at junctions would be the norm. We will have to work out rules for shared spaces - but so will all other countries.

JournoList Aug 30, 2017

@Bernadette Bowles @JournoList There are so many limitations built in to this exposition, it cannot be worth the effort. By all means refine the self-parking method but anything beyond that.....

hurler on the ditch Aug 31, 2017

@JournoList @Bernadette Bowles it's going to be a rather surprising decade for you. a pleasant surprise i expect.

steven Aug 30, 2017

If my commute is long it will be still be painful whether I am in charge of the vehicle or not unless I can roll out of bed straight into the car and get ready in the car.

hurler on the ditch Aug 31, 2017

@steven no reason why you couldn't. but really it depends on whether you could work in the car, and thereby shorten your day in the office.

here's a question for you - if you could transform your commute time into work time, thereby leaving for the office later and returning earlier, how much in pounds a year would that be worth to you do you think?

Michael Dawlish Aug 30, 2017

Where does the writer think most people live at the moment? My local University city has the centre filled with accommodation for

students and single professional people in expensive flats, everyone else living in the suburbs.

Steve McClellan Aug 30, 2017

I can see the concern about the flight to the suburbs but there are countervailing issues that offer to balance that. Many young people would love to live in the cities given vibrant nightlife if only they could afford it, but are driven out to the suburbs.

When we can achieve fully autonomous vehicles then service providers will spring up and most people in cities will opt to embrace an on-demand service rather than own a vehicle that sits idle for ~97% of the time. We will be able to release vast areas of tarmac devoted to parked cars, and by crowding our streets with stationary vehicles, make other forms of transport less safe e.g. cycling, walking. Some land will be unlocked for new housing and other for green spaces. We have the potential to make cities much more desirable places to live.

We do however need to take the steam out of property prices in the cities. London and increasingly other large conurbations are prone to developers selling off-plan to overseas investors into the UK as a safe haven. We should encourage overseas businesses to set up in the UK, but it's time to stop the speculative activities of those who are offloading cash (sometimes ill-gotten) but have no other purpose in doing so. Vacant properties are taking up finite space, are stoking the market and there's no trickle-down of wealth to UK citizens.

With some planning foresight and some tighter controls on housing (not used for living) we could green our cities and draw many back in just as some are taking flight to the suburbs, as raised in this article.

DC Aug 30, 2017

What will replace the massive tax income from petrol and diesel to fund these road infrastructure projects once electric vehicles become mainstream? Many people thought that the reason past governments promoted private motoring over public transport was because of the taxes paid by drivers

Steve McClellan Aug 30, 2017

@David Colborne I anticipate that car ownership will wane, and providers will offer 'Mobility as a Service' on-demand. Such vehicles will be licensed and charged per-mile for the use of roads, re-charging bays etc.

RedSky Aug 30, 2017

@Steve McClellan @David Colborne Yes. I look forward to a future where I don't have two Audis representing a not-insignificant capital outlay resting at liesure for 90% of their time because my wife and I desire the convenience. I'll sign up for an electronic driverless service on the day it becomes available and convert the drive back to a rose garden. I beg your pardon.....I'm going to promise you a rose garden.

Bernadette Bowles Aug 30, 2017

@David Colborne The government are already looking into road pricing. Don't worry, no government has ever run out of ideas for taxation.

hurler on the ditch Aug 31, 2017

@David Colborne that is goign anyway, irrespective of what happens with autonomous driving. Electrification of the fleet is the

other big story. You will find it hard to buy or fuel a diesel or petrol car in 15 years.

Kevin Laughlin Aug 30, 2017

For driverless cars to become a practical reality, the question on what the car is programmed to do when it has to decide between protecting the driver or protecting who it might collide with (e.g. a group of schoolchildren) in a collision situation will have to be answered. This will not be straightforward.

JournoList Aug 30, 2017

@Kevin Laughlin What driver? The concept will remain a fantasy.

Kevin Laughlin Aug 30, 2017

Good point, I did mean 'passenger' in the driverless car.

RedSky Aug 30, 2017

@Kevin Laughlin Nothing new here, Kevin. We have drivers of very variable skill and intelligence making the same decision already. What does the dizzy blonde in the big black range rover travelling at 50 mph in a 20 mph zone do today? The one who almost knocked me off my bike last week drove onto the pavement because she couldn't stop. Had there been schoolchildren on the pavement it would have been me or them. The driverless car would have stopped in time having been programmed to stay within the speed limit.

Kevin Laughlin Aug 30, 2017

Not the point. The current drivers of cars are restrained by laws which make them responsible for their actions, with a public due process in a court of law. A car cannot be.

RedSky Aug 30, 2017

@Kevin Laughlin No, but the owner/operator of that car can be and the buck will stop with him. That will drive a level of decisive safety functionality surpassing that of the average human driver and streets ahead of the 'dizzy blonde' in the Chelsea Tractor.

Kevin Laughlin Aug 30, 2017

Unfortunately not. The car will be doing what it was programmed to do, choosing who to murder.

RedSky Aug 30, 2017

@Kevin Laughlin Ah, just like the human then so status quo will be maintained. Give me the car's programming over the dizzy blonde in the RR though.

Kevin Laughlin Aug 30, 2017

Not at all, for the reasons you have ignored.

Bernadette Bowles Aug 30, 2017

@Kevin Laughlin If the cars are privately owned, they will be programmed to protect the driver at all costs. Not many people would buy a car which wasn't. If they are hired out per mile, they may be programmed to cause the least number of deaths - think of the classic runaway train problem. But collisions between truly driverless vehicles would be very few (that, after all, is one of their advantages); a more pressing problem which will need to be addressed before they hit our roads will be how they deal with non-autonomous vehicles. There will still be a lot of those around for many years, sharing the same roads. Autonomous vehicles can communicate with each other. Maybe they could communicate with recent model ordinary cars, many of which by then will be Level 2 or 3 (semi-autonomous but driver needs to exist and be able to take control). But they would not be able, for instance, to

talk to our classic sports car. How will they deal with a mobile obstacle whose movements they can't predict?

JournoList Aug 30, 2017

@Bernadette Bowles @Kevin Laughlin I'm starting to see how the tank was invented.

E R Pugh Aug 30, 2017

Yet more 'copy and paste' journalism from the Times

David Craig Aug 30, 2017

Pointless article by a complete unknown in a journal read by nobody results in large clickbait article in the Times desperate to fill up a paper when most of the journalists are on holiday

michael lea Aug 30, 2017

Driverless cars are just as likely drive people off the road. Instead people will walk to work and shop in urban areas. In the countryside horses will become a à la mode with bridleways brought back to life.

The risk of an accident in driverless cars and lorries is a percentage chance. Everyone is at risk of an accident.

With the spread of electric cars the supply of electricity is one problem. The other problem is that the infrastructure supporting petrol cars will become ruinously expensive.

hurler on the ditch Aug 30, 2017

ok Google, collect the kids from school and bring them to tennis....coming to a home near you soon.



JournoList Aug 30, 2017  
@hurler on the ditch "What kids?"