

For in-depth online resources on this debate go to: cars.imascientist.org.uk

Debate Kit: Self-driving cars Should our town centre be for self-driving cars only?

A structured practice debate on a controversial topic The different 'rounds' of the debate help students think through the issues and reconsider their opinions. The structure also shows them how to build a discussion and back up their opinions with facts.

You can use all eight characters, or fewer, as you wish.

The minimum is the four essential characters (**in bold**), this gives two for and two against.

Characters Yes

- Dara Attar Tech entrepreneur
- Fiona Campbell City planner
- Bethany Fisher Sight impaired person
- Kazik Majewska Commuter
- Michael Owuo Epidemiologist and cyclist
- Lisa Dixon Taxi driver

No

- Rachel Fong Rural mum
- Dave Lyons Warehouse operative

Facilitation tips

- Ensure pupils know there is no right or wrong answer.
- Be observant of ones who want to speak and are not getting a chance.
- Encourage students to give a reason for their opinions.

Designed for KS4 but can be used with ages 11-18.

For groups who may need extra support you can put the following prompt sentences upon the board: *"I think we should/shouldn't make the town centre for self-driving cars only because..." "I think is the most important point to think about."*



"Particularly like the format plus the accuracy of the scientific information"

This work is licensed under the Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License. To view a copy of this license, visit http://creativecommons.org/licenses/by-nc-sa/4.0/

Rachel Fong -Rural mum

I've got two children under 3 and I live in a rural village. I often come into town to go to the shops, go to soft play, visit friends or family. It's a nightmare getting two kids into their car seats and all their stuff, plus the shopping, in the boot. I would just stop coming into town altogether if I couldn't drive in. I'm happy with things the way they are, we don't always need 'progress'.

Fact: Self-driving cars are far more expensive than ordinary cars, and likely to remain so for a long time.

Issue: This seems like it's going to make a lot of people's lives LESS convenient, just for the sake of shiny new tech.

Question: Who is going to be able to afford to drive into the city centre? Do we want only rich people to have convenience?



Dara Attar – Tech entrepreneur



Self-driving cars are the future. And to

be honest, they are just cool! We should be leading in this technology. There are different levels of autonomous car technology - from level 1, which is things like cruise control, to 5, which is a car that doesn't need a driver at all and can drive itself in any situation. Level 4 is a car that drives itself - a true driverless car - but that only operates in a particular, controlled area - like our town centre. We need a lot of practice at level 4 in order to get to level 5 and truly unlock this technology.

Fact: A government report says that self-driving cars could be worth an extra £52 billion to the UK economy by 2035.

Issue: Self-driving cars are coming, whether we like it or not.

Question: Shouldn't UK business get in there, get involved, and reap the benefits?



Dave Lyons -Warehouse Operative

I think self-driving cars are a great idea, but I think this is the wrong way to go about it. Human error causes about 75% of car accidents, which is why I'm a fan of self-driving cars. Computers don't drink and drive, get distracted or drive when they are tired. But we should start with lorries carrying freight. They do a lot of miles, often on rural roads, and they follow set routes - perfect for level 4 technology.

Fact: Most people who are killed in car accidents aren't in city centres (where traffic moves slowly), they are killed on rural roads.

Issue: Computers are good at 'bottom up' processing (e.g. seeing edges of objects), but they aren't good at 'top down' processing - e.g. knowing what a cat is and what it might do. City centres don't play to their strengths.

Question: Should we give up our city centres without getting the real benefits of driverless car technology?



Fiona Campbell -City planner

The UK population is increasing, and people make more car journeys all the time. Our towns and cities need to accommodate that. Self-driving cars could mean a system of pooled cars (like robot taxis) and so far fewer cars would be needed to drive everyone around. These cars could be connected and talking to each other, and reduce congestion. It's easier for level 4 self-driving cars to operate in the centre if they don't have to deal with normal cars too.

Fact: Today's cars are only being used 3.5% of the time. They are parked 96.5% of the time.

Issue: Connected autonomous cars can make thousands of calculations every minute and be safer and more efficient than humans.

Question: Does it make sense for everyone to have their own car, but only use it so little of the time?



Michael Owuo -Epidemiologist and cyclist

I'm a scientist who studies what makes people ill and how to make the health of the whole population better. 'Active travel' - walking and cycling - makes so much sense, especially for short journeys. It makes us fitter, healthier and happier, and it doesn't cause pollution and congestion. It's also good for communities, we say hello to people, we pop into local shops. Fewer car journeys overall are better for us, better for our communities, and better for the planet!

Fact: In the 1970s the Netherlands invested in cycling infrastructure and promoting cycling. Now over ¼ of all trips are made by bicycle - compared to 2% in the UK.

Issue: We should prioritise making our towns more walkable and bikeable - not still centre them around the car!

Question: Can you hand on heart say that self-driving cars will REDUCE the number of journeys people make by car?



Lisa Dixon -Taxi driver

I've been driving a taxi for ten years, and I really love my job. I'm 'Lisa's Lady

Cabs'. Lots of women feel happier with a female taxi driver, especially travelling on their own, late at night. I'm company for people. One old lady books me every week and takes flowers to her husband's grave. She tells me about her life and when she was young. A computer algorithm wouldn't be the same for her.

Fact: One study suggests that 1.2 million driving jobs could be lost in the UK - for example, taxi drivers, bus drivers, delivery drivers.

Issue: If we get rid of human beings, we lose the human touch. Life shouldn't only be about what's most efficient.

Question: No computer system is unhackable. My customers feel safe with me, will they be as safe with a computer programme controlling where they go?



Kazik Majewska Commuter

I commute for two hours each

day. I have a specialist job and I can't get a job anywhere closer. We live in the village my wife grew up in, and her parents help with childcare for our young twins. We can't move to be nearer work. There's no bus route I could use, but I hate spending so much time driving each day.

Fact: In 2016 3.7 million people in the UK commuted for two hours or more each working day. That's 32% more than in 2010.

Issue: A self-driving car can use cameras or lasers to detect its surroundings, lots of computing power, and advanced AI to drive the car more safely than I can, while I do something more interesting!

Question: I don't wash clothes by hand, I use a washing machine. Why would we still want to do boring jobs that machines can do for us?



Bethany Fisher -Sight impaired person

I am sight impaired. It's not severe and I can see things, but it is very blurry - like a fully sighted person looking at the world through a piece of fabric. Of course I can't safely drive a car. Sometimes (especially at night) it's even very hard for me to get a bus or walk somewhere. And taxis are expensive. Driverless cars would transform my life.

Fact: There are 350,000 people registered blind or partially sighted in the UK, and 2 million living with sight loss that affects their lives (e.g. they are not able to drive).

Issue: Driverless cars mean that many people would be able to make journeys independently, for the first time. This includes people with impaired sight and some other disabilities, teenagers and old people.

Question: Not everyone can drive, walk or cycle. Don't I deserve the same freedoms that other people take for granted?





R Levels Register