

# A Brief Introduction to Self-Driving Cars

🕒 READ TIME: 5 MINS

👥 AUDIENCE: BUSINESS & TECHNOLOGY

Google introduced the self-driving car project in 2009. In 2018 Google and an autonomous driving technology company called Alphabet came together to form Waymo. They partnered with Jaguar to launch self-driving cars by 2020.

## SELF-DRIVING TECHNOLOGIES

Self-driving cars are built with high-resolution cameras that can track surrounding all objects. Waymo has also implemented using LiDAR, which is a technology that uses light detection and reflection to estimate the distance between objects. The use of LiDAR and high-resolution cameras allows the car to identify the location of other cars, pedestrians, cyclists, and obstacles. Ultimately, at the heart of the system is a computer that can take all this information as well as all driving rules to safely and correctly navigate the car to their destination.

## ADVANTAGES

Without drivers and controls, driverless cars could become a mini leisure room with more space and entertainment technology such as a video screens could be used without concern of destructive human driving. Often human drivers take risks, sometimes even breaking the law,

the implementation of self-driving cars would ensure that all rules and speeds would be adhered to making the road safer for all.

Traffic would be better coordinated limiting traffic jams during busy hours. In addition, some people have difficulty carrying out manoeuvres and parking so allowing this to be controlled by self-driving cars would reduce the time this would take. Access to self-driving cars would greatly benefit people who have difficulties driving normally, for example, people with disabilities, older citizens and on the reverse younger drivers.

If self-driving cars reduced accidents insurance premiums will drop substantially making insurance cheaper for all. The improvement of efficiency would also reduce fuel costs making cars much cheaper to run.

## Self-Driving Cars

### DISADVANTAGES

While the overall running of the car may be cheaper the initial purchase would be unaffordable to many people and if this was adapted on a large scale many people may lose their jobs including truckers, taxi drivers, and delivery drivers.

A system malfunction could cause a severe accident which could be more serious than an accident caused by human error. As driverless cars would rely on the collection of user information and data there could be a legitimate concern regarding privacy.

If hackers could access these cars, they could cause significant damage and risk to human life which would lead to the question of how crime and accidents would be dealt with. Creating new policies would likely be required before self-driving cars become commonplace.

### IMPACT

**Economical Impacts:**  
Self-driven cars could bring benefits as the cars have the potential of eliminating traffic jams, thus saving time and could be able to improve productivity and relaxation. Software developers and IT industries are looking for unlimited job exposure with the adoption of driverless cars.

On the other hand, the full adoption of self-driven cars will reduce jobs for the human driver who engaged in service sectors may lead to a severe unemployment crisis.

**Health Impacts:**  
Current transport industries constitute health hazards of carbon emission. Auto-driving cars could be able to a significant reduction in carbon emissions. Reduced road traffic hazards will reduce noise, and anxiety, cause high blood pressure, as well as it improves cardiovascular fitness.

### CONCLUSION

Looking into self-driving cars' huge benefits, it seems the large-scale adoption of it is inevitable. But there are some potential blocks such as surging unemployment and legal and privacy issues.

Therefore, before it is fully deployed authorities will need to update driving regulations and adopting various new transport projects and create alternate job opportunities.

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# Lancashire Cyber Foundry

The Lancashire Cyber Foundry runs a programme designed to support businesses facing cyber challenges in Lancashire. Digital Innovation support is part of this programme but there is also business strategy support available which includes specialised workshops to help businesses innovate and grow.

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