

Law Commission Consultation: Automated Vehicles

A response from Living Streets

February 2019

Living Streets is the UK charity for everyday walking. We want a nation where walking is the natural choice for everyday local journeys. Celebrating our 90th Anniversary this year, our mission is to achieve a better walking environment and inspire people to walk more.

Connected and autonomous vehicles could result in huge changes to how we use transport. However, the technology on which they are built is still in its infancy and it is vital that its development is guided by sensible and proportionate principles. It is critical that the principles adopted by the Government in the Cycling and Walking Investment Strategy (CWIS)¹ and the CWIS Safety Review², such as promoting a mode shift towards walking and cycling, and reinforcing the road user hierarchy with pedestrians at the top, should be embedded into the future legislative approach to autonomous vehicles.

The Law Commission's consultation is a useful step forward and we welcome the opportunity to feed thoughts into it. The issue at the heart of the debate is around who should be ultimately responsible for the behaviour of autonomous vehicles, and for casualties that arise from them. This is a complex area and we do not seek here to respond to all 46 questions posed in the consultation. We rather map out some broad principles based on the analysis the Law Commission sets out.

Enhancing the safety of the most at risk users

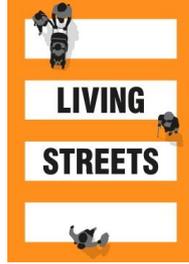
The hierarchy of road users is a well-established concept in transport planning and aims to ensure that the needs of the most at risk road users – pedestrians (and in particular children, older people and disabled people), followed by cyclists, are placed at the top and considered actively in the development of infrastructure.³ Those who can cause the greatest harm – drivers of motor vehicles – have the greatest responsibility to reduce the danger they pose to others.

The development of autonomous vehicles (AVs) raises critical ethical and moral questions around how AVs are programmed to behave when exposed to pedestrians on the street, and who or what is responsible for road behaviour when something goes wrong. We agree with the Law Commission that the key objective should be ensuring the safety of and protecting the most at risk road users – such as pedestrians using the pavement – within this new regulatory framework.

¹ https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/603527/cycling-walking-investment-strategy.pdf

² <https://www.gov.uk/government/consultations/cycling-and-walking-investment-strategy-cwis-safety-review/cycling-and-walking-investment-strategy-safety-review-call-for-evidence>

³ See CWIS Safety Review, chapter 2



The literature survey commissioned by the Department for Transport in 2017⁴ from UCL highlighted that most references agree that AVs will have a positive impact on road safety by reducing or eliminating human error. However, there is significant disagreement on the extent and timing of these impacts and a view that failures will occur in the short term and new safety risks will emerge, particularly in relation to pedestrians and cyclists. It is unclear when AV will be fully implemented and positive impacts accrued. Human error can only be reduced when/where humans are removed from the equation. Interaction with vehicles, pedestrians, cyclists etc that are not AV will continue to be unpredictable. Vision Zero is based on the premise that people make mistakes and mistakes need to be investigated, with the transportation system design based on these learnings. Given this, we would support the Law Commission's recommendation that a new investigatory agency be set up to consider such issues in more detail. We also note that other technologies support safe operation, including, for example, Intelligent Speed Adaptation.

US academic research reinforces this, commenting that whilst technologies are being developed for autonomous vehicles to successfully detect pedestrians in advance of most fatal collisions, the current costs and operating conditions of those technologies substantially decrease the potential for AVs to radically reduce pedestrian fatalities in the short term.⁵ Regulation should be focused enough to ensure that measures to improve safety through pedestrian detection are rolled out as promptly as possible.

The new concept of a user-in-charge

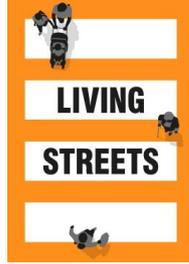
There are considerations to bear in mind in relation to the concept of the user in charge:

- The concept of a user-in-charge is a useful one, but we would support further thinking around the transition from autonomous to manual mode and vice versa. It should be a requirement for all users to be fully informed of their responsibilities as users through a Highway Code theory test.
- It is also important to ensure that all of the requirements we expect of drivers today – relating to drug and alcohol offences, careless and dangerous driving, are just as valid for users-in-charge. The user-in-charge should also be properly qualified and have a strong understanding of the Highway Code, in line with the Law Commission's recommendations.
- We agree that it should be a criminal offence for a user-in-charge who is subjectively aware of serious injury to other road users to fail to take action to avert that risk.

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https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/585732/social-and-behavioural-questions-associated-with-automated-vehicles-literature-review.pdf

⁵ <https://www.sciencedirect.com/science/article/pii/S0749379718320932>



- The Department for Transport is modelling some future scenarios in which vehicles will travel with zero occupancy and the concept of a user-in-charge will be less relevant. Further thinking needs to be put into such situations.
- The distinction between the user-in-charge and the owner should be emphasised, with the owner having clear responsibilities for ensuring that software is kept up to date and systems are appropriately protected. This would be key, for example, if vehicles form part of a car club.

Safety assurance of autonomous vehicles

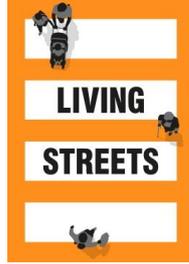
There are also important considerations in relation to safety assurance of vehicles:

- We agree that a safety assurance scheme should be operated by a new agency or VCA or DVSA. Care should be taken to ensure that this agency is equipped with the necessary skills.
- We agree that each autonomous driving system should be backed by a specified organization, the “automated driving system entity” (ADSE). The ADSE would be required to demonstrate that it had identified and managed safety risks to a legal standard of care. Issues relating to software updates need to be carefully considered as they cross the boundary between the ADSE and the owner of the vehicle. Whilst the ADSE has responsibility to maintain safety risks, the owner has responsibility to ensure that software is kept up-to-date.
- Whilst data protection and cyber-security are outside of the scope of the Commission’s current review, these are important issues to consider as this three year work programme continues given the potential risks hacking could present to safety in the future.
- Strong sanctions should be placed on ADSEs that do not meet this standard of care, including withdrawal of licence to sell and/or operate AVs.
- It is critical that approaches to assurance and testing are consistent, suggesting that a major element of third party testing will be required.
- There is a need for those autonomous vehicles that are permitted to operate without a user-in-charge to do so under highly regulated circumstances until safety can be guaranteed or be limited to specific infrastructures and speeds until safe operation can be guaranteed. This should not be at the expense of pedestrian or cyclist freedom to use the highway safely and conveniently.

Safety and infrastructure design

Safety should again be of paramount concern – especially for those most at risk, particularly pedestrians and cyclists.

It is critical that knee jerk changes to infrastructure are not made that place operation of autonomous vehicles above all other considerations. The benefits of active travel should continue to be encouraged and changes should not be made to infrastructure which get in the way of active travel in the interests of autonomous vehicles being



able to operate. Government should not accelerate AV deployment without full consideration of the potential for unintended side effects (e.g. increasing congestion). Roll-out should instead be fully consistent with the Government's aim to increase the number of people walking and cycling for everyday journeys.

The Law Commission has suggested that the powers local highway authorities have under the Road Traffic Regulation Act 1984 could be used to restrict autonomous vehicles to given roads or given lanes. We support this suggestion but believe there is a role for central government in ensuring consistency between different restrictions.

Changes to the Highway Code

The Law Commission is right to dip its toe in the water of this debate. Living Streets is guided by the need to protect the most at risk road users. The major issue is how an autonomous system will be programmed to interpret traffic regulations and guidance, and when a user-in-charge should be expected to intervene.

There are a number of considerations here and we consider the Law Commission's scenarios in more detail below.

Mounting the pavement

Pavements are for people, not vehicles, and driving on the pavement is an offence. We would generally not support autonomous vehicles being able to mount the pavement. However, Section 34 (4) of the Road Traffic Act recognises an exception for "saving life or extinguishing fire or meeting any other like emergency" which should continue to be recognised. A user in charge should be expected to take over in all such situations.

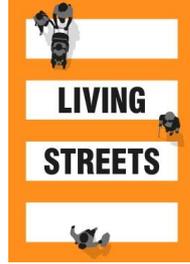
Exceeding the speed limit

Guidelines issued by the National Police Chiefs Council indicate that a fixed penalty notice is only appropriate when the speed exceeds the limit by at least 10% plus 2 miles per hour. Autonomous vehicles should not be programmed with this tolerance in our view as situations where they need to overtake vehicles to avoid collisions or avoid overly sharp braking should be anticipated.

More generally, speed limits should be seen as maximums not to be exceeded rather than targets, and drivers should avoid driving to the speed limit. The same should apply to autonomous vehicles. We also support speed limits being reduced in many areas, including the application of a 20mph in built-up areas.

Liability

The AEV Act 2018 introduced new insurance provisions for situations in which autonomous vehicles rather than human drivers cause accidents. This creates a new form of liability in which the insurer is liable for damage when an accident is caused



by an insured autonomous vehicle driving itself. This is a complex area and the Law Commission is right to consider it in detail. The debate around who is responsible for road casualties runs through the whole debate around autonomous vehicles and the Law Commission needs to give careful consideration to this issue. We look forward to contributing to this ongoing debate.

Impact on active travel

The Department for Transport through the Cycling and Walking Investment Strategy wants to make cycling and walking the natural choice for shorter journeys, or as part of a longer journey, and has reinforced this with targets. Care needs to be taken to ensure that the development of autonomous vehicles does not compromise this vision. Increased autonomous vehicle uptake could have a negative impact on congestion, public transport and active travel – with concomitant impacts on health and air quality.

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February 2019