Motorcycle Industry Association (MCIA) submission

Automated Vehicles: Statement of Safety Principles – 29 Aug 2025

About MCIA

MCIA is the trade association for 'L-Category' vehicles, which include powered two, three, and light four-wheeled vehicles (i.e., mopeds, motorcycles, tricycles, and quadricycles). Members include manufacturers of whole vehicles, accessory and components and those providing associated services to the industry.

With a mission to promote and protect the industry, MCIA works tirelessly to advance the growth, safety, and sustainability of L-Category vehicles. MCIA plays a vital role in shaping policies and regulations that impact the industry, working closely with government bodies and other relevant stakeholders to ensure the potential of our vehicles is fully harnessed.

MCIA also actively promotes motorcycle safety, aiming to enhance awareness and education among users and the general public. Through campaigns, initiatives, and partnerships, MCIA strives to reduce accidents, improve rider skills, and advocate for the implementation of effective safety measures.

Executive Summary

1. MCIA stresses that deployment of automated driving systems (ADS) must enhance safety for all road users, while ensuring strong protection for vulnerable users, especially users of motorcycles and mopeds.

2. Users of motorcycles and mopeds face disproportionately high risks due to their speed, positioning, lane-filtering and need for rapid manoeuvrability, which pose unique challenges for ADS. If unaddressed, these factors could leave users more vulnerable as ADS-equipped vehicles become increasingly common.

3. MCIA supports the Statement of Safety Principles (SoSP) as a central framework for automated vehicle safety, but urges that it:

    - Set clear, unambiguous technical requirements for ADS, aligned with recognised standards
    - Define robust certification and oversight responsibilities
    - Mandate routine ADS functionality testing
    - Require reliable detection and response to motorcycles and mopeds in all scenarios
    - Prohibit ADS that cannot reliably detect and record collisions with VRUs.

4. MCIA welcomes the inclusion of equality and fairness in the SoSP, but stresses that automated vehicle (AV) deployment must demonstrably reduce risks for users. For ADS, motorcycles and mopeds should be placed at the top of the vulnerability

hierarchy, given their unique characteristics and persistent concerns about reliable detection.

5. To ensure accountability and public confidence, the SoSP must require transparent safety metrics and reporting, including collision and near-miss data, detection reliability, response times, independent audits and public disclosure of ADS performance in VRU scenarios.

6. MCIA remains committed to constructive collaboration on the safe rollout of ADS-equipped vehicles. The L-Category industry does not oppose innovation, but the government's ambitions must be underpinned by enforceable safety principles that prevent disproportionate risks being transferred onto VRUs.

7. With rigorous standards, transparent oversight, and fair risk distribution, the UK can lead in automated mobility while safeguarding its most vulnerable road users.

Introduction

8. MCIA welcomes the opportunity to contribute to this call for evidence. We are committed to working with government, regulators and the wider automotive sector to ensure AV deployment in the UK delivers genuine safety improvements without compromising VRUs – particularly motorcycle and moped users.

9. Motorcycle and moped users are among the most at-risk road users. Their riding characteristics (see paragraph 2) create complex scenarios for ADS to detect, interpret and respond to. These factors must be fully understood and explicitly addressed in the SoSP.

Statement of Safety Principles

10. MCIA agrees that the SoSP should serve as a central reference point across the safety framework, including:

    - Pre-deployment authorisation – ensuring systems such as Automated Lane Keeping Systems (ALKS) meet defined technical requirements before public use.
    - In-use monitoring and compliance – ensuring AVs continue to operate safely once deployed, with mechanisms to identify and address VRU risks.
    - Annual safety performance assessments – evaluating whether AV deployment delivers measurable safety improvements across all road users.

11. MCIA stresses that the SoSP must set out technical requirements unambiguously, so that authorisation and oversight bodies apply them consistently both pre- and post-deployment. The SoSP should also use established connected and automated mobility (CAM) terminology, abbreviations and acronyms, as defined in

BSI Flex 1890 v5.0 2023-04[1] and later versions. All levels of ADS should fall within its scope.

12. Alongside the SoSP, the government must identify which authority will certify vehicles using ADS for UK public roads. This could be the Vehicle Certification Agency (VCA) as the UK Type Approval Authority and a designated technical service under UN schemes. Fundamentally, no vehicle using ADS should be permitted on public roads unless certified by the relevant authority, with the scope and functionality of its ADS clearly specified.

13. The SoSP must ensure routine ADS testing. The annual MOT could verify that the system in use is certified and approved for the vehicle, the ADS version is valid and untampered, and supporting hardware (e.g. cameras, sensors) is functioning correctly. With increasing connectivity, remote and real-time software checks could further validate system integrity and alert the user or authorities if deficiencies are found. Preventing unfit ADS-equipped vehicles from operating on public roads must be a priority.

Equality and Fairness

14. MCIA welcomes the intention to embed equality and fairness within the SoSP. This principle is essential to ensuring that AV benefits are shared equitably and that no group – particularly VRUs – is placed at greater risk.

15. Motorcycle and moped users face disproportionately high risks of serious injury or death in collisions compared to car occupants. AVs must therefore be designed and regulated to reduce, not exacerbate, these risks.

16. Motorcycles and mopeds are distinct from other VRUs because:
    - They can travel at higher speeds than pedestrians or cyclists
    - They filter between lanes in congested traffic
    - Their road position is dynamic and variable
    - Users must make split-second manoeuvres to avoid hazards.

17. These factors present unique challenges for automated perception, prediction and response. If unaddressed, AVs could disproportionately endanger motorcycle and moped users. Research by the RDW (the Netherlands Vehicle Authority) has already shown that advanced systems such as adaptive cruise control often fail to respond to motorcycles.[2] The UK cannot claim leadership in automated driving whilst failing to protect its most vulnerable road users.

18. Collision detection must be sufficiently robust to capture impacts from all directions and at a range of severities. Current accelerometer-based systems, which register

[1] "Connected and automated mobility – Vocabulary" – BSI, Apr 2023, v.5.0
[2] https://www.femamotorcycling.eu/acc-does-not-always-see-motorcyclists/

only abrupt g-force changes, risk missing low-impact side collisions.[3] Such incidents can be serious or fatal for VRUs yet go unrecorded in vehicle data. It should not be permissible for vehicles with this limitation to operate on UK roads. The SoSP must therefore prohibit authorisation of any ADS that relies solely on hard deceleration to detect collisions.

19. An ADS must also demonstrate that it does not create additional risk for other road users, particularly VRUs. Its operational design domain (ODD) must reliably identify all road users – even those not ordinarily expected on the highway.

Vulnerable Road Users and the Highway Code

20. MCIA agrees that AVs must reliably perceive and respond to all VRUs in varied conditions, and that they must adhere to the Highway Code, including the hierarchy of road users which prioritises their safety.

21. However, motorcycles and mopeds should sit at the top of this hierarchy. Unlike pedestrians or cyclists, they combine speed with dynamic positioning, making them harder to detect and therefore more vulnerable.

22. AVs must be capable of instantaneous responses to user behaviours such as filtering or evasive manoeuvres. Failure to do so risks shifting danger onto motorcycle and moped users – a concern already raised in previous consultations[4].

23. In 2024, 1,633 people were killed on UK roads, including 343 motorcyclists – a 10% increase from 2023.[5] Users accounted for over 20% of deaths while making up only 1% of the traffic mix.[6] These figures underline the urgency of ensuring that ADS improve safety. The statutory minimum should not be defined as simple parity with human drivers – a benchmark that is neither clearly defined nor sufficiently ambitious. Instead, ADS should be required to demonstrate measurable reductions in collision risk, particularly for VRUs. This could include lower crash rates per vehicle mile, faster and more consistent reaction times of VRUs than human averages, and proven competence in complex scenarios such as lane filtering or blind-spot overtaking.

24. Given the stagnation in fatality rates across all UK road user groups, MCIA questions whether “equivalence” with human drivers is sufficient. Self-driving vehicles should be held to a higher safety standard than drivers on public roads.

[3] https://www.researchgate.net/figure/Accident-detection-based-on-deceleration_fig6_263351551
[4] https://www.gov.uk/government/consultations/self-driving-vehicles-new-safety-ambition/outcome/self-driving-vehicles-new-safety-ambition-summary-of-responses-and-government-response
[5] https://www.gov.uk/government/statistics/reported-road-casualties-great-britain-provisional-results-2024/reported-road-casualties-in-great-britain-provisional-estimates-2024
[6] https://www.gov.uk/government/statistics/road-traffic-estimates-in-great-britain-2024/road-traffic-estimates-in-great-britain-2024-traffic-in-great-britain-by-vehicle-type

Proposed Safety Metrics

25. To ensure the SoSP delivers measurable outcomes, MCIA recommends clear metrics across three domains:
    a. Hard Outcomes
        - Collision rates per distance travelled, disaggregated by VRU type (L-category vehicles, cyclists, pedestrians, horse-riders)
        - Near-miss frequency, including data from disengagements, sudden braking, or evasive manoeuvres triggered by VRUs
        - Safe passing distances, especially for motorcyclists and moped users filtering through traffic.
    b. System Capability
        - Detection reliability rates for motorcycles and mopeds and other VRUs across varied conditions (urban/rural, day/night, weather)
        - Response times from detection to evasive action when encountering VRUs
        - Junction and lane-change performance, particularly in relation to motorcycles and mopeds visibility in blind spots.
    c. Fairness and Equity
        - Risk exposure parity, comparing whether AV deployment reduces risk equally for VRUs and vehicle occupants
        - Dataset representativeness, ensuring training and validation datasets adequately reflect motorcycles and mopeds and complex VRU behaviours
        - Scenario coverage, with mandatory testing in VRU-heavy environments (urban congestion, rural single carriageways, etc.).

Transparency and Public Confidence

26. The long-term success of the UK's automated vehicle sector depends on public confidence, which can only be secured if safety improvements – particularly for VRUs – are demonstrable.

27. MCIA therefore calls for transparent regulation, including:
    - Regular disclosure of AV incidents and near-misses involving VRUs
    - Publication of vehicle capability reports, detailing how AVs detect and respond to motorcycles and mopeds
    - Independent annual audits of AV safety performance against VRU metrics.

28. Such transparency will reassure users, manufacturers, and the public that automated technologies are deployed responsibly.

Conclusion

29. L-Category vehicle manufacturers are committed to playing a constructive role in the safe and equitable rollout of AVs. MCIA does not seek to obstruct innovation, but to emphasise the inherent safety concerns regarding motorcycle and moped users. We strongly support the government's ambition to embed equality and fairness into the SoSP and stress that ADS should be required to demonstrate measurable reductions in collision risk, particularly for VRUs.

30. Government ambition must be underpinned by robust, enforceable safety principles that explicitly account for the unique risks faced by motorcycle and moped users. With clear technical requirements, routine safety checks, transparent data reporting, and a focus on fairness, the UK can lead in automated driving innovation while safeguarding its most vulnerable road users.