

Peer Review

Review of: "Can Human Drivers and Connected Autonomous Vehicles Co-exist in Lane-Free Traffic? A Microscopic Simulation Perspective"

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The authors analyzed the co-existence of human-driven vehicles (HDVs) and connected autonomous vehicles (CAVs) in lane-free traffic. Microscopic traffic simulations are used for evaluation. The comments to the authors are as follows:

1. In the Abstract, it is unclear how CAVs work as controllers for LET since they follow the PL. What is the definition of PL?
2. It is unclear how PL controllers are modified for safe velocities to avoid collisions. Do the authors mean collision avoidance with HDVs?
3. How do CAVs interact with HDVs in the same lane? What is the APL controller?
4. There are several works on mixed traffic environments as shown in Figure 1(c). What is the purpose of this study?
5. Although the authors raised some concerns about the LFT, the research gaps and contributions are ambiguous.
6. According to equations (1b and 1d), did the authors consider lateral dynamics in the modeling since they used car-following mode for HDVs? Did they consider lane-changing behavior?
7. There are some typos that should be corrected. Equation (11) is missing.
8. It is unclear why the authors only consider cruise control instead of CACC since a part of the traffic environment is CAVs.
9. The article is too lengthy for a technical paper. The authors need to further summarize the main concept and formulations.

10. In Fig. 5, the simulation results of the mean lateral speed seem insignificant.
11. The authors should summarize the discussion for each finding.

Recommendation: Major Revision

Declarations

Potential competing interests: No potential competing interests to declare.