Review of: "Analyzing the delays of target lane vehicles caused by vehicle lane-changing operation"

Nengchao Lyu[1]

1 Wuhan University of Technology

Potential competing interests: The author(s) declared that no potential competing interests exist.

This paper aims to explore the impact of vehicle lane-changing on the speed of vehicles following the target vehicle in the target lane under the condition of high-density traffic flow on urban expressways. Then to explore the delay caused by the target vehicle's lane-changing behavior to the vehicles in the target lane. This paper is not innovative enough. Here are some suggestions for discussion:

1. The basis that the distance between vehicles of 5.5 m is considered as a key point is still not clear. This paper focuses on the entire lane changing process, not just the situation after the target car finish lane-changing. How to define the distance at this situation when the foli(i=1□2…) is in front of the target car in the early stages of the lane-changing?
2. Tracker software is used for extracting the vehicle data, What is the credibility of the data obtained by this method? Can the error be controlled at the decimeter level? Can the problem caused by the jitter of the DJI drone be effectively solved only by the data smoothing in the later stage, and what is the confidence level?
3. The minimum safety distance between cars isn’t considered in equation(3).
4. In fig.6, after fitting the distribution of all sample points together, the time-series characteristics of vehicle speed changes cannot be seen. And it can be seen from fig8(b) that there are differences in the speed change trends of different following cars? Does this mean that a new model can be proposed by changing FOLi?
5. Reviewer think that the contribution made in this paper is not outstanding enough, and only proposes the speed change model of the first car flowing the target car(FOL1) and calculates the total delay of the cars in the target lane 10 times.
6. In the conclusion part, author proposed that vehicle LC should be prohibited to ensure higher traffic efficiency. Is this appropriate?