Are drivers influenced by herding behavior on motorways with Variable Speed Limits (VSL)?

Problem description
Control of traffic by a variable speed limit (VSL) has been studied for a long time, but there is a lack of consensus on its safety and operational benefits and on the impact of driver compliance. In this study you will investigate and analyse drivers' behaviour on a simulated motorway with VSL in a networked driving simulation environment. In networked driving simulation, two or more human-driven virtual vehicles share the same environment and mimic real-world traffic interactions. By using a networked driving simulation environment we can study phenomena in traffic that are difficult to study using a single driving simulator, such as herding (copying/being influenced by the behaviour of other drivers). In this study you will analyse drivers’ speed, acceleration, and lane-changing behaviour whether it is affected by the behaviour of other human-driven virtual vehicles. The networked driving simulation environment are located at the Institute of Transport and Logistics Studies (ITLS) at the University of Sydney in Australia. In this study you will get the unique opportunity to be a visiting student at ITLS for a period of 2-3 months.

Assignment
• Review of the state-of-the-art with respect to impacts of VSL on driver behavior;
• Experimental design of the driving simulator experiment and setting up the simulation;
• Running the experiments, collecting and analyzing data;
• Writing a thesis report (Optional: + scientific paper).

Research group
Transport & Planning (T&P) + ITLS (Prof. Michiel Bliemer)
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