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# Analysis of drivers' car-following behavior using a driving simulator

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# Analysis of drivers' car-following behavior using a driving simulator

## Summary

This study analyzed drivers' car-following behavior by conducting driving simulator experiment. Based on the data collected from the experiment, drivers' perception-reaction time (PRT) for braking to follow a slow-moving lead vehicle was determined. A total of 50 drivers' perception and reaction were observed in a variety of driving conditions. The drivers' PRT was determined based on the start time of lead vehicle deceleration and their release of the accelerator and touch of the brake pedal. Also, the relationship between drivers' visual information (angular velocity) and their perception and reaction was analyzed. It was found that the PRT was longer when the drivers followed a lead truck than a lead car but it was shorter when the lead vehicle's brake light was on than when the brake light was off. This study demonstrates that the driver's car-following behavior depends on the lead vehicle's brake light, the type of lead vehicle (car and truck) and the angular velocity, not only the spacing with the lead vehicle.