

高速公路大客車跟車刺激－反應行為模式之建立

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摘要

This study planned and designed a driving simulation scenario of freeway straight road section on sunshine weather and day time based on the application of a bus driving simulator (DS). Ten bus drivers who work in freeway bus companies were invited to execute the stimulus-response car following experiment. After the bus drivers finished the car following experiment, their stimulus-response car-following behavior regarding to the acceleration or deceleration events of a leading car was collected to develop the bus stimulus-response model. By using the SPSS statistical analysis software, this study develops four bus stimulus-response models with delay time of 0.5, 1, 1.5 and 2 seconds. Moreover, this study evaluates the developed models by comparing the difference between the estimated driving distance of model and the experimental driving distance. The result shows that the stimulus-response model with delay time of 0.5 seconds most closely approximates the experimental records. This study can be a basis of microscopic traffic flow simulation, bus collision warning technology and related regulations development.

關鍵字：Bus, Driving Simulator, Freeway, Stimulus-Response Model, Microscopic Traffic Flow Simulation.